

2016 California Gas Report Workpapers

.....**REDACTED**

Prepared by



TABLE OF CONTENTS

TABLE OF CONTENTS.....	3
HISTORICAL DATA.....	4
FORECAST OF REQUIREMENTS-SUMMARY.....	7
AVERAGE TEMPERATURE YEAR.....	8
COLD TEMPERATURE YEAR.....	43
FORECAST OF REQUIREMENTS DETAIL.....	56
CUSTOMER FORECAST.....	57
EUFORECASTER.....	39
RESIDENTIAL.....	3;
CORE COMMERCIAL AND INDUSTRIAL.....	5;
NONCORE COMMERCIAL, INDUSTRIAL & COGEN.....	125
NATURAL GAS VEHICLES.....	134
ENERGY EFFICIENCY.....	167
ELECTRIC GENERATION.....	14:
CORE PEAK DAY FORECAST.....	172
SUPPORTING DATA.....	159
WEATHER.....	15:
SERVICE AREA ECONOMIC FORECAST.....	209

2016 CALIFORNIA GAS REPORT

HISTORICAL DATA
JULY 2016



SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND SENDOUT (MMCF/DAY)
RECORDED YEARS 2009-2013

LINE	Actual Deliveries by End-Use		2009	2010	2011	2012	2013
1	CORE	Residential	82	85	88	83	85
2		Commercial	48	48	50	50	52
3		Industrial	0	0	0	0	0
4		<i>Subtotal - CORE</i>	130	133	138	134	137
5	NONCORE	Commercial	0	0	0	0	0
6		Industrial	11	12	12	13	12
7		Non-EOR Cogen/EG	115	98	69	100	70
8		Electric Utilities	64	81	87	134	147
9		<i>Subtotal - NONCORE</i>	191	191	169	247	229
10	WHOLESALE	All End Uses	0	0	0	0	0
11		<i>Subtotal - Co Use & LUAF</i>	3	6	5	4	5
12	SYSTEM TOTAL THROUGHPUT		324	330	312	384	371
Actual Transport & Exchange							
13	CORE	Residential	0	0	0	0	1
14		Commercial	8	10	10	11	12
15	NONCORE	Industrial	11	12	12	13	12
16		Non-EOR Cogen/EG	115	98	69	100	70
17		Electric Utilities	64	81	87	134	147
18		<i>Subtotal - RETAIL</i>	199	201	179	258	242
19	WHOLESALE	All End Uses	0	0	0	0	0
20	TOTAL TRANSPORT & EXCHANGE		199	201	179	258	242
Storage							
21		<i>Storage Injection</i>	0	0	0	0	0
22		<i>Storage Withdrawal</i>	0	0	0	0	0
Actual Curtailment							
23		Residential	0	0	0	0	0
24		Com/Indl & Cogen	0	0	0	0	0
25		Electric Generation	0	0	0	0	0
26	TOTAL CURTAILMENT		0	0	0	0	0
27	REFUSAL		0	0	0	0	0
ACTUAL DELIVERIES BY END-USE includes sales and transportation volumes							
MMbtu/Mcf:			1.020	1.019	1.018	1.017	1.024

NB: This file and MMCFD Supplies are used in the odd year reports (see P 17-18 of CGR)

SAN DIEGO GAS & ELECTRIC COMPANY

**ANNUAL GAS SUPPLY TAKEN (MMCF/DAY)
 RECORDED YEARS 2009-2013**

LINE	2009	2010	2011	2012	2013
CAPACITY AVAILABLE					
1	California Sources				
	<u>Out of State gas</u>				
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	TOTAL Output of State				
9	Underground storage withdrawal				
10	TOTAL Gas Supply available				
Gas Supply Taken					
	2009	2010	2011	2012	2013
California Source Gas					
11	0	0	0	0	0
12	0	0	0	0	0
13	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
14	0	0	0	0	0
Purchases from Other Utilities					
Out-of-State Gas					
15	0	0	0	0	0
16	0	0	0	0	0
17	125	130	132	126	129
18	199	201	179	258	242
19	<u>324</u>	<u>330</u>	<u>312</u>	<u>384</u>	<u>371</u>
20	324	330	312	384	371
TOTAL Gas Supply Taken & Transported					
(MMCFD)					

2016 CALIFORNIA GAS REPORT

FORECAST OF REQUIREMENTS - SUMMARY
JULY 2016



2016 CALIFORNIA GAS REPORT

AVERAGE TEMPERATURE YEAR
JULY 2016



TABLE 1-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2014 THRU 2018

AVERAGE TEMPERATURE YEAR

LINE		2014	2015	2016	2017	2018	LINE
CAPACITY AVAILABLE ^{1/ & 2/}							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	3
GAS SUPPLY TAKEN							
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	343	327	334	333	326	5
6	TOTAL SUPPLY TAKEN	343	327	334	333	326	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	343	327	334	333	326	8
REQUIREMENTS FORECAST BY END-USE ^{3/}							
9	CORE ^{4/}						9
10	Residential	88	87	88	88	88	10
11	Commercial	47	47	47	47	47	11
12	Industrial	4	4	4	4	4	12
13	NGV	4	4	4	5	5	13
	Subtotal-CORE	143	142	143	144	144	13
14	NONCORE						14
15	Commercial	7	7	7	7	8	15
16	Industrial	5	5	5	5	5	16
17	Electric Generation (EG)	183	169	175	173	165	17
	Subtotal-NONCORE	195	181	187	185	178	17
18	Co. Use & LUAF	5	4	4	4	4	18
19	SYSTEM TOTAL THROUGHPUT	343	327	334	333	326	19
TRANSPORTATION AND EXCHANGE							
20	CORE						20
21	All End Uses	11	12	12	12	12	21
22	NONCORE						22
23	Commercial/Industrial	12	12	12	12	12	23
	Electric Generation (EG)	183	169	175	173	165	23
	TOTAL TRANSPORTATION & EXCHANGE	206	193	199	197	189	23
CURTAILMENT							
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 135 133 134 135 135

TABLE 2-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2019 THRU 2035

AVERAGE TEMPERATURE YEAR

LINE		2019	2020	2025	2030	2035	LINE
CAPACITY AVAILABLE ^{1/ & 2/}							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	3
GAS SUPPLY TAKEN							
4	California Source Gas	0	0	0	0	0	4
5	Out-of-State	323	321	322	327	331	5
6	TOTAL SUPPLY TAKEN	323	321	322	327	331	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	323	321	322	327	331	8
REQUIREMENTS FORECAST BY END-USE ^{3/}							
9	CORE ^{4/}						9
10	Residential	88	88	90	93	95	10
11	Commercial	47	47	46	46	46	11
12	Industrial	4	4	3	3	3	12
13	NGV	5	6	7	10	12	13
	Subtotal-CORE	144	145	146	152	156	
14	NONCORE						14
15	Commercial	8	8	8	8	9	15
16	Industrial	5	5	4	4	4	16
17	Electric Generation (EG)	162	159	160	159	158	17
	Subtotal-NONCORE	175	172	172	171	171	
18	Co. Use & LUAF	4	4	4	4	4	18
19	SYSTEM TOTAL THROUGHPUT	323	321	322	327	331	19
TRANSPORTATION AND EXCHANGE							
20	CORE						20
21	NONCORE						21
22	All End Uses	12	12	13	15	17	22
23	Commercial/Industrial	12	12	12	13	13	23
	Electric Generation (EG)	162	159	160	159	158	
	TOTAL TRANSPORTATION & EXCHANGE	186	183	185	187	188	
CURTAILMENT							
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 135 136 136 140 142

Work Paper: **TABLE 1-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED FOR YEAR: 2014

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	360	386	319	311	285	299	388	387	380	280	298	408	343	5
6	TOTAL SUPPLY TAKEN	360	386	319	311	285	299	388	387	380	280	298	408	343	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	360	386	319	311	285	299	388	387	380	280	298	408	342	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}	140	138	115	97	68	53	49	48	49	59	97	145	88	9
10	Residential	58	63	50	49	43	40	37	35	39	39	50	57	47	10
11	Commercial	5	5	4	4	3	3	3	3	3	3	4	4	4	11
12	Industrial	4	4	4	4	4	4	4	4	4	4	4	4	4	12
13	NGV	4	4	4	4	4	4	4	4	4	4	4	4	4	12
13	Subtotal-CORE	206	211	173	154	119	101	93	91	95	105	156	211	142	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	149	170	142	153	163	194	290	291	280	171	138	193	195	17
18	Co. Use & LUAF	5	5	4	4	4	4	5	5	5	4	4	5	5	18
19	SYSTEM TOTAL THROUGHPUT	360	386	319	311	285	299	388	387	380	280	298	408	342	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	15	12	12	11	10	9	9	10	10	12	14	11	20
21															21
22	NONCORE All End Uses	149	170	142	153	163	194	290	291	280	171	138	193	195	22
23	TOTAL TRANSPORTATION & EXCHANGE	163	185	154	165	173	204	299	300	290	181	151	206	206	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 197 201 165 146 111 93 85 84 87 97 147 202 134

Work Paper: **TABLE 1-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED FOR YEAR: 2015

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	342	346	300	292	253	275	373	377	375	285	306	408	327	5
6	TOTAL SUPPLY TAKEN	342	346	300	292	253	275	373	377	375	285	306	408	327	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	342	346	300	292	253	275	373	377	375	285	306	408	327	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	139	137	115	97	68	53	48	48	48	58	97	144	87	10
11	Commercial	58	63	50	49	43	40	37	35	39	39	50	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	12
13	NGV	4	5	4	4	4	4	4	4	4	4	5	4	4	13
	Subtotal-CORE	206	210	172	154	119	101	93	91	95	105	156	210	142	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	131	131	123	134	131	170	276	281	275	176	146	193	181	18
18	Co. Use & LUAF	5	5	4	4	3	4	5	5	5	4	4	5	4	19
19	SYSTEM TOTAL THROUGHPUT	342	346	300	292	253	275	373	377	375	285	306	408	327	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	15	12	12	11	10	9	10	10	10	13	14	12	21
21	NONCORE All End Uses	131	131	123	134	131	170	276	281	275	176	146	193	181	22
22	TOTAL TRANSPORTATION & EXCHANGE	145	146	135	146	142	180	285	291	285	186	159	207	193	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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	200	164	145	110	93	85	83	87	97	146	201	134
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 1-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED FOR YEAR: 2016

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	357	339	300	289	255	280	383	387	392	294	314	417	334	5
6	TOTAL SUPPLY TAKEN	357	339	300	289	255	280	383	387	392	294	314	417	334	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	357	339	300	289	255	280	383	387	392	294	314	417	334	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	139	133	115	97	68	53	49	48	49	59	97	145	88	10
11	Commercial	58	61	50	49	43	40	37	35	39	39	51	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	12
13	NGV	4	5	4	4	4	5	4	5	5	5	5	4	4	13
14	Subtotal-CORE	207	204	173	155	119	101	93	92	96	105	157	211	143	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	145	129	123	130	133	175	285	290	291	184	154	200	187	17
18	Co. Use & LUAF	5	5	4	4	3	4	5	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	357	339	300	289	255	280	383	387	392	294	314	417	334	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	15	12	12	11	10	10	10	10	10	13	14	12	20
21	NONCORE All End Uses	145	129	123	130	133	175	285	290	291	184	154	200	187	21
22	TOTAL TRANSPORTATION & EXCHANGE	159	144	135	142	144	185	294	300	301	195	166	214	199	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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	194	165	146	111	93	86	84	87	98	147	202	134
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 1-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED FOR YEAR: 2017

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	348	353	301	298	256	281	381	383	381	285	317	419	333	5
6	TOTAL SUPPLY TAKEN	348	353	301	298	256	281	381	383	381	285	317	419	333	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	348	353	301	298	256	281	381	383	381	285	317	419	333	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	139	138	115	97	68	53	49	48	49	59	97	145	88	10
11	Commercial	58	64	50	50	43	40	37	36	39	39	51	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	4	5	4	5	5	5	4	5	5	5	5	5	5	12
13	Subtotal-CORE	207	212	174	155	120	102	94	92	96	106	157	212	143	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	135	135	123	139	133	175	282	286	280	175	156	201	186	17
18	Co. Use & LUAF	5	5	4	4	3	4	5	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	348	353	301	298	256	281	381	383	381	285	317	419	333	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	15	12	12	11	11	10	10	10	10	13	14	12	20
21															21
22	NONCORE All End Uses	135	135	123	139	133	175	282	286	280	175	156	201	186	22
23	TOTAL TRANSPORTATION & EXCHANGE	149	151	135	151	144	186	292	296	291	185	169	215	198	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

198	201	165	146	111	93	86	84	88	98	147	202	135
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	350	356	304	296	254	283	332	342	339	304	323	426	326	5
6	TOTAL SUPPLY TAKEN	350	356	304	296	254	283	332	342	339	304	323	426	326	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	350	356	304	296	254	283	332	342	339	304	323	426	325	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	140	139	116	98	69	53	49	48	49	59	98	145	88	10
11	Commercial	59	64	50	50	43	40	37	36	39	39	51	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	5	5	5	5	5	5	5	5	5	5	5	5	5	12
13	Subtotal-CORE	208	213	174	156	120	102	94	93	96	106	158	212	144	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	137	138	125	136	131	177	234	245	238	194	161	207	177	17
18	Co. Use & LUAF	5	5	4	4	3	4	4	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	350	356	304	296	254	283	332	342	339	304	323	426	325	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	16	13	13	11	11	10	10	11	11	13	14	12	20
21	NONCORE All End Uses	137	138	125	136	131	177	234	245	238	194	161	207	177	21
22	TOTAL TRANSPORTATION & EXCHANGE	152	153	138	149	142	188	244	255	248	205	174	222	189	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

198	202	166	147	112	94	86	84	88	98	148	203	135
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 2-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	352	356	303	290	253	281	330	334	347	297	316	423	323	5
6	TOTAL SUPPLY TAKEN	352	356	303	290	253	281	330	334	347	297	316	423	323	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	352	356	303	290	253	281	330	334	347	297	316	423	323	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	140	139	116	98	69	54	49	49	49	59	98	146	88	10
11	Commercial	58	64	50	50	43	40	37	36	39	39	51	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	5	6	5	5	5	5	5	6	5	5	6	5	5	12
13	Subtotal-CORE	209	214	175	156	121	103	94	93	97	107	158	213	145	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	138	137	124	129	129	175	231	237	245	186	154	204	174	17
18	Co. Use & LUAF	5	5	4	4	3	4	4	4	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	352	356	303	290	253	281	330	334	347	297	316	423	323	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	14	16	13	13	11	11	10	10	11	11	13	15	12	20
21	NONCORE All End Uses	138	137	124	129	129	175	231	237	245	186	154	204	174	21
22	TOTAL TRANSPORTATION & EXCHANGE	153	153	137	142	141	186	241	247	255	197	167	218	187	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

199	202	166	147	112	94	86	85	88	98	148	203	135
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 2-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	355	342	301	293	255	274	327	333	334	282	313	428	321	5
6	TOTAL SUPPLY TAKEN	355	342	301	293	255	274	327	333	334	282	313	428	321	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	355	342	301	293	255	274	327	333	334	282	313	428	320	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	140	134	116	98	69	54	49	49	49	59	98	146	88	10
11	Commercial	58	61	50	49	43	40	37	35	39	39	51	58	47	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	5	6	5	5	6	6	5	6	6	6	6	5	6	12
13	Subtotal-CORE	209	206	175	156	121	103	94	93	97	107	158	213	144	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	141	131	122	132	131	167	229	236	233	172	150	209	171	17
18	Co. Use & LUAF	5	5	4	4	3	4	4	4	4	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	355	342	301	293	255	274	327	333	334	282	313	428	320	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	15	13	13	12	11	10	10	11	11	14	15	12	20
21	NONCORE All End Uses	141	131	122	132	131	167	229	236	233	172	150	209	171	21
22	TOTAL TRANSPORTATION & EXCHANGE	156	146	134	145	143	178	239	246	244	182	164	224	184	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

199	195	166	147	112	94	86	85	88	98	148	203	135
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 2-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	357	358	305	294	253	280	330	339	341	295	316	427	322	5
6	TOTAL SUPPLY TAKEN	357	358	305	294	253	280	330	339	341	295	316	427	322	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	357	358	305	294	253	280	330	339	341	295	316	427	324	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	143	142	118	100	70	55	50	50	50	60	100	149	90	10
11	Commercial	57	63	49	49	43	40	37	35	38	38	50	57	46	11
12	Industrial	4	5	4	4	3	3	3	3	3	3	4	4	3	12
13	NGV	7	8	7	7	7	7	7	8	8	7	8	7	7	13
14	Subtotal-CORE	212	217	178	159	123	105	96	95	99	109	161	217	147	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	140	136	122	131	127	171	230	239	237	182	150	204	173	17
18	Co. Use & LUAF	5	5	4	4	3	4	4	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	357	358	305	294	253	280	330	339	341	295	316	427	324	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	17	14	14	13	12	11	12	12	12	15	16	13	20
21	NONCORE All End Uses	140	136	122	131	127	171	230	239	237	182	150	204	173	21
22	TOTAL TRANSPORTATION & EXCHANGE	155	152	136	145	140	183	241	250	249	194	165	220	186	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

201	205	168	149	113	95	87	86	89	100	150	206	137
-----	-----	-----	-----	-----	----	----	----	----	-----	-----	-----	-----

Work Paper: **TABLE 2-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	362	362	308	298	256	283	332	341	343	297	319	432	327	5
6	TOTAL SUPPLY TAKEN	362	362	308	298	256	283	332	341	343	297	319	432	327	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	362	362	308	298	256	283	332	341	343	297	319	432	327	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	147	146	121	103	72	56	51	51	51	62	102	153	93	10
11	Commercial	58	63	49	49	43	40	37	35	39	38	50	57	46	11
12	Industrial	4	4	3	3	3	3	3	3	3	3	3	4	3	12
13	NGV	9	10	9	9	10	10	9	10	10	10	10	9	10	13
14	Subtotal-CORE	218	223	183	164	127	109	100	99	103	113	166	223	152	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	139	134	121	130	126	170	228	238	235	181	149	203	172	17
18	Co. Use & LUAF	5	5	4	4	3	4	4	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	362	362	308	298	256	283	332	341	343	297	319	432	327	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	17	18	15	15	14	13	12	13	13	13	16	17	15	20
21	NONCORE All End Uses	139	134	121	130	126	170	228	238	235	181	149	203	172	21
22	TOTAL TRANSPORTATION & EXCHANGE	155	153	136	145	140	184	241	251	249	194	165	220	186	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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	210	172	152	116	97	89	88	91	102	154	211	140
-----	-----	-----	-----	-----	----	----	----	----	-----	-----	-----	-----

Work Paper: **TABLE 2-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	367	368	313	302	261	286	336	345	347	301	324	438	331	5
6	TOTAL SUPPLY TAKEN	367	368	313	302	261	286	336	345	347	301	324	438	331	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	367	368	313	302	261	286	336	345	347	301	324	438	332	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	151	149	124	105	74	57	52	52	53	63	105	156	95	10
11	Commercial	58	63	50	49	43	40	37	35	39	39	50	57	46	11
12	Industrial	4	4	3	3	3	3	3	3	3	3	3	4	3	12
13	NGV	12	13	12	12	13	13	12	13	13	13	13	12	12	13
14	Subtotal-CORE	224	230	189	169	132	113	104	103	107	117	172	229	157	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	138	133	121	129	125	169	228	237	235	180	148	203	171	17
18	Co. Use & LUAF	5	5	4	4	4	4	5	5	5	4	4	6	4	18
19	SYSTEM TOTAL THROUGHPUT	367	368	313	302	261	286	336	345	347	301	324	438	332	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	18	20	16	17	16	15	14	15	15	15	18	19	17	20
21	NONCORE All End Uses	138	133	121	129	125	169	228	237	235	180	148	203	171	21
22	TOTAL TRANSPORTATION & EXCHANGE	156	154	137	146	141	185	242	252	250	195	166	221	187	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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	215	177	156	119	100	92	90	94	105	158	216	144
-----	-----	-----	-----	-----	-----	----	----	----	-----	-----	-----	-----

2016 CALIFORNIA GAS REPORT

**COLD TEMPERATURE YEAR
JULY 2016**



TABLE 3-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
 ESTIMATED YEARS 2014 THRU 2018

COLD TEMPERATURE YEAR & DRY HYDRO YEAR

LINE		2014	2015	2016	2017	2018	LINE
	CAPACITY AVAILABLE ^{1/ & 2/}						
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	3
	GAS SUPPLY TAKEN						
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	352	346	357	354	351	5
6	TOTAL SUPPLY TAKEN	352	346	357	354	351	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	352	346	357	354	351	8
	REQUIREMENTS FORECAST BY END-USE ^{3/}						
9	CORE ^{4/} Residential	96	95	96	96	96	9
10	Commercial	48	48	49	49	49	10
11	Industrial	4	4	4	4	4	11
12	NGV	4	4	4	5	5	12
13	Subtotal-CORE	152	151	153	154	154	13
14	NONCORE Commercial	7	7	7	7	8	14
15	Industrial	5	5	5	5	5	15
16	Electric Generation (EG)	183	178	187	183	179	16
17	Subtotal-NONCORE	195	190	199	195	192	17
18	Co. Use & LUAF	5	5	5	5	5	18
19	SYSTEM TOTAL THROUGHPUT	352	346	357	354	351	19
	TRANSPORTATION AND EXCHANGE						
20	CORE All End Uses	12	12	12	12	13	20
21	NONCORE Commercial/Industrial	12	12	12	12	12	21
22	Electric Generation (EG)	183	178	187	183	179	22
23	TOTAL TRANSPORTATION & EXCHANGE	207	202	211	207	204	23
	CURTAILMENT						
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 143 142 144 145 144

TABLE 4-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2019 THRU 2035

COLD TEMPERATURE YEAR & DRY HYDRO YEAR

LINE		2019	2020	2025	2030	2035	LINE
CAPACITY AVAILABLE ^{1/ & 2/}							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	3
GAS SUPPLY TAKEN							
4	California Source Gas	0	0	0	0	0	4
5	Out-of-State	347	345	346	350	354	5
6	TOTAL SUPPLY TAKEN	347	345	346	350	354	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	347	345	346	350	354	8
REQUIREMENTS FORECAST BY END-USE ^{3/}							
9	CORE ^{4/}						9
10	Residential	96	96	98	101	103	9
11	Commercial	49	49	48	48	48	10
11	Industrial	4	4	4	3	3	11
12	NGV	5	6	7	10	12	12
13	Subtotal-CORE	154	155	157	162	166	13
14	NONCORE						14
15	Commercial	8	8	8	8	9	14
15	Industrial	5	5	4	4	4	15
16	Electric Generation (EG)	175	172	172	171	170	16
17	Subtotal-NONCORE	188	185	184	183	183	17
18	Co. Use & LUAF	5	5	5	5	5	18
19	SYSTEM TOTAL THROUGHPUT	347	345	346	350	354	19
TRANSPORTATION AND EXCHANGE							
20	CORE						20
20	All End Uses	13	13	14	15	17	20
21	NONCORE						21
21	Commercial/Industrial	12	12	12	13	13	21
22	Electric Generation (EG)	175	172	172	171	170	22
23	TOTAL TRANSPORTATION & EXCHANGE	200	197	198	199	200	23
CURTAILMENT							
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 144 145 146 151 153

Work Paper: **TABLE 3-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED FOR YEAR: 2014

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	385	412	337	323	289	299	386	391	378	281	310	435	352	5
6	TOTAL SUPPLY TAKEN	385	412	337	323	289	299	386	391	378	281	310	435	352	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	385	412	337	323	289	299	386	391	378	281	310	435	352	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}	159	158	130	107	72	53	47	47	47	60	107	166	96	9
10	Residential	62	68	52	51	44	40	36	40	38	38	52	62	48	10
11	Commercial	5	6	4	4	3	4	3	3	3	3	4	5	4	11
12	Industrial	4	4	4	4	4	4	4	4	4	4	4	4	4	12
13	NGV	4	4	4	4	4	4	4	4	4	4	4	4	4	13
	Subtotal-CORE	231	235	189	166	123	100	91	95	93	106	168	236	152	14
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	149	170	142	153	163	194	290	291	280	171	138	193	195	17
18	Co. Use & LUAF	5	6	5	4	4	4	5	5	5	4	4	6	5	18
19	SYSTEM TOTAL THROUGHPUT	385	412	337	323	289	299	386	391	378	281	310	435	352	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	16	12	12	11	10	9	10	10	10	13	15	12	20
21															21
22	NONCORE All End Uses	149	170	142	153	163	194	290	291	280	171	138	193	195	22
23	TOTAL TRANSPORTATION & EXCHANGE	164	186	155	165	173	204	299	301	290	181	151	207	207	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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: 221 225 181 158 115 92 84 87 85 98 159 227 144

Work Paper: **TABLE 3-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
 ESTIMATED FOR YEAR: **2015**

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	390	383	327	316	272	286	375	382	375	298	326	437	346	5
6	TOTAL SUPPLY TAKEN	390	383	327	316	272	286	375	382	375	298	326	437	346	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	390	383	327	316	272	286	375	382	375	298	326	437	348	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	159	157	129	107	71	53	47	47	47	59	107	165	95	10
11	Commercial	62	68	52	51	44	40	36	40	38	38	52	62	48	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	5	4	12
13	NGV	4	5	4	4	4	4	4	4	4	4	5	4	4	13
	Subtotal-CORE	230	235	189	166	123	100	91	95	93	106	168	235	152	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	155	144	134	146	145	182	279	282	277	189	154	195	191	18
18	Co. Use & LUAF	5	5	4	4	4	4	5	5	5	4	4	6	5	19
19	SYSTEM TOTAL THROUGHPUT	390	383	327	316	272	286	375	382	375	298	326	437	348	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	16	13	12	11	10	9	10	10	10	13	15	12	21
21	NONCORE All End Uses	155	144	134	146	145	182	279	282	277	189	154	195	191	22
22	TOTAL TRANSPORTATION & EXCHANGE	170	160	146	158	156	192	288	293	287	199	167	210	203	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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	224	181	157	114	92	83	86	85	98	158	226	143
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 3-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
 ESTIMATED FOR YEAR: **2016**

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	413	377	333	316	278	294	386	391	389	308	342	446	357	5
6	TOTAL SUPPLY TAKEN	413	377	333	316	278	294	386	391	389	308	342	446	357	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	413	377	333	316	278	294	386	391	389	308	342	446	356	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	159	152	130	107	72	53	47	47	47	60	107	166	96	10
11	Commercial	62	66	52	51	44	40	36	41	38	39	53	62	49	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	5	4	12
13	NGV	4	5	4	4	4	5	4	5	5	5	5	4	4	13
14	Subtotal-CORE	231	228	190	167	123	101	91	95	94	106	169	237	153	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	175	145	139	145	150	189	289	291	291	197	168	203	199	17
18	Co. Use & LUAF	6	5	4	4	4	4	5	5	5	4	5	6	5	18
19	SYSTEM TOTAL THROUGHPUT	413	377	333	316	278	294	386	391	389	308	342	446	356	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	16	13	13	11	10	9	11	10	10	13	15	12	20
21															21
22	NONCORE All End Uses	175	145	139	145	150	189	289	291	291	197	168	203	199	22
23	TOTAL TRANSPORTATION & EXCHANGE	190	160	152	158	161	199	299	302	301	207	181	218	211	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

222	217	182	158	115	93	84	87	86	98	159	227	144
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 3-SDGE**

SAN DIEGO GAS & ELECTRIC COMPANY
ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
 ESTIMATED FOR YEAR: **2017**

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	391	389	332	322	281	292	384	390	380	296	338	446	354	5
6	TOTAL SUPPLY TAKEN	391	389	332	322	281	292	384	390	380	296	338	446	354	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	391	389	332	322	281	292	384	390	380	296	338	446	354	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	159	158	129	107	72	53	47	47	47	60	107	166	96	10
11	Commercial	63	68	52	51	44	40	37	41	38	39	53	62	49	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	5	4	12
13	NGV	4	5	4	5	5	5	4	5	5	5	5	5	5	13
14	Subtotal-CORE	232	236	190	167	124	101	92	96	94	107	169	237	153	14
15															15
16															16
17	NONCORE Subtotal-NONCORE	154	148	137	150	153	187	288	290	281	186	164	203	195	17
18	Co. Use & LUAF	5	5	4	4	4	4	5	5	5	4	5	6	5	18
19	SYSTEM TOTAL THROUGHPUT	391	389	332	322	281	292	384	390	380	296	338	446	354	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	16	13	13	11	10	10	11	10	10	13	15	12	20
21	NONCORE All End Uses	154	148	137	150	153	187	288	290	281	186	164	203	195	21
22	TOTAL TRANSPORTATION & EXCHANGE	169	164	150	163	165	198	297	300	291	196	177	218	208	22
23															23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

222	225	182	158	115	93	84	87	86	99	160	227	144
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 3-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	401	397	347	333	281	301	339	349	334	317	347	454	351	5
6	TOTAL SUPPLY TAKEN	401	397	347	333	281	301	339	349	334	317	347	454	351	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	401	397	347	333	281	301	339	349	334	317	347	454	350	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}	160	158	130	108	72	53	47	47	48	60	108	166	96	9
10	Residential	63	68	52	51	44	40	37	41	38	39	53	62	49	10
11	Commercial	5	5	4	4	3	3	3	3	3	3	4	5	4	11
12	Industrial	5	5	5	5	5	5	5	5	5	5	5	5	5	12
13	NGV	5	5	5	5	5	5	5	5	5	5	5	5	5	13
	Subtotal-CORE	232	237	191	168	124	102	92	96	94	107	170	238	154	14
14															14
15															15
16															16
17	NONCORE	164	155	151	162	152	195	242	247	236	206	172	210	191	17
18	Subtotal-NONCORE	164	155	151	162	152	195	242	247	236	206	172	210	191	17
18	Co. Use & LUAF	5	5	5	4	4	4	5	5	4	4	5	6	5	18
19	SYSTEM TOTAL THROUGHPUT	401	397	347	333	281	301	339	349	334	317	347	454	350	19
TRANSPORTATION AND EXCHANGE															
20	CORE	15	17	13	13	11	11	10	11	10	10	14	15	13	20
21	All End Uses	15	17	13	13	11	11	10	11	10	10	14	15	13	21
22	NONCORE	164	155	151	162	152	195	242	247	236	206	172	210	191	22
23	All End Uses	164	155	151	162	152	195	242	247	236	206	172	210	191	22
23	TOTAL TRANSPORTATION & EXCHANGE	179	171	164	175	164	206	252	258	246	216	186	225	204	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

222	226	182	159	116	93	84	87	86	99	160	228	145
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 4-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	400	394	340	319	279	300	340	345	343	308	340	452	347	5
6	TOTAL SUPPLY TAKEN	400	394	340	319	279	300	340	345	343	308	340	452	347	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	400	394	340	319	279	300	340	345	343	308	340	452	347	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	160	159	130	108	72	53	48	47	48	60	108	167	96	10
11	Commercial	63	68	52	51	44	40	37	41	38	39	53	62	49	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	5	4	12
13	NGV	5	6	5	5	5	5	5	6	5	5	6	5	5	13
	Subtotal-CORE	233	238	192	168	125	102	92	97	95	108	171	239	154	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	162	151	143	147	151	194	243	244	243	197	165	207	187	18
18	Co. Use & LUAF	5	5	5	4	4	4	5	5	5	4	5	6	5	19
19	SYSTEM TOTAL THROUGHPUT	400	394	340	319	279	300	340	345	343	308	340	452	347	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	17	13	13	12	11	10	11	11	11	14	15	13	21
21	NONCORE All End Uses	162	151	143	147	151	194	243	244	243	197	165	207	187	22
22	TOTAL TRANSPORTATION & EXCHANGE	177	168	156	160	162	204	252	255	254	207	179	223	200	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

223	227	183	159	116	93	84	88	86	99	160	229	145
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 4-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	397	379	338	325	281	293	334	345	335	295	336	456	345	5
6	TOTAL SUPPLY TAKEN	397	379	338	325	281	293	334	345	335	295	336	456	345	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	397	379	338	325	281	293	334	345	335	295	336	456	343	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	160	153	130	108	72	53	48	47	48	60	108	167	96	10
11	Commercial	62	66	52	51	44	40	36	41	38	39	53	62	49	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	5	4	12
13	NGV	5	6	5	5	6	6	5	6	6	6	6	5	6	13
	Subtotal-CORE	233	230	192	169	125	102	92	97	95	108	171	239	154	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	159	144	142	152	152	186	237	243	235	184	160	211	184	18
18	Co. Use & LUAF	5	5	5	4	4	4	4	5	5	4	5	6	5	19
19	SYSTEM TOTAL THROUGHPUT	397	379	338	325	281	293	334	345	335	295	336	456	343	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	15	16	13	13	12	11	10	11	11	11	14	16	13	21
21	NONCORE All End Uses	159	144	142	152	152	186	237	243	235	184	160	211	184	22
22	TOTAL TRANSPORTATION & EXCHANGE	174	160	155	166	164	197	247	254	246	195	174	226	197	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

223	219	183	159	116	93	84	88	86	99	160	229	145
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

Work Paper: **TABLE 4-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	398	396	339	320	277	299	343	352	344	301	341	457	346	5
6	TOTAL SUPPLY TAKEN	398	396	339	320	277	299	343	352	344	301	341	457	346	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	398	396	339	320	277	299	343	352	344	301	341	457	347	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	164	162	133	110	74	55	49	48	49	61	110	171	98	10
11	Commercial	61	67	51	50	43	39	36	40	38	38	52	61	48	11
12	Industrial	5	5	4	4	3	3	3	3	3	3	4	4	4	12
13	NGV	7	8	7	7	7	7	7	8	8	7	8	7	7	13
	Subtotal-CORE	237	242	195	171	127	104	94	99	97	110	174	243	157	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	156	149	138	144	146	191	244	248	242	187	162	208	185	18
18	Co. Use & LUAF	5	5	5	4	4	4	5	5	5	4	5	6	5	19
19	SYSTEM TOTAL THROUGHPUT	398	396	339	320	277	299	343	352	344	301	341	457	347	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	16	18	14	14	13	12	11	12	12	12	15	16	14	21
21	NONCORE All End Uses	156	149	138	144	146	191	244	248	242	187	162	208	185	22
22	TOTAL TRANSPORTATION & EXCHANGE	173	166	153	158	158	203	255	261	254	199	177	224	199	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

226	229	185	161	117	95	85	89	87	100	163	232	147
-----	-----	-----	-----	-----	----	----	----	----	-----	-----	-----	-----

Work Paper: **TABLE 4-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	403	401	343	323	280	301	346	354	346	304	345	462	350	5
6	TOTAL SUPPLY TAKEN	403	401	343	323	280	301	346	354	346	304	345	462	350	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	403	401	343	323	280	301	346	354	346	304	345	462	351	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	168	166	136	113	76	56	50	50	50	63	113	175	101	10
11	Commercial	62	67	52	50	43	39	36	40	38	38	52	61	48	11
12	Industrial	5	5	4	3	3	3	3	3	3	3	3	4	3	12
13	NGV	9	10	9	9	10	10	9	10	10	10	10	9	10	13
	Subtotal-CORE	243	248	200	176	131	108	98	102	101	114	179	249	162	14
14															15
15															16
16															17
17	NONCORE Subtotal-NONCORE	155	147	137	143	144	189	243	247	241	186	161	207	184	18
18	Co. Use & LUAF	5	5	5	4	4	4	5	5	5	4	5	6	5	19
19	SYSTEM TOTAL THROUGHPUT	403	401	343	323	280	301	346	354	346	304	345	462	351	20
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	18	19	15	16	14	13	12	14	13	13	17	18	15	21
21	NONCORE All End Uses	155	147	137	143	144	189	243	247	241	186	161	207	184	22
22	TOTAL TRANSPORTATION & EXCHANGE	173	167	153	159	158	203	255	261	254	199	177	224	199	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

231	235	190	165	120	97	87	91	89	103	166	237	150
-----	-----	-----	-----	-----	----	----	----	----	-----	-----	-----	-----

Work Paper: **TABLE 4-SDGE**

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
CAPACITY AVAILABLE ^{1/ & 2/}															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas ^{1/}	607	607	607	607	607	607	607	607	607	607	607	607	607	2
3	TOTAL CAPACITY AVAILABLE	607	607	607	607	607	607	607	607	607	607	607	607	607	3
GAS SUPPLY TAKEN															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Out-of-State	410	407	348	328	284	305	349	358	350	308	350	468	354	5
6	TOTAL SUPPLY TAKEN	410	407	348	328	284	305	349	358	350	308	350	468	354	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	410	407	348	328	284	305	349	358	350	308	350	468	355	8
REQUIREMENTS FORECAST BY END-USE ^{3/}															
9	CORE ^{4/}														9
10	Residential	172	170	140	116	77	57	51	51	51	65	116	179	103	10
11	Commercial	62	67	52	51	43	39	36	40	38	38	52	61	48	11
12	Industrial	4	5	3	3	3	3	3	3	3	3	3	4	3	11
13	NGV	12	13	12	12	13	13	12	13	13	13	13	12	12	12
13	Subtotal-CORE	250	256	207	182	136	112	102	107	105	118	185	256	167	13
14															14
15															15
16															16
17	NONCORE Subtotal-NONCORE	154	146	136	142	144	189	242	246	240	185	160	206	183	17
18	Co. Use & LUAF	6	5	5	4	4	4	5	5	5	4	5	6	5	18
19	SYSTEM TOTAL THROUGHPUT	410	407	348	328	284	305	349	358	350	308	350	468	355	19
TRANSPORTATION AND EXCHANGE															
20	CORE All End Uses	19	21	17	17	16	15	14	16	15	15	19	20	17	20
21															21
22	NONCORE All End Uses	154	146	136	142	144	189	242	246	240	185	160	206	183	22
23	TOTAL TRANSPORTATION & EXCHANGE	174	168	154	160	160	204	256	262	255	201	179	226	200	23
CURTAILMENT															
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/ Capacity to receive gas from the Southern Zone of SoCalGas is an annual value based on weighting winter and non-winter season values: 607 = (630 winter) x (151/365) + (590 non-winter) x (214/365).

2/ For 2014 and after, assume capacity at same levels.

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:

236	240	194	169	123	99	90	93	92	106	170	242	154
-----	-----	-----	-----	-----	----	----	----	----	-----	-----	-----	-----

2016 CALIFORNIA GAS REPORT

FORECAST OF REQUIREMENTS – DETAIL
JULY 2016



2016 CALIFORNIA GAS REPORT

CUSTOMER FORECAST
JULY 2016



SAN DIEGO GAS & ELECTRIC COMPANY 2014 California Gas Report
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS SDG&E Customer Forecast

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Residential	831,403	838,671	848,964	861,283	874,282	887,477	900,867	914,230	927,287	940,019	952,570	965,113	977,708	990,875	1,004,253	1,017,646	1,031,132	1,044,797
Core C/I	30,026	30,038	30,020	30,074	30,176	30,289	30,407	30,536	30,645	30,732	30,811	30,897	30,983	31,076	31,174	31,268	31,361	31,456
NGV	25	25	25	25	26	26	27	27	28	28	29	29	30	30	36	37	38	38
Non-Core C/I	53	47	47	47	47	47	48	48	48	48	48	48	49	49	49	49	49	49
Electric Generation	66	70	74	77	80	82	85	88	91	94	97	100	103	106	109	112	115	118
TOTAL	861,573	868,851	879,130	891,506	904,611	917,921	931,433	944,929	958,099	970,921	983,554	996,187	1,008,873	1,022,136	1,035,621	1,049,112	1,062,695	1,076,458
Customer Growth	5,133	7,278	10,279	12,376	13,105	13,310	13,512	13,495	13,170	12,823	12,633	12,632	12,686	13,263	13,485	13,491	13,583	13,764
Customer Growth Rate	0.60%	0.84%	1.18%	1.41%	1.47%	1.47%	1.47%	1.45%	1.39%	1.34%	1.30%	1.28%	1.27%	1.31%	1.32%	1.30%	1.29%	1.30%

1.28%



	2031	2032	2033	2034	2035
Residential	1,058,668	1,072,591	1,086,661	1,100,949	1,115,496
Core C/I	31,539	31,617	31,692	31,764	31,837
NGV	39	39	40	40	41
Non-Core C/I	49	50	50	50	50
Electric Generation	121	124	127	130	133
TOTAL	1,090,416	1,104,420	1,118,570	1,132,932	1,147,557
Customer Growth	13,958	14,004	14,149	14,362	14,625
Customer Growth Rate	1.30%	1.28%	1.28%	1.28%	1.29%

2016 CALIFORNIA GAS REPORT

EUFORCASTER
JULY 2016



Refer to the 2016 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.

2016 CALIFORNIA GAS REPORT

RESIDENTIAL DEMAND FORECAST
JULY 2016



Core Residential End-Use Model

2016 California Gas Report

Introduction:

SDG&E used the End Use Forecaster model to generate annual gas demand forecasts for the residential market from 2016 through 2037. 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 four 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.

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 2015 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 equation¹ 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 are estimated by SDGE to represent 1% of the core gas throughput in the post deployment period.

Figures 3-6 illustrate the monthly forecasts for each weather scenario.

Data Sources:

The information used to perform the modeling and to generate the forecast includes historical 2015 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 data is in Figure 7.

Meter Counts, Growth and Decay:

Regression equations were developed for each of the 5 building types. The meter count forecast is a company-specific forecast based on actual meter counts within the SoCalGas service territory. Data on meter decay rates were obtained from the Energy Information Administration (EIA). See Figure 8 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 9 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 10 illustrates the gas price forecasts.

Electric Price Data:

The electricity price inputs consist of average prices (cents/kWh) and marginal prices (cents/kWh). The forecasts for the residential customer class were developed using the same methodology as the gas price forecasts. The average electricity price for each residential rate tier was calculated by including the non-volumetric customer charges with the year's average electricity commodity price. Figure 11 illustrates the electricity price forecasts.

A ratio of the housing type's average gas price to the overall residential gas price was constructed. The weight was then multiplied by the overall average electricity price to derive residential market-specific electricity prices.

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, MF2 and MF3 housing types, 1.034 for the MM housing type and 1.125 for the SM housing type. Figure 11 illustrates the electricity price forecasts.

Price elasticities for each building type were based on the SoCalGas Residential Econometric Demand Forecasting Model. See Figure 7 for price elasticities.

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 SDGE company data. See Figures 12 and 13 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 14 for the building decay rates.

Data on equipment lives and decay rates are based on EIA, RASS, Energy Star, and SoCalGas company data. See Figure 15 for the average lifetimes of gas appliances.

Saturations, Fuel and Efficiency Shares:

Saturation values, fuel shares, and efficiency shares were extracted from SoCalGas company data files and the most recent 200; RASS Update. Please see Figures 16-19 for saturations, fuel, and efficiency shares.

AMI:

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

RESIDENTIAL DATA

ResAvg

San Diego Gas and Electric
 2014 California Gas Report
 Average Temperature Year

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
Residential	2013	4,488	4,014	3,709	3,029	2,201	1,657	1,562	1,554	1,515	1,888	3,028	4,656	33,302
Residential	2014	4,429	3,962	3,661	2,989	2,172	1,636	1,542	1,534	1,496	1,863	2,988	4,596	32,867
Residential	2015	4,405	3,940	3,641	2,973	2,160	1,627	1,533	1,526	1,488	1,853	2,972	4,571	32,689
Residential	2016	4,427	3,960	3,659	2,988	2,171	1,635	1,541	1,533	1,495	1,862	2,987	4,594	32,853
Residential	2017	4,426	3,959	3,658	2,988	2,171	1,635	1,541	1,533	1,495	1,862	2,987	4,593	32,848
Residential	2018	4,439	3,971	3,669	2,996	2,177	1,640	1,545	1,538	1,499	1,867	2,995	4,606	32,944
Residential	2019	4,455	3,985	3,682	3,007	2,185	1,645	1,551	1,543	1,504	1,874	3,006	4,623	33,059
Residential	2020	4,458	3,988	3,685	3,009	2,187	1,647	1,552	1,544	1,506	1,875	3,008	4,626	33,086
Residential	2021	4,473	4,001	3,697	3,019	2,194	1,652	1,557	1,549	1,511	1,882	3,018	4,642	33,195
Residential	2022	4,494	4,020	3,714	3,033	2,204	1,660	1,564	1,557	1,518	1,890	3,032	4,663	33,350
Residential	2023	4,510	4,034	3,728	3,044	2,212	1,666	1,570	1,562	1,523	1,897	3,043	4,680	33,469
Residential	2024	4,529	4,051	3,743	3,057	2,221	1,673	1,577	1,569	1,529	1,905	3,056	4,700	33,610
Residential	2025	4,550	4,070	3,761	3,071	2,232	1,681	1,584	1,576	1,537	1,914	3,070	4,722	33,768
Residential	2026	4,573	4,090	3,779	3,086	2,243	1,689	1,592	1,584	1,544	1,923	3,085	4,745	33,934
Residential	2027	4,598	4,113	3,800	3,103	2,255	1,698	1,601	1,592	1,553	1,934	3,102	4,771	34,120
Residential	2028	4,620	4,132	3,818	3,118	2,266	1,706	1,608	1,600	1,560	1,943	3,117	4,794	34,284
Residential	2029	4,641	4,152	3,836	3,133	2,276	1,714	1,616	1,608	1,567	1,952	3,132	4,816	34,444
Residential	2030	4,665	4,173	3,856	3,149	2,288	1,723	1,624	1,616	1,575	1,962	3,148	4,841	34,619
Residential	2031	4,688	4,193	3,875	3,164	2,299	1,732	1,632	1,624	1,583	1,972	3,163	4,865	34,790
Residential	2032	4,712	4,215	3,894	3,180	2,311	1,740	1,640	1,632	1,591	1,982	3,179	4,889	34,967
Residential	2033	4,737	4,237	3,915	3,198	2,323	1,750	1,649	1,641	1,600	1,993	3,196	4,916	35,155
Residential	2034	4,758	4,256	3,933	3,212	2,334	1,757	1,656	1,648	1,607	2,001	3,210	4,937	35,309
Residential	2035	4,779	4,275	3,950	3,226	2,344	1,765	1,664	1,655	1,614	2,010	3,225	4,959	35,465

ResCol

San Diego Gas and Electric														
2014 California Gas Report														
Cold Temperature Year														
SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
Residential	2013	5,127	4,583	4,167	3,343	2,310	1,652	1,522	1,512	1,478	1,924	3,341	5,337	36,296
Residential	2014	5,060	4,524	4,113	3,299	2,280	1,631	1,502	1,492	1,459	1,899	3,297	5,267	35,823
Residential	2015	5,032	4,499	4,090	3,281	2,267	1,622	1,494	1,484	1,451	1,888	3,279	5,239	35,629
Residential	2016	5,058	4,522	4,111	3,298	2,279	1,630	1,502	1,492	1,458	1,898	3,296	5,265	35,807
Residential	2017	5,057	4,521	4,110	3,297	2,278	1,630	1,502	1,492	1,458	1,898	3,295	5,264	35,802
Residential	2018	5,072	4,534	4,122	3,307	2,285	1,635	1,506	1,496	1,462	1,903	3,305	5,280	35,906
Residential	2019	5,089	4,550	4,137	3,319	2,293	1,640	1,511	1,501	1,467	1,910	3,316	5,298	36,032
Residential	2020	5,093	4,554	4,140	3,321	2,295	1,642	1,512	1,502	1,468	1,911	3,319	5,302	36,061
Residential	2021	5,110	4,569	4,153	3,332	2,302	1,647	1,517	1,507	1,473	1,918	3,330	5,320	36,179
Residential	2022	5,134	4,590	4,173	3,348	2,313	1,655	1,524	1,514	1,480	1,927	3,345	5,345	36,349
Residential	2023	5,152	4,606	4,188	3,360	2,321	1,661	1,530	1,520	1,485	1,934	3,357	5,364	36,478
Residential	2024	5,174	4,626	4,205	3,374	2,331	1,668	1,536	1,526	1,492	1,942	3,372	5,387	36,632
Residential	2025	5,199	4,648	4,225	3,390	2,342	1,676	1,544	1,533	1,499	1,951	3,387	5,412	36,805
Residential	2026	5,224	4,670	4,246	3,406	2,354	1,684	1,551	1,541	1,506	1,960	3,404	5,438	36,985
Residential	2027	5,253	4,696	4,269	3,425	2,367	1,693	1,560	1,549	1,514	1,971	3,423	5,468	37,188
Residential	2028	5,278	4,719	4,290	3,442	2,378	1,701	1,567	1,557	1,522	1,981	3,439	5,495	37,367
Residential	2029	5,303	4,741	4,310	3,458	2,389	1,709	1,574	1,564	1,529	1,990	3,455	5,520	37,541
Residential	2030	5,330	4,765	4,332	3,475	2,401	1,718	1,582	1,572	1,536	2,000	3,473	5,548	37,732
Residential	2031	5,356	4,788	4,353	3,492	2,413	1,726	1,590	1,580	1,544	2,010	3,490	5,576	37,919
Residential	2032	5,383	4,813	4,375	3,510	2,425	1,735	1,598	1,588	1,552	2,020	3,508	5,604	38,112
Residential	2033	5,412	4,838	4,399	3,529	2,438	1,744	1,607	1,596	1,560	2,031	3,527	5,634	38,316
Residential	2034	5,436	4,860	4,418	3,544	2,449	1,752	1,614	1,603	1,567	2,040	3,542	5,659	38,485
Residential	2035	5,460	4,881	4,438	3,560	2,460	1,760	1,621	1,610	1,574	2,049	3,558	5,684	38,654

ResHot

San Diego Gas and Electric														
2014 California Gas Report														
Hot Temperature Year														
SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
Residential	2013	3,799	3,400	3,196	2,659	2,027	1,596	1,532	1,527	1,486	1,785	2,657	3,930	29,594
Residential	2014	3,749	3,356	3,154	2,624	2,000	1,575	1,512	1,507	1,467	1,762	2,623	3,879	29,208
Residential	2015	3,729	3,338	3,137	2,610	1,990	1,567	1,504	1,498	1,459	1,752	2,609	3,857	29,050
Residential	2016	3,748	3,355	3,153	2,623	2,000	1,574	1,512	1,506	1,466	1,761	2,622	3,877	29,195
Residential	2017	3,747	3,354	3,152	2,622	1,999	1,574	1,511	1,506	1,466	1,761	2,621	3,876	29,190
Residential	2018	3,758	3,364	3,161	2,630	2,005	1,579	1,516	1,510	1,470	1,766	2,629	3,888	29,276
Residential	2019	3,771	3,376	3,172	2,639	2,012	1,584	1,521	1,515	1,476	1,772	2,638	3,901	29,379
Residential	2020	3,774	3,378	3,175	2,641	2,014	1,586	1,522	1,517	1,477	1,774	2,640	3,904	29,402
Residential	2021	3,787	3,389	3,185	2,650	2,020	1,591	1,527	1,522	1,482	1,779	2,649	3,917	29,499
Residential	2022	3,804	3,405	3,200	2,662	2,030	1,598	1,534	1,529	1,489	1,788	2,661	3,935	29,637
Residential	2023	3,818	3,417	3,212	2,672	2,037	1,604	1,540	1,534	1,494	1,794	2,671	3,949	29,742
Residential	2024	3,834	3,432	3,225	2,683	2,046	1,611	1,546	1,541	1,500	1,802	2,682	3,966	29,868
Residential	2025	3,852	3,448	3,240	2,696	2,055	1,618	1,554	1,548	1,507	1,810	2,695	3,985	30,009
Residential	2026	3,871	3,465	3,256	2,709	2,065	1,626	1,561	1,556	1,515	1,819	2,708	4,004	30,155
Residential	2027	3,892	3,484	3,274	2,724	2,077	1,635	1,570	1,564	1,523	1,829	2,723	4,026	30,321
Residential	2028	3,911	3,501	3,290	2,737	2,087	1,643	1,577	1,572	1,530	1,838	2,736	4,046	30,467
Residential	2029	3,929	3,517	3,305	2,750	2,096	1,651	1,585	1,579	1,537	1,846	2,749	4,065	30,609
Residential	2030	3,949	3,535	3,322	2,764	2,107	1,659	1,593	1,587	1,545	1,856	2,763	4,085	30,764
Residential	2031	3,969	3,552	3,339	2,777	2,117	1,667	1,601	1,595	1,553	1,865	2,776	4,105	30,917
Residential	2032	3,989	3,571	3,356	2,792	2,128	1,676	1,609	1,603	1,561	1,874	2,790	4,126	31,074
Residential	2033	4,010	3,590	3,374	2,807	2,140	1,685	1,617	1,611	1,569	1,885	2,805	4,148	31,241
Residential	2034	4,028	3,605	3,388	2,819	2,149	1,692	1,625	1,619	1,576	1,893	2,818	4,167	31,378
Residential	2035	4,046	3,621	3,403	2,831	2,158	1,700	1,632	1,626	1,583	1,901	2,830	4,185	31,516

ResBas

San Diego Gas and Electric															
2014 California Gas Report															
Base Year															
SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL	
Residential	2013	1,525	1,378	1,525	1,476	1,525	1,476	1,525	1,525	1,476	1,525	1,476	1,525	17,960	
Residential	2014	1,506	1,360	1,506	1,457	1,506	1,457	1,506	1,506	1,457	1,506	1,457	1,506	17,726	
Residential	2015	1,497	1,352	1,497	1,449	1,497	1,449	1,497	1,497	1,449	1,497	1,449	1,497	17,630	
Residential	2016	1,505	1,359	1,505	1,456	1,505	1,456	1,505	1,505	1,456	1,505	1,456	1,505	17,719	
Residential	2017	1,505	1,359	1,505	1,456	1,505	1,456	1,505	1,505	1,456	1,505	1,456	1,505	17,716	
Residential	2018	1,509	1,363	1,509	1,460	1,509	1,460	1,509	1,509	1,460	1,509	1,460	1,509	17,767	
Residential	2019	1,514	1,368	1,514	1,465	1,514	1,465	1,514	1,514	1,465	1,514	1,465	1,514	17,830	
Residential	2020	1,516	1,369	1,516	1,467	1,516	1,467	1,516	1,516	1,467	1,516	1,467	1,516	17,844	
Residential	2021	1,521	1,373	1,521	1,471	1,521	1,471	1,521	1,521	1,471	1,521	1,471	1,521	17,903	
Residential	2022	1,528	1,380	1,528	1,478	1,528	1,478	1,528	1,528	1,478	1,528	1,478	1,528	17,987	
Residential	2023	1,533	1,385	1,533	1,484	1,533	1,484	1,533	1,533	1,484	1,533	1,484	1,533	18,051	
Residential	2024	1,540	1,391	1,540	1,490	1,540	1,490	1,540	1,540	1,490	1,540	1,490	1,540	18,127	
Residential	2025	1,547	1,397	1,547	1,497	1,547	1,497	1,547	1,547	1,497	1,547	1,497	1,547	18,212	
Residential	2026	1,554	1,404	1,554	1,504	1,554	1,504	1,554	1,554	1,504	1,554	1,504	1,554	18,301	
Residential	2027	1,563	1,412	1,563	1,512	1,563	1,512	1,563	1,563	1,512	1,563	1,512	1,563	18,402	
Residential	2028	1,570	1,418	1,570	1,520	1,570	1,520	1,570	1,570	1,520	1,570	1,520	1,570	18,491	
Residential	2029	1,578	1,425	1,578	1,527	1,578	1,527	1,578	1,578	1,527	1,578	1,527	1,578	18,577	
Residential	2030	1,586	1,432	1,586	1,535	1,586	1,535	1,586	1,586	1,535	1,586	1,535	1,586	18,671	
Residential	2031	1,594	1,439	1,594	1,542	1,594	1,542	1,594	1,594	1,542	1,594	1,542	1,594	18,763	
Residential	2032	1,602	1,447	1,602	1,550	1,602	1,550	1,602	1,602	1,550	1,602	1,550	1,602	18,859	
Residential	2033	1,610	1,454	1,610	1,558	1,610	1,558	1,610	1,610	1,558	1,610	1,558	1,610	18,960	
Residential	2034	1,617	1,461	1,617	1,565	1,617	1,565	1,617	1,617	1,565	1,617	1,565	1,617	19,043	
Residential	2035	1,624	1,467	1,624	1,572	1,624	1,572	1,624	1,624	1,572	1,624	1,572	1,624	19,127	

**San Diego Gas & Electric
 2016 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	1	4	4	2	2	2	4	2	0	2	0	1	0	1	1
Multi-Family	4	1	4	4	2	2	2	4	0	0	0	0	0	0	1	1
Master Meter	4	1	4	4	2	2	2	4	0	0	0	0	0	0	1	1
Sub-Meter	4	1	4	4	2	2	2	4	0	0	0	0	0	0	1	1

**San Diego Gas And Electric Company
 Figure 7: 2013 Historical Data**

	Single Family	Multi Family	Master Meter	Sub Meter
Total Therm Sales	240,169,967	49,511,179	32,578,593	10,756,109
Meter Count				
Pre 1979 Customers	549,366	137,253	11,069	466
1979-2004 Customers	89,287	33,967	349	1
2005-2010 Customers	2,605	1,327	12	-
TOTAL				
Use Per Customer (UPC, Therms)				
Pre 1979	365	283	2,835	23,050
1979-2004	433	305	3,324	14,767
2005-2010	369	217	2,985	N/A
Price Elasticity	-0.105	-0.071	-0.069	-0.105

**San Diego Gas And Electric Company
 Figure 8: Incremental Growth in Meter Counts by Class**

Year	SF Meters	Multi Family	MM Meters	SM Meters
2014	3,894	974	0	0
2015	3,459	865	0	0
2016	4,164	1,041	0	0
2017	5,814	1,454	0	0
2018	8,234	2,059	0	0
2019	9,856	2,464	0	0
2020	10,399	2,600	0	0
2021	10,556	2,639	0	0
2022	10,712	2,678	0	0
2023	10,691	2,673	0	0
2024	10,445	2,611	0	0
2025	10,186	2,546	0	0
2026	10,040	2,510	0	0
2027	10,034	2,509	0	0
2028	10,076	2,519	0	0
2029	10,534	2,633	0	0
2030	10,702	2,676	0	0
2031	10,714	2,679	0	0
2032	10,789	2,697	0	0
2033	10,932	2,733	0	0
2034	11,097	2,774	0	0
2035	11,138	2,784	0	0

**San Diego Gas & Electric
 2016 California Gas Report**

Figure 9: Appliance Unit Energy Consumption (Gas in therms, Electric in Kwh)

End-Use	Vintage	Single Family		Multi-Family		Master Meter		Sub Meter	
		Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric
Space Heat	Stock	370	4,110	200	730	200	730	330	1,340
	Standard	330	3,730	180	-	180	-	300	-
	High	310	3,450	170	-	170	-	280	-
	Premium	280	3,170	150	-	150	-	260	-
Water Heat	Stock	260	2,440	230	2,440	230	2,440	210	2,010
	Standard	240	2,220	210	2,220	210	2,220	190	1,830
	High	230	2,110	200	2,110	200	2,110	180	1,740
	Premium	220	2,050	190	2,050	190	2,050	180	1,690
Cooking	Stock	50	574	34	465	34	465	45	514
	Standard	42.5	487.9	29	395	29	395	38	437
Drying	Stock	45.1	1442.1	24	1,442	24	1,442	26	873
	Standard	42.8	1369.9	23	1,370	23	1,370	25	830
Pool	Stock	177	3,431	177	3,431	177	3,431	177	3,431
Spa	Stock	146	430	146	430	146	430	146	430
Fireplace	Stock	21	-	21	-	21	-	21	-
BBQ	Stock	28	-	28	-	28	-	28	-

**2014 California Gas Report
 Average and Marginal Gas Prices (\$/therm)
 SDG&E Residential Market**

Year	Res Price Deflator	R SF Average Price	R SF Marginal Price	R MF2 Average Price	R MF2 Marginal Price	R MF3 Average Price	R MF3 Marginal Price	R MM Average Price	R MM Marginal Price	R SM Average Price	R SM Marginal Price
2013	100.00	1.2718	1.3688	1.2461	1.3688	1.2486	1.3688	1.2304	1.3688	1.2396	1.3688
2014	100.32	1.3244	1.4245	1.2979	1.4245	1.3005	1.4245	1.2817	1.4245	1.2911	1.4245
2015	102.03	1.4248	1.5298	1.3969	1.5298	1.3996	1.5298	1.3799	1.5298	1.3898	1.5298
2016	103.82	1.3932	1.4940	1.3664	1.4940	1.3690	1.4940	1.3500	1.4940	1.3596	1.4940
2017	105.75	1.4563	1.5594	1.4289	1.5594	1.4316	1.5594	1.4122	1.5594	1.4219	1.5594
2018	107.86	1.5108	1.6161	1.4829	1.6161	1.4856	1.6161	1.4658	1.6161	1.4758	1.6161
2019	109.87	1.5767	1.6860	1.5476	1.6860	1.5505	1.6860	1.5300	1.6860	1.5403	1.6860
2020	112.05	1.6935	1.8097	1.6627	1.8097	1.6657	1.8097	1.6439	1.8097	1.6549	1.8097
2021	114.34	1.7784	1.8995	1.7462	1.8995	1.7494	1.8995	1.7266	1.8995	1.7381	1.8995
2022	116.51	1.8439	1.9680	1.8109	1.9680	1.8142	1.9680	1.7908	1.9680	1.8026	1.9680
2023	118.71	1.9254	2.0551	1.8910	2.0551	1.8944	2.0551	1.8700	2.0551	1.8823	2.0551
2024	120.91	1.9881	2.1213	1.9527	2.1213	1.9562	2.1213	1.9311	2.1213	1.9438	2.1213
2025	123.26	2.0412	2.1774	2.0050	2.1774	2.0086	2.1774	1.9830	2.1774	1.9959	2.1774
2026	125.73	2.0903	2.2300	2.0532	2.2300	2.0569	2.2300	2.0306	2.2300	2.0438	2.2300
2027	128.23	2.1298	2.2721	2.0920	2.2721	2.0958	2.2721	2.0690	2.2721	2.0825	2.2721
2028	130.79	2.1813	2.3271	2.1426	2.3271	2.1464	2.3271	2.1190	2.3271	2.1328	2.3271
2029	133.42	2.2429	2.3930	2.2031	2.3930	2.2070	2.3930	2.1788	2.3930	2.1930	2.3930
2030	136.03	2.2992	2.4531	2.2583	2.4531	2.2623	2.4531	2.2334	2.4531	2.2479	2.4531
2031	138.81	2.3603	2.5184	2.3183	2.5184	2.3224	2.5184	2.2927	2.5184	2.3077	2.5184
2032	141.72	2.4219	2.5842	2.3788	2.5842	2.3830	2.5842	2.3525	2.5842	2.3679	2.5842
2033	144.73	2.4821	2.6484	2.4380	2.6484	2.4423	2.6484	2.4110	2.6484	2.4268	2.6484
2034	147.84	2.5634	2.7354	2.5177	2.7354	2.5222	2.7354	2.4899	2.7354	2.5062	2.7354
2035	150.98	3.5789	3.7550	3.5322	3.7550	3.5368	3.7550	3.5037	3.7550	3.5203	3.7550

**2014 California Gas Report
 Average and Marginal Electric Prices (Cents/Kwh)
 SDG&E Residential Market**

Year	R SF Average Price	R SF Marginal Price	R MF2 Average Price	R MF2 Marginal Price	R MF3 Average Price	R MF3 Marginal Price	R MM Average Price	R MM Marginal Price	R SM Average Price	R SM Marginal Price
2013	34.66	52.45	33.96	51.38	34.03	51.49	33.53	34.67	33.78	38.01
2014	37.49	56.73	36.74	55.59	36.81	55.71	36.28	37.52	36.55	41.13
2015	40.73	61.63	39.93	60.42	40.01	60.54	39.44	40.79	39.73	44.71
2016	36.08	54.60	35.39	53.55	35.46	53.65	34.97	36.16	35.21	39.63
2017	37.34	56.50	36.63	55.43	36.70	55.54	36.21	37.44	36.46	41.03
2018	38.68	58.53	37.96	57.45	38.04	57.56	37.53	38.81	37.78	42.52
2019	40.50	61.28	39.75	60.16	39.83	60.27	39.30	40.64	39.57	44.52
2020	43.69	66.11	42.89	64.91	42.97	65.03	42.41	43.85	42.69	48.04
2021	46.18	69.88	45.34	68.61	45.42	68.74	44.83	46.36	45.13	50.79
2022	48.22	72.96	47.35	71.66	47.44	71.78	46.83	48.42	47.14	53.04
2023	50.72	76.74	49.81	75.37	49.90	75.51	49.26	50.93	49.58	55.79
2024	52.71	79.76	51.77	78.34	51.86	78.48	51.20	52.94	51.53	57.99
2025	54.54	82.52	53.57	81.06	53.66	81.21	52.98	54.78	53.33	60.01
2026	56.35	85.27	55.35	83.75	55.45	83.90	54.74	56.60	55.10	62.00
2027	57.61	87.18	56.59	85.63	56.69	85.79	55.97	57.87	56.33	63.39
2028	59.86	90.58	58.80	88.97	58.90	89.13	58.15	60.13	58.53	65.86
2029	62.30	94.28	61.20	92.60	61.31	92.77	60.52	62.58	60.92	68.55
2030	64.45	97.53	63.31	95.80	63.42	95.97	62.61	64.74	63.02	70.92
2031	66.62	100.81	65.44	99.02	65.55	99.20	64.71	66.92	65.14	73.30
2032	68.86	104.19	67.63	102.34	67.75	102.52	66.88	69.16	67.32	75.76
2033	71.10	107.60	69.84	105.68	69.96	105.87	69.07	71.42	69.52	78.23
2034	75.76	114.64	74.41	112.60	74.55	112.80	73.59	76.10	74.07	83.36
2035	75.76	114.64	74.41	112.60	74.55	112.80	73.59	76.10	74.07	83.36

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 12: Gas Appliance Equipment Cost (Nominal \$)**

End-use	Efficiency Level	Single Family	Multi-Family	Master Meter	Sub Meter
Space Heat	Stock	4,000	1,600	1,000	1,600
	Standard	4,600	1,840	1,150	1,840
	High	4,800	1,920	1,200	1,920
	Premium	5,000	1,980	1,250	1,980
Water Heat	Stock	550	330	330	330
	Standard	650	390	390	390
	High	700	420	420	420
	Premium	750	450	450	450
Cooking	Stock	500	250	250	250
	Standard	1,400	1,400	1,400	1,400
Drying	Stock	328	328	328	328
	Standard	482	482	482	482
Pool	Stock	1,200	1,200	1,200	1,200
Spa	Stock	2,000	2,000	2,000	2,000
Fireplace	Stock	150	150	150	150
BBQ	Stock	1,000	600	600	600

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 13: Electric Appliance Equipment Cost (Nominal \$)**

End-use	Efficiency Level	Single Family	Multi-Family	Master Meter	Sub Meter
Space Heat	Stock	4,100	1,640	1,025	1,640
Water Heat	Stock	550	330	330	330
	Standard	650	390	390	390
	High	700	420	420	420
	Premium	750	450	450	450
Cooking	Stock	500	250	250	250
	Standard	1,400	1,400	1,400	1,400
Drying	Stock	328	328	328	328
	Standard	482	482	482	482
Pool	Stock	1,200	1,200	1,200	1,200
Spa	Stock	2,000	2,000	2,000	2,000
Fireplace	Stock	150	150	150	150
BBQ	Stock	1,000	600	600	600

San Diego Gas and Electric Company
201(California Gas Report
Figure 14: Building Lives and Decay Rates

<u>Building Type</u>	<u>Building Decay Rate</u>
Single Family	0.003
Multi Family 2-4 Units	0.006
Multi Family > 4 units	0.006
Master Meter	0.008
Sub Meter	0.008

	Vintage	Max	Single Family		Multi Family >4 Units		Master Meter		Sub Meter	
			Average	Max	Average	Max	Average	Max	Average	Max
Space Heat	Pre 1979	17	17	17	15	15	16	16	16	16
	1979-2004	17	10	17	11	15	11	16	11	16
	2005-base Yr	1	3	17	4	15	4	16	4	16
Water Heat	Pre 1979	7	7	7	6	8	6	8	6	8
	1979-2004	7	7	7	8	8	8	8	8	8
	2005-base Yr	7	3	7	4	8	4	8	4	8
Cooking	Pre 1979	12	10	12	10	11	14	14	14	14
	1979-2004	12	10	12	11	11	11	14	11	14
	2005-base Yr	12	2	12	4	11	3	14	3	14
Drying	Pre 1979	8	8	8	6	8	8	8	8	8
	1979-2004	8	8	8	8	8	8	8	8	8
	2005-base Yr	8	6	8	3	8	4	8	4	8
Pool	Pre 1979	13	13	13	13	13	13	13	13	13
	1979-2004	13	9	13	9	13	9	13	9	13
	2005-base Yr	13	3	13	3	13	3	13	3	13
Spa	Pre 1979	11	11	11	11	11	11	11	11	11
	1979-2004	11	8	11	8	11	8	11	8	11
	2005-base Yr	11	3	11	3	11	3	11	3	11
Fireplace	Pre 1979	15	15	15	15	15	15	15	15	15
	1979-2004	15	15	15	15	15	15	15	15	15
	2005-base Yr	15	15	15	15	15	15	15	15	15
BBQ	Pre 1979	7	7	7	5	5	5	9	5	9
	1979-2004	7	7	7	5	5	9	9	9	9
	2005-base Yr	7	5	7	5	5	2	9	2	9
Other	Pre 1979	15	15	15	15	15	15	15	15	15
	1979-2004	15	15	15	15	15	15	15	15	15
	2005-base Yr	15	15	15	15	15	15	15	15	15

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 16: End-Use Saturations**

End-use	Vintage	Single Family	Multi-Family	Master Meter	Sub Meter
Space Heat	Pre-1979	0.9976	0.9664	0.9727	1.0000
	1979 - 2004	0.9969	1.0000	0.9183	1.0000
	2005-2015	0.99	1.00	1.00	1.0000
Water Heat	Pre-1979	1.0000	0.9915	0.9561	1.0000
	1979 - 2004	1.0000	1.0000	0.9800	1.0000
	2005-2015	1.000	1.000	1.000	1.0000
Cooking	Pre-1979	0.9892	0.9890	0.9745	0.6000
	1979 - 2004	0.9895	0.9788	0.9622	0.6000
	2005-2015	1.000	1.000	1.000	1.0000
Drying	Pre-1979	0.8714	0.7781	0.9067	0.8000
	1979 - 2004	0.9301	0.8422	0.8679	0.8000
	2005-2015	0.973	0.867	0.500	0.5000
Pool	Pre-1979	0.0711	0.1045	0.1179	0.1179
	1979 - 2004	0.1686	0.1941	0.0053	0.0053
	2005-2015	0.241	0.194	0.005	0.0053
Spa	Pre-1979	0.1299	0.0668	0.1329	0.1329
	1979 - 2004	0.2802	0.2896	0.2012	0.2012
	2005-2015	0.27	0.28	0.20	0.2012
Fireplace	Pre-1979	0.5493	0.1519	0.1894	0.1894
	1979 - 2004	0.7149	0.4775	0.4156	0.4156
	2005-2015	0.714	0.477	0.415	0.4156
Barbecue	Pre-1979	0.5240	0.2706	0.1875	0.4000
	1979 - 2004	0.6040	0.3838	0.3600	0.0000
	2005-2015	0.64	0.45	0.00	0.0000

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 17: Gas Fuel Shares**

End-use	Single Family	Multi-Family	Master Meter	Sub Meter
Space Heat	0.9399	0.8168	0.7710	0.7304
Water Heat	0.9878	0.9673	0.9356	0.7403
Cooking	0.6621	0.7440	0.5861	0.6871
Drying	0.7592	0.6962	0.8156	0.5469
Pool	0.7263	0.7263	0.7263	0.7263
Spa	0.5462	0.5819	0.5819	0.5819
Fireplace	0.5815	0.5816	0.5816	0.5816
Barbecue	0.2814	0.2344	0.3114	0.1364

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 18: Gas Efficiency Shares**

Gas End-use	Efficiency Level	Single Family		Multi-Family		Master Meter		Sub Meter	
		Existing	New	Existing	New	Existing	New	Existing	New
Space Heat	Stock	0.59	0.59	0.50	0.50	0.50	0.50	0.59	0.59
	Standard	0.34	0.34	0.48	0.48	0.48	0.48	0.34	0.34
	High	0.06	0.06	0.01	0.01	0.01	0.01	0.06	0.06
	Premium	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Water Heat	Stock	0.10	0.10	0.13	0.13	0.13	0.13	0.10	0.10
	Standard	0.68	0.68	0.76	0.76	0.76	0.76	0.68	0.68
	High	0.21	0.21	0.10	0.10	0.10	0.10	0.21	0.21
	Premium	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cooking	Stock	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
	Standard	0.10	0.10	0.05	0.05	0.05	0.05	0.05	0.05
Drying	Stock	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Standard	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Pool	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Spa	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fireplace	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Barbeque	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**San Diego Gas & Electric
 2016 California Gas Report
 Figure 19: Electric Efficiency Shares**

Electric End-use	Efficiency Level	Single Family		Multi-Family		Master Meter		Sub Meter	
		Existing	New	Existing	New	Existing	New	Existing	New
Space Heat	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Water Heat	Stock	0.10	0.10	0.13	0.13	0.13	0.13	0.10	0.10
	Standard	0.68	0.68	0.76	0.76	0.76	0.76	0.68	0.68
	High	0.21	0.21	0.10	0.10	0.10	0.10	0.21	0.21
	Premium	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cooking	Stock	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
	Standard	0.10	0.10	0.05	0.05	0.05	0.05	0.05	0.05
Drying	Stock	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Standard	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Pool	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Spa	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fireplace	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Barbecue	Stock	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

2016 CALIFORNIA GAS REPORT

CORE COMMERCIAL AND INDUSTRIAL DEMAND FORECAST
JULY 2016



Introduction

The core commercial and Industrial GN-3 gas demand forecast used the EUForecaster model to generate annual gas demand forecasts for the years 2036 through 2037.

The model segments the core commercial and industrial GN-3 markets into 14 sectors and 11 sectors by type of business activity, respectively. Business activity is determined by the NAICS code assigned to the customer and carried on the customer's billing record. A second segmentation within each specific business type involved further disaggregation into end-uses.

The gas demand forecast that results from the EUForecaster model is at the annual design HDD total of 1,364 for an Average Year. The gas demand forecasts under Cold, Hot and Base temperature were then constructed based on Cold Year (Hdd = 1,676), Hot Year (Hdd=3.252) and Base Year (Hdd=0) annual assumptions.

This *end use* forecasts under the above four temperature scenarios are then reduced for the EE/DSM savings provided by the EE/DSM group. The post-model adjustments are summarized in tables that follow.

Data Sources

The key set of information used to perform the modeling and to generate the forecast includes historical year 2035 consumption and customer counts, employment forecasts, gas and electric energy use intensity (EUI) values, end-use saturations, fuel and efficiency shares, gas and electric price forecasts, equipment age, use per meter for existing and new customers, and equipment cost. A description of each component follows:

A. Historical Year 2035 Sales:

The historical data are extracted from the billing tables in the Customer Information System (CIS). The gas consumption by business type was adjusted to 1,364 Average Year Hdd.

B. Employment Data:

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.

C. Gas Price Data:

— ~~—~~ Average and marginal gas prices (\$/therm) were calculated from forecasts of the GN-3 rate components. We used underlying detailed consumption data to separate monthly consumption for customers by each business type into the respective GN-3 consumption tiers.

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.

D. Electric Price Data:

Both average prices (cents/kWh) and marginal prices (cents/kWh) were developed as electricity price inputs. Forecasts for the SDG&E retail electricity rates by customer class were developed from the California Energy Commission's staff report entitled California Energy Demand 2014-2024 Final Forecast, December 2013, number CEC-200-2013-004-SF, Vol#1 & Vol#2. Retail electricity price forecasts for the SDG&E commercial customer class was from the MID case assumptions for the SDG&E planning area (see EXCEL files posted at web-link: http://www.energy.ca.gov/2013_energypolicy/documents of The electricity price forecast from this source ended in year 2024; it was extrapolated through 2035.

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.

E. 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%.

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 Company
 201(California Gas Report - Commercial GN3
 The Year the Equipment Was Installed by Business Types**

<u>Sector</u>	<u>Space Heater</u>	<u>Water Heater</u>	<u>Cooktop</u>	<u>Griddle</u>	<u>Fryer</u>	<u>Other Cooking Equipment</u>	<u>Kitchen Equipment</u>	<u>AC</u>	<u>Dryer</u>	<u>Engine</u>	<u>Other</u>
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
TIU	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

2014 California Gas Report
 Core Commercial Average Electric Prices (Cents/KwH)

C										
Year	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	
2013	18.52	20.39	19.33	19.03	18.69	19.94	17.69	17.81	18.04	
2014	19.24	21.41	20.15	19.89	19.42	20.85	18.34	18.47	18.75	
2015	19.74	21.85	20.62	20.38	19.92	21.30	18.88	19.01	19.28	
2016	20.47	22.56	21.35	21.09	20.65	22.03	19.60	19.73	20.00	
2017	20.92	23.02	21.80	21.55	21.10	22.48	20.05	20.18	20.45	
2018	21.60	23.74	22.49	22.24	21.78	23.19	20.71	20.85	21.12	
2019	22.21	24.33	23.09	22.85	22.39	23.78	21.34	21.47	21.75	
2020	22.88	24.90	23.71	23.50	23.05	24.37	22.06	22.18	22.44	
2021	23.58	25.60	24.41	24.21	23.75	25.06	22.78	22.90	23.16	
2022	24.27	26.31	25.11	24.91	24.45	25.77	23.46	23.59	23.85	
2023	24.99	27.01	25.81	25.62	25.15	26.46	24.19	24.31	24.57	
2024	25.71	27.75	26.54	26.35	25.88	27.20	24.90	25.03	25.30	
2025	26.47	28.56	27.32	27.13	26.64	27.99	25.65	25.78	26.06	
2026	27.27	29.41	28.14	27.96	27.45	28.83	26.44	26.57	26.85	
2027	28.09	30.29	28.98	28.80	28.27	29.69	27.24	27.38	27.67	
2028	28.94	31.19	29.85	29.67	29.12	30.57	28.08	28.21	28.51	
2029	29.81	32.11	30.74	30.56	30.00	31.47	28.95	29.08	29.39	
2030	30.70	33.05	31.64	31.47	30.89	32.39	29.82	29.96	30.27	
2031	31.65	34.04	32.61	32.44	31.84	33.37	30.75	30.89	31.21	
2032	32.63	35.09	33.61	33.45	32.83	34.39	31.72	31.87	32.20	
2033	33.66	36.18	34.66	34.50	33.86	35.46	32.73	32.88	33.22	
2034	34.73	37.29	35.74	35.59	34.93	36.56	33.79	33.95	34.29	
2035	35.82	38.45	36.86	36.71	36.03	37.70	34.87	35.02	35.37	

Year	C Restaurant Average Price	C Retail Average Price	C School Average Price	C TCU Average Price	C Warehouse Average Price
2013	19.66	17.28	17.70	19.76	17.57
2014	20.48	17.86	18.28	20.56	18.20
2015	20.94	18.41	18.82	21.00	18.74
2016	21.67	19.14	19.56	21.75	19.47
2017	22.12	19.59	20.00	22.20	19.92
2018	22.81	20.24	20.65	22.88	20.58
2019	23.41	20.88	21.28	23.47	21.21
2020	24.01	21.61	21.99	24.07	21.93
2021	24.70	22.34	22.70	24.75	22.65
2022	25.40	23.02	23.38	25.45	23.33
2023	26.09	23.74	24.10	26.14	24.06
2024	26.82	24.46	24.81	26.86	24.78
2025	27.60	25.20	25.55	27.64	25.52
2026	28.42	25.97	26.33	28.45	26.31
2027	29.27	26.76	27.13	29.30	27.11
2028	30.14	27.58	27.95	30.16	27.94
2029	31.03	28.44	28.81	31.05	28.80
2030	31.94	29.31	29.68	31.95	29.67
2031	32.90	30.23	30.60	32.91	30.60
2032	33.91	31.19	31.56	33.91	31.57
2033	34.96	32.18	32.56	34.96	32.57
2034	36.04	33.24	33.61	36.04	33.64
2035	37.16	34.29	34.67	37.16	34.71

2014 California Gas Report
 Core Commercial Marginal Electric Prices (Cents/KwH)

C												
Year	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			
2013	18.51	20.38	18.95	19.09	18.56	19.79	18.03	18.05	18.28			
2014	19.23	21.41	19.75	19.91	19.29	20.73	18.68	18.70	18.96			
2015	19.73	21.84	20.23	20.40	19.80	21.18	19.20	19.22	19.48			
2016	20.46	22.55	20.96	21.12	20.52	21.89	19.94	19.96	20.21			
2017	20.91	23.01	21.41	21.57	20.97	22.35	20.39	20.41	20.66			
2018	21.59	23.72	22.09	22.26	21.65	23.05	21.05	21.07	21.33			
2019	22.20	24.31	22.70	22.86	22.26	23.65	21.67	21.69	21.95			
2020	22.87	24.87	23.35	23.50	22.93	24.24	22.37	22.39	22.63			
2021	23.58	25.56	24.05	24.20	23.64	24.94	23.08	23.10	23.34			
2022	24.27	26.27	24.75	24.90	24.33	25.65	23.77	23.79	24.03			
2023	24.98	26.97	25.45	25.61	25.04	26.34	24.49	24.51	24.74			
2024	25.70	27.71	26.18	26.33	25.76	27.08	25.20	25.22	25.46			
2025	26.47	28.51	26.95	27.11	26.53	27.87	25.95	25.98	26.22			
2026	27.27	29.36	27.77	27.93	27.33	28.71	26.74	26.77	27.02			
2027	28.09	30.24	28.60	28.77	28.15	29.57	27.55	27.57	27.83			
2028	28.94	31.14	29.46	29.63	29.00	30.45	28.38	28.41	28.67			
2029	29.82	32.06	30.35	30.52	29.88	31.35	29.25	29.28	29.55			
2030	30.71	32.99	31.25	31.42	30.77	32.28	30.13	30.16	30.43			
2031	31.65	33.99	32.21	32.38	31.72	33.25	31.06	31.09	31.37			
2032	32.64	35.03	33.21	33.39	32.71	34.28	32.04	32.06	32.35			
2033	33.67	36.12	34.25	34.43	33.74	35.35	33.05	33.08	33.37			
2034	34.74	37.22	35.33	35.52	34.81	36.44	34.11	34.14	34.44			
2035	35.83	38.38	36.44	36.63	35.91	37.58	35.19	35.22	35.52			

Year	C Restaurant Marginal Price	C Retail Marginal Price	C School Marginal Price	C TCU Marginal Price	C Warehouse Marginal Price
2013	19.19	17.76	17.87	19.04	17.91
2014	20.03	18.36	18.49	19.85	18.53
2015	20.50	18.90	19.02	20.34	19.06
2016	21.22	19.64	19.76	21.06	19.80
2017	21.68	20.08	20.21	21.51	20.25
2018	22.37	20.74	20.86	22.20	20.90
2019	22.97	21.37	21.49	22.80	21.53
2020	23.60	22.08	22.20	23.44	22.23
2021	24.30	22.79	22.91	24.15	22.95
2022	25.00	23.48	23.59	24.84	23.63
2023	25.71	24.20	24.31	25.55	24.35
2024	26.44	24.91	25.03	26.28	25.07
2025	27.22	25.66	25.78	27.05	25.82
2026	28.03	26.44	26.56	27.87	26.60
2027	28.88	27.24	27.36	28.70	27.40
2028	29.74	28.06	28.19	29.57	28.24
2029	30.64	28.93	29.06	30.46	29.10
2030	31.54	29.80	29.93	31.36	29.98
2031	32.50	30.73	30.86	32.32	30.91
2032	33.51	31.69	31.83	33.32	31.88
2033	34.56	32.69	32.84	34.37	32.88
2034	35.65	33.75	33.90	35.45	33.95
2035	36.76	34.82	34.97	36.56	35.02

2014 California Gas Report
 Core Commercial Average Gas Prices (\$/therm)

Year	Com Price Deflator	C Agriculture Average Price	C College Average Price	C 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
2013	100.00	0.6845	0.7533	0.7142	0.7034	0.6907	0.7369	0.6538	0.6581	0.6668
2014	100.32	0.7333	0.8162	0.7679	0.7581	0.7404	0.7949	0.6989	0.7040	0.7147
2015	102.03	0.8001	0.8856	0.8357	0.8259	0.8074	0.8634	0.7651	0.7703	0.7814
2016	103.82	0.7953	0.8763	0.8293	0.8192	0.8023	0.8556	0.7614	0.7664	0.7768
2017	105.75	0.8256	0.9084	0.8602	0.8503	0.8327	0.8872	0.7913	0.7964	0.8070
2018	107.86	0.8535	0.9383	0.8888	0.8790	0.8607	0.9163	0.8186	0.8238	0.8348
2019	109.87	0.9072	0.9939	0.9432	0.9335	0.9146	0.9713	0.8718	0.8771	0.8884
2020	112.04	1.0022	1.0909	1.0389	1.0294	1.0098	1.0677	0.9663	0.9718	0.9833
2021	114.34	1.0653	1.1562	1.1028	1.0934	1.0730	1.1322	1.0289	1.0344	1.0462
2022	116.51	1.1079	1.2008	1.1461	1.1368	1.1157	1.1760	1.0709	1.0765	1.0886
2023	118.71	1.1750	1.2700	1.2139	1.2048	1.1829	1.2445	1.1375	1.1432	1.1556
2024	120.91	1.2208	1.3179	1.2605	1.2515	1.2289	1.2917	1.1827	1.1886	1.2013
2025	123.26	1.2573	1.3566	1.2977	1.2889	1.2655	1.3296	1.2186	1.2247	1.2377
2026	125.73	1.2942	1.3958	1.3355	1.3268	1.3026	1.3681	1.2550	1.2611	1.2745
2027	128.23	1.3253	1.4292	1.3674	1.3588	1.3339	1.4007	1.2854	1.2917	1.3054
2028	130.79	1.3642	1.4705	1.4071	1.3988	1.3729	1.4412	1.3237	1.3301	1.3441
2029	133.42	1.4128	1.5216	1.4566	1.4484	1.4217	1.4914	1.3716	1.3782	1.3925
2030	136.03	1.4561	1.5673	1.5007	1.4927	1.4651	1.5363	1.4143	1.4210	1.4357
2031	138.81	1.5033	1.6171	1.5488	1.5409	1.5125	1.5852	1.4608	1.4676	1.4827
2032	141.72	1.5502	1.6668	1.5967	1.5890	1.5596	1.6339	1.5070	1.5139	1.5294
2033	144.73	1.5951	1.7145	1.6427	1.6351	1.6047	1.6807	1.5512	1.5583	1.5742
2034	147.84	1.6603	1.7826	1.7089	1.7015	1.6701	1.7477	1.6156	1.6229	1.6392
2035	150.98	1.7073	1.8326	1.7569	1.7498	1.7173	1.7967	1.6618	1.6693	1.6860

Year	Com Price Deflator	C Restaurant Average Price	C Retail Average Price	C School Average Price	C TCU Average Price	C Restaurant Marginal Price	C Warehouse Average Price
2013	100.00	0.7264	0.6385	0.6542	0.7303	0.6616	0.6492
2014	100.32	0.7807	0.6807	0.6969	0.7836	0.7095	0.6936
2015	102.03	0.8485	0.7463	0.7626	0.8512	0.7762	0.7596
2016	103.82	0.8419	0.7435	0.7597	0.8449	0.7716	0.7562
2017	105.75	0.8730	0.7730	0.7893	0.8759	0.8019	0.7859
2018	107.86	0.9016	0.7999	0.8163	0.9044	0.8296	0.8132
2019	109.87	0.9561	0.8528	0.8692	0.9587	0.8832	0.8663
2020	112.04	1.0519	0.9468	0.9633	1.0544	0.9781	0.9607
2021	114.34	1.1158	1.0089	1.0255	1.1181	1.0411	1.0231
2022	116.51	1.1592	1.0505	1.0672	1.1613	1.0835	1.0650
2023	118.71	1.2271	1.1166	1.1334	1.2291	1.1505	1.1314
2024	120.91	1.2738	1.1615	1.1783	1.2756	1.1962	1.1766
2025	123.26	1.3111	1.1969	1.2138	1.3128	1.2325	1.2124
2026	125.73	1.3489	1.2327	1.2498	1.3504	1.2693	1.2486
2027	128.23	1.3809	1.2627	1.2798	1.3822	1.3002	1.2789
2028	130.79	1.4208	1.3004	1.3177	1.4219	1.3390	1.3170
2029	133.42	1.4703	1.3478	1.3652	1.4713	1.3874	1.3648
2030	136.03	1.5145	1.3900	1.4075	1.5153	1.4305	1.4073
2031	138.81	1.5627	1.4359	1.4535	1.5633	1.4775	1.4537
2032	141.72	1.6107	1.4815	1.4992	1.6111	1.5243	1.4997
2033	144.73	1.6568	1.5251	1.5430	1.6570	1.5691	1.5438
2034	147.84	1.7231	1.5889	1.6069	1.7230	1.6341	1.6080
2035	150.98	1.7712	1.6345	1.6526	1.7710	1.6809	1.6541

2014 California Gas Report
 Core Commercial Marginal Gas Prices (\$/therm)

Year	Com Price Deflator	C Agriculture Marginal Price	C College Marginal Price	C						C Office 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	
2013	100.00	0.6380	0.7026	0.6534	0.6583	0.6399	0.6823	0.6218	0.6225	0.6302
2014	100.32	0.6812	0.7587	0.6996	0.7055	0.6835	0.7344	0.6617	0.6625	0.6718
2015	102.03	0.7470	0.8269	0.7660	0.7721	0.7494	0.8018	0.7269	0.7278	0.7373
2016	103.82	0.7439	0.8197	0.7619	0.7677	0.7462	0.7959	0.7249	0.7257	0.7347
2017	105.75	0.7736	0.8510	0.7920	0.7979	0.7759	0.8267	0.7541	0.7549	0.7642
2018	107.86	0.8006	0.8799	0.8195	0.8255	0.8030	0.8550	0.7807	0.7816	0.7910
2019	109.87	0.8536	0.9346	0.8728	0.8790	0.8560	0.9092	0.8332	0.8341	0.8437
2020	112.04	0.9478	1.0307	0.9675	0.9738	0.9503	1.0047	0.9270	0.9279	0.9377
2021	114.34	1.0100	1.0950	1.0302	1.0367	1.0126	1.0683	0.9887	0.9896	0.9997
2022	116.51	1.0518	1.1386	1.0724	1.0790	1.0543	1.1113	1.0299	1.0309	1.0412
2023	118.71	1.1181	1.2068	1.1392	1.1459	1.1207	1.1789	1.0958	1.0967	1.1073
2024	120.91	1.1631	1.2537	1.1846	1.1915	1.1658	1.2252	1.1403	1.1413	1.1521
2025	123.26	1.1986	1.2913	1.2207	1.2277	1.2014	1.2622	1.1754	1.1764	1.1874
2026	125.73	1.2347	1.3295	1.2572	1.2644	1.2375	1.2997	1.2108	1.2119	1.2232
2027	128.23	1.2648	1.3618	1.2878	1.2952	1.2677	1.3313	1.2404	1.2415	1.2530
2028	130.79	1.3027	1.4019	1.3263	1.3339	1.3057	1.3708	1.2778	1.2789	1.2907
2029	133.42	1.3503	1.4518	1.3744	1.3822	1.3533	1.4199	1.3248	1.3259	1.3380
2030	136.03	1.3926	1.4964	1.4173	1.4252	1.3957	1.4638	1.3666	1.3677	1.3801
2031	138.81	1.4388	1.5449	1.4640	1.4721	1.4419	1.5116	1.4121	1.4132	1.4259
2032	141.72	1.4846	1.5933	1.5104	1.5187	1.4878	1.5591	1.4573	1.4584	1.4714
2033	144.73	1.5284	1.6397	1.5549	1.5633	1.5317	1.6048	1.5004	1.5016	1.5149
2034	147.84	1.5924	1.7064	1.6195	1.6282	1.5958	1.6706	1.5637	1.5650	1.5786
2035	150.98	1.6382	1.7549	1.6660	1.6749	1.6417	1.7183	1.6089	1.6102	1.6241

Year	Com Price Deflator	C Restaurant Marginal Price	C Retail Marginal Price	C School Marginal Price	C TCU Marginal Price	C Warehouse Marginal Price
2014	100.32	0.7095	0.6505	0.6550	0.7033	0.6565
2015	102.03	0.7762	0.7153	0.7200	0.7698	0.7215
2016	103.82	0.7716	0.7139	0.7183	0.7656	0.7198
2017	105.75	0.8019	0.7429	0.7474	0.7957	0.7489
2018	107.86	0.8296	0.7692	0.7739	0.8233	0.7754
2019	109.87	0.8832	0.8215	0.8262	0.8767	0.8278
2020	112.04	0.9781	0.9149	0.9198	0.9715	0.9214
2021	114.34	1.0411	0.9764	0.9814	1.0343	0.9830
2022	116.51	1.0835	1.0174	1.0225	1.0765	1.0241
2023	118.71	1.1505	1.0829	1.0881	1.1434	1.0898
2024	120.91	1.1962	1.1271	1.1325	1.1889	1.1342
2025	123.26	1.2325	1.1619	1.1674	1.2251	1.1691
2026	125.73	1.2693	1.1971	1.2027	1.2617	1.2045
2027	128.23	1.3002	1.2264	1.2320	1.2925	1.2339
2028	130.79	1.3390	1.2634	1.2692	1.3311	1.2711
2029	133.42	1.3874	1.3101	1.3161	1.3793	1.3180
2030	136.03	1.4305	1.3515	1.3576	1.4222	1.3596
2031	138.81	1.4775	1.3967	1.4029	1.4691	1.4049
2032	141.72	1.5243	1.4415	1.4479	1.5156	1.4500
2033	144.73	1.5691	1.4843	1.4908	1.5602	1.4930
2034	147.84	1.6341	1.5472	1.5539	1.6249	1.5561
2035	150.98	1.6809	1.5920	1.5988	1.6715	1.6010

San Diego Gas And Electric Company
 2014 California Gas Report
 2013 Historical Data

Segment	2013 Therm Sales	2013 Meter Count	2013 Meter Count, Existing/Old customers	2013 Meter Count New Customers	Price Elasticity
Office	35,180,142	6,683	6,590	93	-0.072
Restaurant	37,619,961	5,376	5,300	76	-0.001
Retail	12,800,303	3,094	3,066	28	-0.032
Laundry	6,961,133	471	470	1	-0.026
Warehouse	2,866,537	612	605	7	-0.0000001
School	3,729,493	800	795	5	-0.103
College	6,305,800	381	374	7	-0.09
Health	13,040,390	718	714	4	-0.052
Lodging	18,927,835	808	800	8	-0.013
Misc	15,369,939	4,605	4,555	50	-0.03
Government	14,575,875	717	713	4	-0.061
TCU	5,940,378	1,383	1,379	4	-0.062
Construction	1,492,404	703	660	43	-0.179
Agriculture	2,324,588	116	116	0	-0.059
Total	177,134,778	26,467			

San Diego Gas and Electric Company
201(California Gas Report Commercial 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 Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
Office	Space_Heat	1	1	0.3046	4.3149	0.65
Office	Space_Heat	1	2	0.2742	4.7464	0.3
Office	Space_Heat	1	3	0.2495	5.1779	0.04
Office	Space_Heat	1	4	0.2248	5.6094	0.01
Office	Space_Heat	2	1	6.2481	3.4519	1
Office	Space_Heat	2	2	5.6233	3.7971	0
Office	Space_Heat	2	3	5.1172	4.1423	0
Office	Space_Heat	2	4	4.6111	4.4875	0
Office	Water_Heat	1	1	0.0474	0.6712	0.4
Office	Water_Heat	1	2	0.0427	0.7384	0.5
Office	Water_Heat	1	3	0.0373	0.8055	0.08
Office	Water_Heat	1	4	0.032	0.8726	0.02
Office	Water_Heat	2	1	0.972	0.537	0.4
Office	Water_Heat	2	2	0.8748	0.5907	0.5
Office	Water_Heat	2	3	0.7654	0.6444	0.08
Office	Water_Heat	2	4	0.6561	0.6981	0.02
Office	Cooking	1	1	0.0346	0.4899	0.65
Office	Cooking	1	2	0.0311	0.5389	0.35
Office	Cooking	2	1	0.7094	0.3919	0.65
Office	Cooking	2	2	0.6385	0.4311	0.35
Office	AC_Compressor	1	1	0.1043	1.4773	0.65
Office	AC_Compressor	1	2	0.0939	1.6251	0.35
Office	AC_Compressor	2	1	2.1392	1.1819	0.65
Office	AC_Compressor	2	2	1.9253	1.3	0.35
Office	Other	1	1	0	0	1
Office	Other	2	1	0	0	0
Restaurant	Space_Heat	1	1	0.1177	1.5841	0.65
Restaurant	Space_Heat	1	2	0.1059	1.7425	0.3
Restaurant	Space_Heat	1	3	0.0964	1.9009	0.04
Restaurant	Space_Heat	1	4	0.0868	2.0593	0.01
Restaurant	Space_Heat	2	1	2.4134	1.2673	1
Restaurant	Space_Heat	2	2	2.1721	1.394	0
Restaurant	Space_Heat	2	3	1.9766	1.5207	0
Restaurant	Space_Heat	2	4	1.7811	1.6474	0
Restaurant	Water_Heat	1	1	0.8666	11.666	0.4
Restaurant	Water_Heat	1	2	0.7799	12.8326	0.5
Restaurant	Water_Heat	1	3	0.6824	13.9992	0.08
Restaurant	Water_Heat	1	4	0.5849	15.1658	0.02
Restaurant	Water_Heat	2	1	17.7736	9.3328	0.4
Restaurant	Water_Heat	2	2	15.9962	10.2661	0.5
Restaurant	Water_Heat	2	3	13.9967	11.1994	0.08
Restaurant	Water_Heat	2	4	11.9972	12.1327	0.02
Restaurant	Cook_top	1	1	1.1985	16.1343	0.65
Restaurant	Cook_top	1	2	1.0787	17.7477	0.35
Restaurant	Cook_top	2	1	24.5811	12.9074	0.65
Restaurant	Cook_top	2	2	22.123	14.1981	0.35
Restaurant	Fryer	1	1	1.0791	14.5274	0.65
Restaurant	Fryer	1	2	0.9712	15.9802	0.35
Restaurant	Fryer	2	1	22.133	11.622	0.65
Restaurant	Fryer	2	2	19.9197	12.7841	0.35
Restaurant	Griddle	1	1	0.9107	12.2603	0.65
Restaurant	Griddle	1	2	0.8197	13.4863	0.35
Restaurant	Griddle	2	1	18.6789	9.8082	0.65
Restaurant	Griddle	2	2	16.8111	10.789	0.35
Restaurant	Other_Cooking	1	1	0.9712	13.0747	0.65
Restaurant	Other_Cooking	1	2	0.8741	14.3822	0.35
Restaurant	Other_Cooking	2	1	19.9197	10.4598	0.65
Restaurant	Other_Cooking	2	2	17.9278	11.5057	0.35
Restaurant	AC_Compressor	1	1	0.2028	2.7306	0.65
Restaurant	AC_Compressor	1	2	0.1826	3.0036	0.35
Restaurant	AC_Compressor	2	1	4.1601	2.1844	0.65

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
Restaurant	AC_Compressor	2	2	3.7441	2.4029	0.35
Restaurant	Other	1	1	0	0	1
Restaurant	Other	2	1	0	0	0
Retail	Space_Heat	1	1	0.2455	3.5122	0.65
Retail	Space_Heat	1	2	0.221	3.8634	0.3
Retail	Space_Heat	1	3	0.2011	4.2146	0.04
Retail	Space_Heat	1	4	0.1812	4.5658	0.01
Retail	Space_Heat	2	1	5.0356	2.8097	1
Retail	Space_Heat	2	2	4.532	3.0907	0
Retail	Space_Heat	2	3	4.1241	3.3717	0
Retail	Space_Heat	2	4	3.7163	3.6527	0
Retail	Water_Heat	1	1	0.1093	1.563	0.4
Retail	Water_Heat	1	2	0.0983	1.7193	0.5
Retail	Water_Heat	1	3	0.086	1.8756	0.08
Retail	Water_Heat	1	4	0.0738	2.0319	0.02
Retail	Water_Heat	2	1	2.2409	1.2504	0.4
Retail	Water_Heat	2	2	2.0168	1.3754	0.5
Retail	Water_Heat	2	3	1.7647	1.5004	0.08
Retail	Water_Heat	2	4	1.5126	1.6255	0.02
Retail	Cooking	1	1	0.3079	4.4039	0.65
Retail	Cooking	1	2	0.2771	4.8443	0.35
Retail	Cooking	2	1	6.3142	3.5231	0.65
Retail	Cooking	2	2	5.683	3.875	0.35
Retail	Other	1	1	0	0	1
Retail	Other	2	1	0	0	0
Laundry	Space_Heat	1	1	0.147	1.836	0.65
Laundry	Space_Heat	1	2	0.132	2.02	0.3
Laundry	Space_Heat	1	3	0.12	2.203	0.04
Laundry	Space_Heat	1	4	0.108	2.387	0.01
Laundry	Space_Heat	2	1	3.012	1.469	1
Laundry	Space_Heat	2	2	2.711	1.616	0
Laundry	Space_Heat	2	3	2.467	1.763	0
Laundry	Space_Heat	2	4	2.223	1.909	0
Laundry	Water_Heat	1	1	2.76	34.512	0.4
Laundry	Water_Heat	1	2	2.484	37.963	0.5
Laundry	Water_Heat	1	3	2.174	41.414	0.08
Laundry	Water_Heat	1	4	1.863	44.865	0.02
Laundry	Water_Heat	2	1	56.617	27.609	0.4
Laundry	Water_Heat	2	2	50.955	30.37	0.5
Laundry	Water_Heat	2	3	44.586	33.131	0.08
Laundry	Water_Heat	2	4	38.216	35.892	0.02
Laundry	Drying	1	1	14.937	186.738	0.65
Laundry	Drying	1	2	13.443	205.412	0.35
Laundry	Drying	2	1	306.348	149.39	0.65
Laundry	Drying	2	2	275.713	164.329	0.35
Laundry	Other	1	1	0	0	1
Laundry	Other	2	1	0	0	0
Warehouse	Space_Heat	1	1	0.621	7.909	0.65
Warehouse	Space_Heat	1	2	0.559	8.7	0.3
Warehouse	Space_Heat	1	3	0.509	9.491	0.04
Warehouse	Space_Heat	1	4	0.458	10.282	0.01
Warehouse	Space_Heat	2	1	12.739	6.327	1
Warehouse	Space_Heat	2	2	11.465	6.96	0
Warehouse	Space_Heat	2	3	10.433	7.593	0
Warehouse	Space_Heat	2	4	9.401	8.225	0
Warehouse	Water_Heat	1	1	0.205	2.608	0.4
Warehouse	Water_Heat	1	2	0.184	2.869	0.5
Warehouse	Water_Heat	1	3	0.161	3.13	0.08
Warehouse	Water_Heat	1	4	0.138	3.39	0.02
Warehouse	Water_Heat	2	1	4.2	2.086	0.4
Warehouse	Water_Heat	2	2	3.78	2.295	0.5
Warehouse	Water_Heat	2	3	3.308	2.504	0.08
Warehouse	Water_Heat	2	4	2.835	2.712	0.02
Warehouse	Engine	1	1	8.884	113.127	0.65
Warehouse	Engine	1	2	7.995	124.44	0.35
Warehouse	Engine	2	1	182.207	90.502	0.65
Warehouse	Engine	2	2	163.986	99.552	0.35
Warehouse	Other	1	1	0	0	1
Warehouse	Other	2	1	0	0	0
School	Space_Heat	1	1	0.092	1.225	0.65
School	Space_Heat	1	2	0.083	1.348	0.3

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
School	Space_Heat	1	3	0.076	1.471	0.04
School	Space_Heat	1	4	0.068	1.593	0.01
School	Space_Heat	2	1	1.895	0.98	1
School	Space_Heat	2	2	1.705	1.078	0
School	Space_Heat	2	3	1.552	1.176	0
School	Space_Heat	2	4	1.398	1.274	0
School	Water_Heat	1	1	0.123	1.635	0.4
School	Water_Heat	1	2	0.111	1.799	0.5
School	Water_Heat	1	3	0.097	1.962	0.08
School	Water_Heat	1	4	0.083	2.126	0.02
School	Water_Heat	2	1	2.528	1.308	0.4
School	Water_Heat	2	2	2.276	1.439	0.5
School	Water_Heat	2	3	1.991	1.57	0.08
School	Water_Heat	2	4	1.707	1.701	0.02
School	Cook_top	1	1	0.046	0.61	0.65
School	Cook_top	1	2	0.041	0.671	0.35
School	Cook_top	2	1	0.943	0.488	0.65
School	Cook_top	2	2	0.849	0.537	0.35
School	Fryer	1	1	0.046	0.612	0.65
School	Fryer	1	2	0.041	0.673	0.35
School	Fryer	2	1	0.946	0.489	0.65
School	Fryer	2	2	0.851	0.538	0.35
School	Griddle	1	1	0.046	0.612	0.65
School	Griddle	1	2	0.041	0.673	0.35
School	Griddle	2	1	0.946	0.489	0.65
School	Griddle	2	2	0.851	0.538	0.35
School	Other_Cooking	1	1	0.046	0.61	0.65
School	Other_Cooking	1	2	0.041	0.671	0.35
School	Other_Cooking	2	1	0.943	0.488	0.65
School	Other_Cooking	2	2	0.849	0.537	0.35
School	AC_Compressor	1	1	0.065	0.866	0.65
School	AC_Compressor	1	2	0.059	0.953	0.35
School	AC_Compressor	2	1	1.339	0.693	0.65
School	AC_Compressor	2	2	1.205	0.762	0.35
School	Other	1	1	0	0	1
School	Other	2	1	0	0	0
College	Space_Heat	1	1	0.26643	3.14441	0.65
College	Space_Heat	1	2	0.23979	3.45885	0.3
College	Space_Heat	1	3	0.21821	3.77329	0.04
College	Space_Heat	1	4	0.19663	4.08773	0.01
College	Space_Heat	2	1	5.46443	2.51553	1
College	Space_Heat	2	2	4.91799	2.76708	0
College	Space_Heat	2	3	4.47537	3.01863	0
College	Space_Heat	2	4	4.03275	3.27018	0
College	Water_Heat	1	1	0.28715	3.38894	0.4
College	Water_Heat	1	2	0.25844	3.72784	0.5
College	Water_Heat	1	3	0.22613	4.06673	0.08
College	Water_Heat	1	4	0.19383	4.40563	0.02
College	Water_Heat	2	1	5.88939	2.71116	0.4
College	Water_Heat	2	2	5.30045	2.98227	0.5
College	Water_Heat	2	3	4.6379	3.25339	0.08
College	Water_Heat	2	4	3.97534	3.5245	0.02
College	Cook_top	1	1	0.0486	0.57358	0.65
College	Cook_top	1	2	0.04374	0.63093	0.35
College	Cook_top	2	1	0.99678	0.45886	0.65
College	Cook_top	2	2	0.8971	0.50475	0.35
College	Fryer	1	1	0.04857	0.57322	0.65
College	Fryer	1	2	0.04371	0.63055	0.35
College	Fryer	2	1	0.99616	0.45858	0.65
College	Fryer	2	2	0.89655	0.50444	0.35
College	Griddle	1	1	0.04857	0.57322	0.65
College	Griddle	1	2	0.04371	0.63055	0.35
College	Griddle	2	1	0.99616	0.45858	0.65
College	Griddle	2	2	0.89655	0.50444	0.35
College	Other_Cooking	1	1	0.0486	0.57358	0.65
College	Other_Cooking	1	2	0.04374	0.63093	0.35
College	Other_Cooking	2	1	0.99678	0.45886	0.65
College	Other_Cooking	2	2	0.8971	0.50475	0.35
College	AC_Compressor	1	1	0.11819	1.3949	0.65
College	AC_Compressor	1	2	0.10637	1.53439	0.35
College	AC_Compressor	2	1	2.4241	1.11592	0.65

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
College	AC_Compressor	2	2	2.18169	1.22752	0.35
College	Other	1	1	0	0	1
College	Other	2	1	0	0	0
Health	Space_Heat	1	1	0.06894	0.8825	0.65
Health	Space_Heat	1	2	0.06205	0.97075	0.3
Health	Space_Heat	1	3	0.05646	1.059	0.04
Health	Space_Heat	1	4	0.05088	1.14725	0.01
Health	Space_Heat	2	1	1.41395	0.706	1
Health	Space_Heat	2	2	1.27255	0.7766	0
Health	Space_Heat	2	3	1.15802	0.8472	0
Health	Space_Heat	2	4	1.04349	0.9178	0
Health	Water_Heat	1	1	0.41709	5.33917	0.4
Health	Water_Heat	1	2	0.37538	5.87309	0.5
Health	Water_Heat	1	3	0.32846	6.407	0.08
Health	Water_Heat	1	4	0.28154	6.94092	0.02
Health	Water_Heat	2	1	8.55444	4.27134	0.4
Health	Water_Heat	2	2	7.699	4.69847	0.5
Health	Water_Heat	2	3	6.73662	5.1256	0.08
Health	Water_Heat	2	4	5.77425	5.55274	0.02
Health	Cook_top	1	1	0.26358	3.37409	0.65
Health	Cook_top	1	2	0.23722	3.7115	0.35
Health	Cook_top	2	1	5.40598	2.69927	0.65
Health	Cook_top	2	2	4.86538	2.9692	0.35
Health	Fryer	1	1	0.26358	3.37409	0.65
Health	Fryer	1	2	0.23722	3.7115	0.35
Health	Fryer	2	1	5.40598	2.69927	0.65
Health	Fryer	2	2	4.86538	2.9692	0.35
Health	Griddle	1	1	0.26358	3.37409	0.65
Health	Griddle	1	2	0.23722	3.7115	0.35
Health	Griddle	2	1	5.40598	2.69927	0.65
Health	Griddle	2	2	4.86538	2.9692	0.35
Health	Other_Cooking	1	1	0.02636	0.33743	0.65
Health	Other_Cooking	1	2	0.02372	0.37118	0.35
Health	Other_Cooking	2	1	0.54064	0.26995	0.65
Health	Other_Cooking	2	2	0.48657	0.29694	0.35
Health	Drying	1	1	0.14598	1.86871	0.65
Health	Drying	1	2	0.13138	2.05558	0.35
Health	Drying	2	1	2.99405	1.49497	0.65
Health	Drying	2	2	2.69465	1.64446	0.35
Health	AC_Compressor	1	1	0.11386	1.45749	0.65
Health	AC_Compressor	1	2	0.10247	1.60324	0.35
Health	AC_Compressor	2	1	2.3352	1.16599	0.65
Health	AC_Compressor	2	2	2.10168	1.28259	0.35
Health	Other	1	1	0	0	1
Health	Other	2	1	0	0	0
Lodging	Space_Heat	1	1	0.38698	4.85892	0.65
Lodging	Space_Heat	1	2	0.3483	5.3448	0.3
Lodging	Space_Heat	1	3	0.3169	5.8307	0.04
Lodging	Space_Heat	1	4	0.2856	6.3166	0.01
Lodging	Space_Heat	2	1	7.9369	3.8871	1
Lodging	Space_Heat	2	2	7.1432	4.2759	
Lodging	Space_Heat	2	3	6.5003	4.6646	
Lodging	Space_Heat	2	4	5.8574	5.0533	
Lodging	Water_Heat	1	1	0.6901	8.6651	0.4
Lodging	Water_Heat	1	2	0.6211	9.5317	0.5
Lodging	Water_Heat	1	3	0.5435	10.3982	0.08
Lodging	Water_Heat	1	4	0.4658	11.2647	0.02
Lodging	Water_Heat	2	1	14.1542	6.9321	0.4
Lodging	Water_Heat	2	2	12.7388	7.6253	0.5
Lodging	Water_Heat	2	3	11.1465	8.3185	0.08
Lodging	Water_Heat	2	4	9.5541	9.0118	0.02
Lodging	Cook_top	1	1	0.321	4.0305	0.65
Lodging	Cook_top	1	2	0.2889	4.4335	0.35
Lodging	Cook_top	2	1	6.5837	3.2244	0.65
Lodging	Cook_top	2	2	5.9253	3.5468	0.35
Lodging	Fryer	1	1	0.4183	5.2524	0.65
Lodging	Fryer	1	2	0.3765	5.7777	0.35
Lodging	Fryer	2	1	8.5797	4.2019	0.65
Lodging	Fryer	2	2	7.7217	4.6221	0.35
Lodging	Griddle	1	1	0.4183	5.2524	0.65
Lodging	Griddle	1	2	0.3765	5.7777	0.35

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
Lodging	Griddle	2	1	8.5797	4.2019	0.65
Lodging	Griddle	2	2	7.7217	4.6221	0.35
Lodging	Other_Cooking	1	1	0.041	0.5148	0.65
Lodging	Other_Cooking	1	2	0.0369	0.5663	0.35
Lodging	Other_Cooking	2	1	0.8409	0.4118	0.65
Lodging	Other_Cooking	2	2	0.7568	0.453	0.35
Lodging	Drying	1	1	0.1725	2.1663	0.65
Lodging	Drying	1	2	0.1553	2.3829	0.35
Lodging	Drying	2	1	3.5386	1.733	0.65
Lodging	Drying	2	2	3.1847	1.9063	0.35
Lodging	AC_Compressor	1	1	0.057	0.7157	0.65
Lodging	AC_Compressor	1	2	0.0513	0.7872	0.35
Lodging	AC_Compressor	2	1	1.169	0.5725	0.65
Lodging	AC_Compressor	2	2	1.0521	0.6298	0.35
Lodging	Other	1	1	0	0	1
Lodging	Other	2	1	0	0	0
Misc	Space_Heat	1	1	0.1469	2.1455	0.65
Misc	Space_Heat	1	2	0.1322	2.36	0.3
Misc	Space_Heat	1	3	0.1203	2.5746	0.04
Misc	Space_Heat	1	4	0.1084	2.7891	0.01
Misc	Space_Heat	2	1	3.0121	1.7164	1
Misc	Space_Heat	2	2	2.7109	1.888	0
Misc	Space_Heat	2	3	2.4669	2.0597	0
Misc	Space_Heat	2	4	2.2229	2.2313	0
Misc	Water_Heat	1	1	0.2013	2.9412	0.4
Misc	Water_Heat	1	2	0.1812	3.2354	0.5
Misc	Water_Heat	1	3	0.1585	3.5295	0.08
Misc	Water_Heat	1	4	0.1359	3.8236	0.02
Misc	Water_Heat	2	1	4.1292	2.353	0.4
Misc	Water_Heat	2	2	3.7163	2.5883	0.5
Misc	Water_Heat	2	3	3.2518	2.8236	0.08
Misc	Water_Heat	2	4	2.7872	3.0589	0.02
Misc	Cook_top	1	1	0.043	0.6282	0.65
Misc	Cook_top	1	2	0.0387	0.691	0.35
Misc	Cook_top	2	1	0.8819	0.5025	0.65
Misc	Cook_top	2	2	0.7937	0.5528	0.35
Misc	Fryer	1	1	0.043	0.6285	0.65
Misc	Fryer	1	2	0.0387	0.6913	0.35
Misc	Fryer	2	1	0.8823	0.5028	0.65
Misc	Fryer	2	2	0.7941	0.5531	0.35
Misc	Griddle	1	1	0.043	0.6285	0.65
Misc	Griddle	1	2	0.0387	0.6913	0.35
Misc	Griddle	2	1	0.8823	0.5028	0.65
Misc	Griddle	2	2	0.7941	0.5531	0.35
Misc	Other_Cooking	1	1	0.043	0.6282	0.65
Misc	Other_Cooking	1	2	0.0387	0.691	0.35
Misc	Other_Cooking	2	1	0.8819	0.5025	0.65
Misc	Other_Cooking	2	2	0.7937	0.5528	0.35
Misc	AC_Compressor	1	1	0.1322	1.9306	0.65
Misc	AC_Compressor	1	2	0.1189	2.1237	0.35
Misc	AC_Compressor	2	1	2.7104	1.5445	0.65
Misc	AC_Compressor	2	2	2.4394	1.6989	0.35
Misc	Other	1	1	0	0	1
Misc	Other	2	1	0	0	0
Government	Space_Heat	1	1	0.3046	3.815	0.65
Government	Space_Heat	1	2	0.2742	4.1965	0.3
Government	Space_Heat	1	3	0.2495	4.578	0.04
Government	Space_Heat	1	4	0.2248	4.9595	0.01
Government	Space_Heat	2	1	6.2481	3.052	1
Government	Space_Heat	2	2	5.6233	3.3572	0
Government	Space_Heat	2	3	5.1172	3.6624	0
Government	Space_Heat	2	4	4.6111	3.9676	0
Government	Water_Heat	1	1	0.0474	0.5935	0.4
Government	Water_Heat	1	2	0.0427	0.6528	0.5
Government	Water_Heat	1	3	0.0373	0.7122	0.08
Government	Water_Heat	1	4	0.032	0.7715	0.02
Government	Water_Heat	2	1	0.972	0.4748	0.4
Government	Water_Heat	2	2	0.8748	0.5222	0.5
Government	Water_Heat	2	3	0.7654	0.5697	0.08
Government	Water_Heat	2	4	0.6561	0.6172	0.02
Government	Cook_top	1	1	0.0346	0.4333	0.65

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
Government	Cook_top	1	2	0.0311	0.4766	0.35
Government	Cook_top	2	1	0.7096	0.3466	0.65
Government	Cook_top	2	2	0.6387	0.3813	0.35
Government	Fryer	1	1	0.0346	0.4332	0.65
Government	Fryer	1	2	0.0311	0.4765	0.35
Government	Fryer	2	1	0.7094	0.3465	0.65
Government	Fryer	2	2	0.6385	0.3812	0.35
Government	Griddle	1	1	0.0346	0.4332	0.65
Government	Griddle	1	2	0.0311	0.4765	0.35
Government	Griddle	2	1	0.7094	0.3465	0.65
Government	Griddle	2	2	0.6385	0.3812	0.35
Government	Other_Cooking	1	1	0.0346	0.4333	0.65
Government	Other_Cooking	1	2	0.0311	0.4766	0.35
Government	Other_Cooking	2	1	0.7096	0.3466	0.65
Government	Other_Cooking	2	2	0.6387	0.3813	0.35
Government	AC_Compressor	1	1	0.1043	1.3062	0.65
Government	AC_Compressor	1	2	0.0939	1.4368	0.35
Government	AC_Compressor	2	1	2.1392	1.0449	0.65
Government	AC_Compressor	2	2	1.9253	1.1494	0.35
Government	Other	1	1	0	0	1
Government	Other	2	1	0	0	0
TCU	Space_Heat	1	1	0.1469	1.8457	0.65
TCU	Space_Heat	1	2	0.1322	2.0303	0.3
TCU	Space_Heat	1	3	0.1203	2.2149	0.04
TCU	Space_Heat	1	4	0.1084	2.3995	0.01
TCU	Space_Heat	2	1	3.0121	1.4766	1
TCU	Space_Heat	2	2	2.7109	1.6242	0
TCU	Space_Heat	2	3	2.4669	1.7719	0
TCU	Space_Heat	2	4	2.2229	1.9196	0
TCU	Water_Heat	1	1	0.2013	2.5303	0.4
TCU	Water_Heat	1	2	0.1812	2.7833	0.5
TCU	Water_Heat	1	3	0.1585	3.0364	0.08
TCU	Water_Heat	1	4	0.1359	3.2894	0.02
TCU	Water_Heat	2	1	4.1292	2.0243	0.4
TCU	Water_Heat	2	2	3.7163	2.2267	0.5
TCU	Water_Heat	2	3	3.2518	2.4291	0.08
TCU	Water_Heat	2	4	2.7872	2.6315	0.02
TCU	Engine	1	1	2.4409	30.6768	0.65
TCU	Engine	1	2	2.1968	33.7445	0.35
TCU	Engine	2	1	50.0617	24.5415	0.65
TCU	Engine	2	2	45.0556	26.9956	0.35
TCU	Other	1	1	0	0	1
TCU	Other	2	1	0	0	0
Construction	Space_Heat	1	1	0.1469	2.2951	0.65
Construction	Space_Heat	1	2	0.1322	2.5246	0.3
Construction	Space_Heat	1	3	0.1203	2.7542	0.04
Construction	Space_Heat	1	4	0.1084	2.9837	0.01
Construction	Space_Heat	2	1	3.0121	1.8361	1
Construction	Space_Heat	2	2	2.7109	2.0197	0
Construction	Space_Heat	2	3	2.4669	2.2033	0
Construction	Space_Heat	2	4	2.2229	2.3869	0
Construction	Water_Heat	1	1	0.2013	3.1464	0.4
Construction	Water_Heat	1	2	0.1812	3.461	0.5
Construction	Water_Heat	1	3	0.1585	3.7757	0.08
Construction	Water_Heat	1	4	0.1359	4.0903	0.02
Construction	Water_Heat	2	1	4.1292	2.5171	0.4
Construction	Water_Heat	2	2	3.7163	2.7688	0.5
Construction	Water_Heat	2	3	3.2518	3.0205	0.08
Construction	Water_Heat	2	4	2.7872	3.2722	0.02
Construction	Other	1	1	0	0	1
Construction	Other	2	1	0	0	0
Agriculture	Space_Heat	1	1	0.1469	1.6583	0.65
Agriculture	Space_Heat	1	2	0.1322	1.8242	0.3
Agriculture	Space_Heat	1	3	0.1203	1.99	0.04
Agriculture	Space_Heat	1	4	0.1084	2.1558	0.01
Agriculture	Space_Heat	2	1	3.0121	1.3267	1
Agriculture	Space_Heat	2	2	2.7109	1.4593	0
Agriculture	Space_Heat	2	3	2.4669	1.592	0
Agriculture	Space_Heat	2	4	2.2229	1.7247	0
Agriculture	Water_Heat	1	1	0.2013	2.2734	0.4
Agriculture	Water_Heat	1	2	0.1812	2.5008	0.5

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>uec</u> (therm/SqFt)	<u>Equipment Cost</u>	<u>efficiency shares</u>
Agriculture	Water_Heat	1	3	0.1585	2.7281	0.08
Agriculture	Water_Heat	1	4	0.1359	2.9554	0.02
Agriculture	Water_Heat	2	1	4.1292	1.8187	0.4
Agriculture	Water_Heat	2	2	3.7163	2.0006	0.5
Agriculture	Water_Heat	2	3	3.2518	2.1825	0.08
Agriculture	Water_Heat	2	4	2.7872	2.3644	0.02
Agriculture	Drying	1	1	0.2013	2.2734	0.65
Agriculture	Drying	1	2	0.1812	2.5008	0.35
Agriculture	Drying	2	1	4.1292	1.8187	0.65
Agriculture	Drying	2	2	3.7163	2.0006	0.35
Agriculture	Engine	1	1	0.8657	9.7757	0.65
Agriculture	Engine	1	2	0.7791	10.7533	0.35
Agriculture	Engine	2	1	17.7557	7.8206	0.65
Agriculture	Engine	2	2	15.9802	8.6026	0.35
Agriculture	Other	1	1	0	0	1
Agriculture	Other	2	1	0	0	0

**San Diego Gas and Electric Company
 201(California Gas Report- Commercial GN3
 Fuel Market Share**

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
Office	Space_Heat	1	0.8555
Office	Space_Heat	2	0.1445
Office	Water_Heat	1	0.16581
Office	Water_Heat	2	0.83419
Office	Cooking	1	0.02069
Office	Cooking	2	0.97931
Office	AC_Compressor	1	0.06
Office	AC_Compressor	2	0.94
Office	Other	1	1
Restaurant	Space_Heat	1	0.59046
Restaurant	Space_Heat	2	0.40954
Restaurant	Water_Heat	1	0.90204
Restaurant	Water_Heat	2	0.09796
Restaurant	Cook_top	1	0.97733
Restaurant	Cook_top	2	0.02267
Restaurant	Fryer	1	0.90535
Restaurant	Fryer	2	0.09465
Restaurant	Griddle	1	0.97038
Restaurant	Griddle	2	0.02962
Restaurant	Other_Cooking	1	0.66
Restaurant	Other_Cooking	2	0.34
Restaurant	AC_Compressor	1	0.06
Restaurant	AC_Compressor	2	0.94
Restaurant	Other	1	1
Retail	Space_Heat	1	0.51751
Retail	Space_Heat	2	0.48249
Retail	Water_Heat	1	0.31008
Retail	Water_Heat	2	0.68992
Retail	Cooking	1	0.09367
Retail	Cooking	2	0.90633
Retail	Other	1	1
Laundry	Space_Heat	1	0.57692
Laundry	Space_Heat	2	0.42308
Laundry	Water_Heat	1	0.67647
Laundry	Water_Heat	2	0.32353
Laundry	Drying	1	0.6
Laundry	Drying	2	0.4
Laundry	Other	1	1
Warehouse	Space_Heat	1	0.43723
Warehouse	Space_Heat	2	0.56277
Warehouse	Water_Heat	1	0.07159
Warehouse	Water_Heat	2	0.92841
Warehouse	Engine	1	0.06
Warehouse	Engine	2	0.94
Warehouse	Other	1	1
School	Space_Heat	1	0.75284
School	Space_Heat	2	0.24716
School	Water_Heat	1	0.75843
School	Water_Heat	2	0.24157
School	Cook_top	1	0.42857
School	Cook_top	2	0.57143
School	Fryer	1	0.42857
School	Fryer	2	0.57143
School	Griddle	1	0.42857
School	Griddle	2	0.57143
School	Other_Cooking	1	0.42857
School	Other_Cooking	2	0.57143
School	AC_Compressor	1	0.06
School	AC_Compressor	2	0.94
School	Other	1	1
College	Space_Heat	1	0.33028
College	Space_Heat	2	0.66972
College	Water_Heat	1	0.81675

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
College	Water_Heat	2	0.18325
College	Cook_top	1	0.04801
College	Cook_top	2	0.95199
College	Fryer	1	0.04801
College	Fryer	2	0.95199
College	Griddle	1	0.04801
College	Griddle	2	0.95199
College	Other_Cooking	1	0.04801
College	Other_Cooking	2	0.95199
College	AC_Compressor	1	0.06
College	AC_Compressor	2	0.94
College	Other	1	1
Health	Space_Heat	1	0.66026
Health	Space_Heat	2	0.33974
Health	Water_Heat	1	0.8242
Health	Water_Heat	2	0.1758
Health	Cook_top	1	0.09487
Health	Cook_top	2	0.90513
Health	Fryer	1	0.09487
Health	Fryer	2	0.90513
Health	Griddle	1	0.09487
Health	Griddle	2	0.90513
Health	Other_Cooking	1	0.66
Health	Other_Cooking	2	0.34
Health	Drying	1	0.6
Health	Drying	2	0.4
Health	AC_Compressor	1	0.06
Health	AC_Compressor	2	0.94
Health	Other	1	1
Lodging	Space_Heat	1	0.27151
Lodging	Space_Heat	2	0.72849
Lodging	Water_Heat	1	0.98948
Lodging	Water_Heat	2	0.01052
Lodging	Cook_top	1	0.44958
Lodging	Cook_top	2	0.55042
Lodging	Fryer	1	0.44958
Lodging	Fryer	2	0.55042
Lodging	Griddle	1	0.44958
Lodging	Griddle	2	0.55042
Lodging	Other_Cooking	1	0.44958
Lodging	Other_Cooking	2	0.55042
Lodging	Drying	1	0.6
Lodging	Drying	2	0.4
Lodging	AC_Compressor	1	0.06
Lodging	AC_Compressor	2	0.94
Lodging	Other	1	1
Misc	Space_Heat	1	0.54964
Misc	Space_Heat	2	0.45036
Misc	Water_Heat	1	0.55691
Misc	Water_Heat	2	0.44309
Misc	Cook_top	1	0.97733
Misc	Cook_top	2	0.02267
Misc	Fryer	1	0.90535
Misc	Fryer	2	0.09465
Misc	Griddle	1	0.97038
Misc	Griddle	2	0.02962
Misc	Other_Cooking	1	0.66
Misc	Other_Cooking	2	0.34
Misc	AC_Compressor	1	0.06
Misc	AC_Compressor	2	0.94
Misc	Other	1	1
Government	Space_Heat	1	0.8555
Government	Space_Heat	2	0.1445
Government	Water_Heat	1	0.16581
Government	Water_Heat	2	0.83419
Government	Cook_top	1	0.97733
Government	Cook_top	2	0.02267
Government	Fryer	1	0.90535
Government	Fryer	2	0.09465
Government	Griddle	1	0.97038

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
Government	Griddle	2	0.02962
Government	Other_Cooking	1	0.66
Government	Other_Cooking	2	0.34
Government	AC_Compressor	1	0.06
Government	AC_Compressor	2	0.94
Government	Other	1	1
TCU	Space_Heat	1	0.57692
TCU	Space_Heat	2	0.42308
TCU	Water_Heat	1	0.67647
TCU	Water_Heat	2	0.32353
TCU	Engine	1	0.06
TCU	Engine	2	0.94
TCU	Other	1	1
Construction	Space_Heat	1	0.57692
Construction	Space_Heat	2	0.42308
Construction	Water_Heat	1	0.67647
Construction	Water_Heat	2	0.32353
Construction	Other	1	1
Agriculture	Space_Heat	1	0.57692
Agriculture	Space_Heat	2	0.42308
Agriculture	Water_Heat	1	0.67647
Agriculture	Water_Heat	2	0.32353
Agriculture	Drying	1	1
Agriculture	Drying	2	0
Agriculture	Engine	1	0.06
Agriculture	Engine	2	0.94
Agriculture	Other	1	1
Grocery	Space_Heat	1	0.74652
Grocery	Space_Heat	2	0.25348
Grocery	Water_Heat	1	0.70846
Grocery	Water_Heat	2	0.29154
Grocery	Cook_top	1	0.35627
Grocery	Cook_top	2	0.64373
Grocery	Fryer	1	0.35627
Grocery	Fryer	2	0.64373
Grocery	Griddle	1	0.35627
Grocery	Griddle	2	0.64373
Grocery	Other_Cooking	1	0.35627
Grocery	Other_Cooking	2	0.64373
Grocery	AC_Compressor	1	0.06
Grocery	AC_Compressor	2	0.94
Grocery	Other	1	1

San Diego Gas and Electric Company
201(California Gas Report - Commercial GN3
Efficiency Shares

bname	nname	fname	Stock	Standard	High	Premium
Agriculture	Drying	Electric	0.65	0.35	N/A	N/A
Agriculture	Drying	Natural_Gas	0.65	0.35	N/A	N/A
Agriculture	Engine	Electric	0.65	0.35	N/A	N/A
Agriculture	Engine	Natural_Gas	0.65	0.35	N/A	N/A
Agriculture	Other	Natural_Gas	1	N/A	N/A	N/A
Agriculture	Space_Heat	Electric	1	N/A	N/A	N/A
Agriculture	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Agriculture	Water_Heat	Electric	0.4	0.5	0.08	0.02
Agriculture	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
College	AC_Compressor	Electric	0.65	0.35	N/A	N/A
College	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
College	Cook_top	Electric	0.65	0.35	N/A	N/A
College	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
College	Fryer	Electric	0.65	0.35	N/A	N/A
College	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
College	Griddle	Electric	0.65	0.35	N/A	N/A
College	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
College	Other	Natural_Gas	1	N/A	N/A	N/A
College	Other_Cooking	Electric	0.65	0.35	N/A	N/A
College	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
College	Space_Heat	Electric	1	N/A	N/A	N/A
College	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
College	Water_Heat	Electric	0.4	0.5	0.08	0.02
College	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Construction	Other	Natural_Gas	1	N/A	N/A	N/A
Construction	Space_Heat	Electric	1	N/A	N/A	N/A
Construction	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Construction	Water_Heat	Electric	0.4	0.5	0.08	0.02
Construction	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Government	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Government	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Government	Cook_top	Electric	0.65	0.35	N/A	N/A

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

bname	nname	fname	Stock	Standard	High	Premium
Government	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
Government	Fryer	Electric	0.65	0.35	N/A	N/A
Government	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Government	Griddle	Electric	0.65	0.35	N/A	N/A
Government	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Government	Other	Natural_Gas	1	N/A	N/A	N/A
Government	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Government	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Government	Space_Heat	Electric	1	N/A	N/A	N/A
Government	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Government	Water_Heat	Electric	0.4	0.5	0.08	0.02
Government	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Grocery	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Grocery	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Grocery	Cook_top	Electric	0.65	0.35	N/A	N/A
Grocery	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
Grocery	Fryer	Electric	0.65	0.35	N/A	N/A
Grocery	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Grocery	Griddle	Electric	0.65	0.35	N/A	N/A
Grocery	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Grocery	Other	Natural_Gas	1	N/A	N/A	N/A
Grocery	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Grocery	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Grocery	Space_Heat	Electric	1	N/A	N/A	N/A
Grocery	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Grocery	Water_Heat	Electric	0.4	0.5	0.08	0.02
Grocery	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Health	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Health	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Health	Cook_top	Electric	0.65	0.35	N/A	N/A
Health	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
Health	Drying	Electric	0.65	0.35	N/A	N/A
Health	Drying	Natural_Gas	0.65	0.35	N/A	N/A
Health	Fryer	Electric	0.65	0.35	N/A	N/A
Health	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Health	Griddle	Electric	0.65	0.35	N/A	N/A

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

bname	nname	fname	Stock	Standard	High	Premium
Health	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Health	Other	Natural_Gas	1	N/A	N/A	N/A
Health	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Health	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Health	Space_Heat	Electric	1	N/A	N/A	N/A
Health	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Health	Water_Heat	Electric	0.4	0.5	0.08	0.02
Health	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Laundry	Drying	Electric	0.65	0.35	N/A	N/A
Laundry	Drying	Natural_Gas	0.65	0.35	N/A	N/A
Laundry	Other	Natural_Gas	1	N/A	N/A	N/A
Laundry	Space_Heat	Electric	1	N/A	N/A	N/A
Laundry	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Laundry	Water_Heat	Electric	0.4	0.5	0.08	0.02
Laundry	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Lodging	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Lodging	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Cook_top	Electric	0.65	0.35	N/A	N/A
Lodging	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Drying	Electric	0.65	0.35	N/A	N/A
Lodging	Drying	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Fryer	Electric	0.65	0.35	N/A	N/A
Lodging	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Griddle	Electric	0.65	0.35	N/A	N/A
Lodging	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Other	Natural_Gas	1	N/A	N/A	N/A
Lodging	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Lodging	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Lodging	Space_Heat	Electric	1	N/A	N/A	N/A
Lodging	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Lodging	Water_Heat	Electric	0.4	0.5	0.08	0.02
Lodging	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Misc	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Misc	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Misc	Cook_top	Electric	0.65	0.35	N/A	N/A
Misc	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

bname	nname	fname	Stock	Standard	High	Premium
Misc	Fryer	Electric	0.65	0.35	N/A	N/A
Misc	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Misc	Griddle	Electric	0.65	0.35	N/A	N/A
Misc	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Misc	Other	Natural_Gas	1	N/A	N/A	N/A
Misc	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Misc	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Misc	Space_Heat	Electric	1	N/A	N/A	N/A
Misc	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Misc	Water_Heat	Electric	0.4	0.5	0.08	0.02
Misc	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Office	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Office	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Office	Cooking	Electric	0.65	0.35	N/A	N/A
Office	Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Office	Other	Natural_Gas	1	N/A	N/A	N/A
Office	Space_Heat	Electric	1	N/A	N/A	N/A
Office	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Office	Water_Heat	Electric	0.4	0.5	0.08	0.02
Office	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Restaurant	AC_Compressor	Electric	0.65	0.35	N/A	N/A
Restaurant	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
Restaurant	Cook_top	Electric	0.65	0.35	N/A	N/A
Restaurant	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
Restaurant	Fryer	Electric	0.65	0.35	N/A	N/A
Restaurant	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
Restaurant	Griddle	Electric	0.65	0.35	N/A	N/A
Restaurant	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
Restaurant	Other	Natural_Gas	1	N/A	N/A	N/A
Restaurant	Other_Cooking	Electric	0.65	0.35	N/A	N/A
Restaurant	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Restaurant	Space_Heat	Electric	1	N/A	N/A	N/A
Restaurant	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Restaurant	Water_Heat	Electric	0.4	0.5	0.08	0.02
Restaurant	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Retail	Cooking	Electric	0.65	0.35	N/A	N/A

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

bname	nname	fname	Stock	Standard	High	Premium
Retail	Cooking	Natural_Gas	0.65	0.35	N/A	N/A
Retail	Other	Natural_Gas	1	N/A	N/A	N/A
Retail	Space_Heat	Electric	1	N/A	N/A	N/A
Retail	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Retail	Water_Heat	Electric	0.4	0.5	0.08	0.02
Retail	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
School	AC_Compressor	Electric	0.65	0.35	N/A	N/A
School	AC_Compressor	Natural_Gas	0.65	0.35	N/A	N/A
School	Cook_top	Electric	0.65	0.35	N/A	N/A
School	Cook_top	Natural_Gas	0.65	0.35	N/A	N/A
School	Fryer	Electric	0.65	0.35	N/A	N/A
School	Fryer	Natural_Gas	0.65	0.35	N/A	N/A
School	Griddle	Electric	0.65	0.35	N/A	N/A
School	Griddle	Natural_Gas	0.65	0.35	N/A	N/A
School	Other	Natural_Gas	1	N/A	N/A	N/A
School	Other_Cooking	Electric	0.65	0.35	N/A	N/A
School	Other_Cooking	Natural_Gas	0.65	0.35	N/A	N/A
School	Space_Heat	Electric	1	N/A	N/A	N/A
School	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
School	Water_Heat	Electric	0.4	0.5	0.08	0.02
School	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
TCU	Engine	Electric	0.65	0.35	N/A	N/A
TCU	Engine	Natural_Gas	0.65	0.35	N/A	N/A
TCU	Other	Natural_Gas	1	N/A	N/A	N/A
TCU	Space_Heat	Electric	1	N/A	N/A	N/A
TCU	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
TCU	Water_Heat	Electric	0.4	0.5	0.08	0.02
TCU	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02
Warehouse	Engine	Electric	0.65	0.35	N/A	N/A
Warehouse	Engine	Natural_Gas	0.65	0.35	N/A	N/A
Warehouse	Other	Natural_Gas	1	N/A	N/A	N/A
Warehouse	Space_Heat	Electric	1	N/A	N/A	N/A
Warehouse	Space_Heat	Natural_Gas	0.65	0.3	0.04	0.01
Warehouse	Water_Heat	Electric	0.4	0.5	0.08	0.02
Warehouse	Water_Heat	Natural_Gas	0.4	0.5	0.08	0.02

**201(California Gas Report - Commercial GN3
Saturation Rate**

<u>Business Type</u>	<u>End Use</u>	<u>saturation</u>
Office	Space_Heat	0.872
Office	Water_Heat	0.7
Office	Cooking	0.082
Office	AC_Compressor	0.931
Office	Other	1
Restaurant	Space_Heat	0.818
Restaurant	Water_Heat	0.96
Restaurant	Cook_top	0.75
Restaurant	Fryer	0.729
Restaurant	Griddle	0.574
Restaurant	Other_Cooking	0.9
Restaurant	AC_Compressor	0.871
Restaurant	Other	1
Retail	Space_Heat	0.771
Retail	Water_Heat	0.62
Retail	Cooking	0.245
Retail	Other	1
Laundry	Space_Heat	0.72
Laundry	Water_Heat	1
Laundry	Drying	1
Laundry	Other	1
Warehouse	Space_Heat	0.231
Warehouse	Water_Heat	0.88
Warehouse	Engine	0.25
Warehouse	Other	1
School	Space_Heat	0.967
School	Water_Heat	0.9
School	Cook_top	0.147
School	Fryer	0.147
School	Griddle	0.147
School	Other_Cooking	0.147
School	AC_Compressor	0.885
School	Other	1
College	Space_Heat	0.763
College	Water_Heat	0.955
College	Cook_top	0.147
College	Fryer	0.147
College	Griddle	0.147
College	Other_Cooking	0.147
College	AC_Compressor	0.885
College	Other	1
Health	Space_Heat	0.936
Health	Water_Heat	1
Health	Cook_top	0.102
Health	Fryer	0.102
Health	Griddle	0.102
Health	Other_Cooking	0.102
Health	Drying	0.82
Health	AC_Compressor	0.792
Health	Other	1
Lodging	Space_Heat	0.895
Lodging	Water_Heat	1
Lodging	Cook_top	0.084
Lodging	Fryer	0.084
Lodging	Griddle	0.084
Lodging	Other_Cooking	0.084
Lodging	Drying	0.82
Lodging	AC_Compressor	0.795
Lodging	Other	1
Misc	Space_Heat	0.695
Misc	Water_Heat	0.69
Misc	Cook_top	0.021
Misc	Fryer	0.021
Misc	Griddle	0.021
Misc	Other_Cooking	0.021
Misc	AC_Compressor	0.731
Misc	Other	1
Government	Space_Heat	0.872

SAN DIEGO GAS & ELECTRIC COMPANY
 Business Type End Use saturation
 CALIFORNIA GAS & ELECTRIC COMPANY - REDACTED PAPERS

Government	Water_Heat	0.7
Government	Cook_top	0.196
Government	Fryer	0.196
Government	Griddle	0.196
Government	Other_Cooking	0.196
Government	AC_Compressor	0.888
Government	Other	1
TCU	Space_Heat	0.72
TCU	Water_Heat	0.69
TCU	Engine	0.5
TCU	Other	1
Construction	Space_Heat	0.72
Construction	Water_Heat	0.69
Construction	Other	1
Agriculture	Space_Heat	0.72
Agriculture	Water_Heat	0.69
Agriculture	Drying	1
Agriculture	Engine	0.5
Agriculture	Other	1
Grocery	Space_Heat	0.647
Grocery	Water_Heat	0.93
Grocery	Cook_top	0.245
Grocery	Fryer	0.245
Grocery	Griddle	0.245
Grocery	Other_Cooking	0.245
Grocery	AC_Compressor	0.856
Grocery	Other	1

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

**201(California Gas Report - Commercial GN3
 Equipment Cost Data**

b	n	f	e	bname	nname	EQcost
	1	1	1	1 Office	Space_Heat	4.3149
	1	1	1	2 Office	Space_Heat	4.7464
	1	1	1	3 Office	Space_Heat	5.1779
	1	1	1	4 Office	Space_Heat	5.6094
	1	1	2	1 Office	Space_Heat	3.4519
	1	1	2	2 Office	Space_Heat	3.7971
	1	1	2	3 Office	Space_Heat	4.1423
	1	1	2	4 Office	Space_Heat	4.4875
	1	2	1	1 Office	Water_Heat	0.6712
	1	2	1	2 Office	Water_Heat	0.7384
	1	2	1	3 Office	Water_Heat	0.8055
	1	2	1	4 Office	Water_Heat	0.8726
	1	2	2	1 Office	Water_Heat	0.537
	1	2	2	2 Office	Water_Heat	0.5907
	1	2	2	3 Office	Water_Heat	0.6444
	1	2	2	4 Office	Water_Heat	0.6981
	1	3	1	1 Office	Cooking	0.4899
	1	3	1	2 Office	Cooking	0.5389
	1	3	2	1 Office	Cooking	0.3919
	1	3	2	2 Office	Cooking	0.4311
	1	10	1	1 Office	AC_Compressor	1.4773
	1	10	1	2 Office	AC_Compressor	1.6251
	1	10	2	1 Office	AC_Compressor	1.1819
	1	10	2	2 Office	AC_Compressor	1.3
	1	11	1	1 Office	Other	0
	1	11	2	1 Office	Other	0
	2	1	1	1 Restaurant	Space_Heat	1.5841
	2	1	1	2 Restaurant	Space_Heat	1.7425
	2	1	1	3 Restaurant	Space_Heat	1.9009
	2	1	1	4 Restaurant	Space_Heat	2.0593
	2	1	2	1 Restaurant	Space_Heat	1.2673
	2	1	2	2 Restaurant	Space_Heat	1.394
	2	1	2	3 Restaurant	Space_Heat	1.5207
	2	1	2	4 Restaurant	Space_Heat	1.6474
	2	2	1	1 Restaurant	Water_Heat	11.666
	2	2	1	2 Restaurant	Water_Heat	12.8326
	2	2	1	3 Restaurant	Water_Heat	13.9992
	2	2	1	4 Restaurant	Water_Heat	15.1658
	2	2	2	1 Restaurant	Water_Heat	9.3328
	2	2	2	2 Restaurant	Water_Heat	10.2661
	2	2	2	3 Restaurant	Water_Heat	11.1994
	2	2	2	4 Restaurant	Water_Heat	12.1327
	2	4	1	1 Restaurant	Cook_top	16.1343
	2	4	1	2 Restaurant	Cook_top	17.7477
	2	4	2	1 Restaurant	Cook_top	12.9074
	2	4	2	2 Restaurant	Cook_top	14.1981
	2	5	1	1 Restaurant	Fryer	14.5274
	2	5	1	2 Restaurant	Fryer	15.9802
	2	5	2	1 Restaurant	Fryer	11.622
	2	5	2	2 Restaurant	Fryer	12.7841
	2	6	1	1 Restaurant	Griddle	12.2603
	2	6	1	2 Restaurant	Griddle	13.4863
	2	6	2	1 Restaurant	Griddle	9.8082
	2	6	2	2 Restaurant	Griddle	10.789
	2	7	1	1 Restaurant	Other_Cooking	13.0747
	2	7	1	2 Restaurant	Other_Cooking	14.3822
	2	7	2	1 Restaurant	Other_Cooking	10.4598
	2	7	2	2 Restaurant	Other_Cooking	11.5057
	2	10	1	1 Restaurant	AC_Compressor	2.7306
	2	10	1	2 Restaurant	AC_Compressor	3.0036
	2	10	2	1 Restaurant	AC_Compressor	2.1844
	2	10	2	2 Restaurant	AC_Compressor	2.4029
	2	11	1	1 Restaurant	Other	0
	2	11	2	1 Restaurant	Other	0
	3	1	1	1 Retail	Space_Heat	3.5122
	3	1	1	2 Retail	Space_Heat	3.8634
	3	1	1	3 Retail	Space_Heat	4.2146
	3	1	1	4 Retail	Space_Heat	4.5658
	3	1	2	1 Retail	Space_Heat	2.8097
	3	1	2	2 Retail	Space_Heat	3.0907

SAN DIEGO GAS & ELECTRIC COMPANY

b	2014	CALIFORNIA	GAS	REPORT-RECORD	DATE	WORK	PAPER	EQcost
3	1	2	3	Retail	Space_Heat		3.3717	
3	1	2	4	Retail	Space_Heat		3.6527	
3	2	1	1	Retail	Water_Heat		1.563	
3	2	1	2	Retail	Water_Heat		1.7193	
3	2	1	3	Retail	Water_Heat		1.8756	
3	2	1	4	Retail	Water_Heat		2.0319	
3	2	2	1	Retail	Water_Heat		1.2504	
3	2	2	2	Retail	Water_Heat		1.3754	
3	2	2	3	Retail	Water_Heat		1.5004	
3	2	2	4	Retail	Water_Heat		1.6255	
3	3	1	1	Retail	Cooking		4.4039	
3	3	1	2	Retail	Cooking		4.8443	
3	3	2	1	Retail	Cooking		3.5231	
3	3	2	2	Retail	Cooking		3.875	
3	11	1	1	Retail	Other		0	
3	11	2	1	Retail	Other		0	
4	1	1	1	Laundry	Space_Heat		1.836	
4	1	1	2	Laundry	Space_Heat		2.02	
4	1	1	3	Laundry	Space_Heat		2.203	
4	1	1	4	Laundry	Space_Heat		2.387	
4	1	2	1	Laundry	Space_Heat		1.469	
4	1	2	2	Laundry	Space_Heat		1.616	
4	1	2	3	Laundry	Space_Heat		1.763	
4	1	2	4	Laundry	Space_Heat		1.909	
4	2	1	1	Laundry	Water_Heat		34.512	
4	2	1	2	Laundry	Water_Heat		37.963	
4	2	1	3	Laundry	Water_Heat		41.414	
4	2	1	4	Laundry	Water_Heat		44.865	
4	2	2	1	Laundry	Water_Heat		27.609	
4	2	2	2	Laundry	Water_Heat		30.37	
4	2	2	3	Laundry	Water_Heat		33.131	
4	2	2	4	Laundry	Water_Heat		35.892	
4	8	1	1	Laundry	Drying		186.738	
4	8	1	2	Laundry	Drying		205.412	
4	8	2	1	Laundry	Drying		149.39	
4	8	2	2	Laundry	Drying		164.329	
4	11	1	1	Laundry	Other		0	
4	11	2	1	Laundry	Other		0	
5	1	1	1	Warehouse	Space_Heat		7.909	
5	1	1	2	Warehouse	Space_Heat		8.7	
5	1	1	3	Warehouse	Space_Heat		9.491	
5	1	1	4	Warehouse	Space_Heat		10.282	
5	1	2	1	Warehouse	Space_Heat		6.327	
5	1	2	2	Warehouse	Space_Heat		6.96	
5	1	2	3	Warehouse	Space_Heat		7.593	
5	1	2	4	Warehouse	Space_Heat		8.225	
5	2	1	1	Warehouse	Water_Heat		2.608	
5	2	1	2	Warehouse	Water_Heat		2.869	
5	2	1	3	Warehouse	Water_Heat		3.13	
5	2	1	4	Warehouse	Water_Heat		3.39	
5	2	2	1	Warehouse	Water_Heat		2.086	
5	2	2	2	Warehouse	Water_Heat		2.295	
5	2	2	3	Warehouse	Water_Heat		2.504	
5	2	2	4	Warehouse	Water_Heat		2.712	
5	9	1	1	Warehouse	Engine		113.127	
5	9	1	2	Warehouse	Engine		124.44	
5	9	2	1	Warehouse	Engine		90.502	
5	9	2	2	Warehouse	Engine		99.552	
5	11	1	1	Warehouse	Other		0	
5	11	2	1	Warehouse	Other		0	
6	1	1	1	School	Space_Heat		1.225	
6	1	1	2	School	Space_Heat		1.348	
6	1	1	3	School	Space_Heat		1.471	
6	1	1	4	School	Space_Heat		1.593	
6	1	2	1	School	Space_Heat		0.98	
6	1	2	2	School	Space_Heat		1.078	
6	1	2	3	School	Space_Heat		1.176	
6	1	2	4	School	Space_Heat		1.274	
6	2	1	1	School	Water_Heat		1.635	
6	2	1	2	School	Water_Heat		1.799	
6	2	1	3	School	Water_Heat		1.962	
6	2	1	4	School	Water_Heat		2.126	
6	2	2	1	School	Water_Heat		1.308	
6	2	2	2	School	Water_Heat		1.439	
6	2	2	3	School	Water_Heat		1.57	
6	2	2	4	School	Water_Heat		1.701	
6	4	1	1	School	Cook_top		0.61	
6	4	1	2	School	Cook_top		0.671	

SAN DIEGO GAS & ELECTRIC COMPANY

b	2014	CALIFORNIA	GAS	REPORT-REQUIRED	WORKPAPER	PAPER	EQcost
6	4	2	1	School	Cook_top	0.488	
6	4	2	2	School	Cook_top	0.537	
6	5	1	1	School	Fryer	0.612	
6	5	1	2	School	Fryer	0.673	
6	5	2	1	School	Fryer	0.489	
6	5	2	2	School	Fryer	0.538	
6	6	1	1	School	Griddle	0.612	
6	6	1	2	School	Griddle	0.673	
6	6	2	1	School	Griddle	0.489	
6	6	2	2	School	Griddle	0.538	
6	7	1	1	School	Other_Cooking	0.61	
6	7	1	2	School	Other_Cooking	0.671	
6	7	2	1	School	Other_Cooking	0.488	
6	7	2	2	School	Other_Cooking	0.537	
6	10	1	1	School	AC_Compressor	0.866	
6	10	1	2	School	AC_Compressor	0.953	
6	10	2	1	School	AC_Compressor	0.693	
6	10	2	2	School	AC_Compressor	0.762	
6	11	1	1	School	Other	0	
6	11	2	1	School	Other	0	
7	1	1	1	College	Space_Heat	3.14441	
7	1	1	2	College	Space_Heat	3.45885	
7	1	1	3	College	Space_Heat	3.77329	
7	1	1	4	College	Space_Heat	4.08773	
7	1	2	1	College	Space_Heat	2.51553	
7	1	2	2	College	Space_Heat	2.76708	
7	1	2	3	College	Space_Heat	3.01863	
7	1	2	4	College	Space_Heat	3.27018	
7	2	1	1	College	Water_Heat	3.38894	
7	2	1	2	College	Water_Heat	3.72784	
7	2	1	3	College	Water_Heat	4.06673	
7	2	1	4	College	Water_Heat	4.40563	
7	2	2	1	College	Water_Heat	2.71116	
7	2	2	2	College	Water_Heat	2.98227	
7	2	2	3	College	Water_Heat	3.25339	
7	2	2	4	College	Water_Heat	3.5245	
7	4	1	1	College	Cook_top	0.57358	
7	4	1	2	College	Cook_top	0.63093	
7	4	2	1	College	Cook_top	0.45886	
7	4	2	2	College	Cook_top	0.50475	
7	5	1	1	College	Fryer	0.57322	
7	5	1	2	College	Fryer	0.63055	
7	5	2	1	College	Fryer	0.45858	
7	5	2	2	College	Fryer	0.50444	
7	6	1	1	College	Griddle	0.57322	
7	6	1	2	College	Griddle	0.63055	
7	6	2	1	College	Griddle	0.45858	
7	6	2	2	College	Griddle	0.50444	
7	7	1	1	College	Other_Cooking	0.57358	
7	7	1	2	College	Other_Cooking	0.63093	
7	7	2	1	College	Other_Cooking	0.45886	
7	7	2	2	College	Other_Cooking	0.50475	
7	10	1	1	College	AC_Compressor	1.3949	
7	10	1	2	College	AC_Compressor	1.53439	
7	10	2	1	College	AC_Compressor	1.11592	
7	10	2	2	College	AC_Compressor	1.22752	
7	11	1	1	College	Other	0	
7	11	2	1	College	Other	0	
8	1	1	1	Health	Space_Heat	0.8825	
8	1	1	2	Health	Space_Heat	0.97075	
8	1	1	3	Health	Space_Heat	1.059	
8	1	1	4	Health	Space_Heat	1.14725	
8	1	2	1	Health	Space_Heat	0.706	
8	1	2	2	Health	Space_Heat	0.7766	
8	1	2	3	Health	Space_Heat	0.8472	
8	1	2	4	Health	Space_Heat	0.9178	
8	2	1	1	Health	Water_Heat	5.33917	
8	2	1	2	Health	Water_Heat	5.87309	
8	2	1	3	Health	Water_Heat	6.407	
8	2	1	4	Health	Water_Heat	6.94092	
8	2	2	1	Health	Water_Heat	4.27134	
8	2	2	2	Health	Water_Heat	4.69847	
8	2	2	3	Health	Water_Heat	5.1256	
8	2	2	4	Health	Water_Heat	5.55274	
8	4	1	1	Health	Cook_top	3.37409	
8	4	1	2	Health	Cook_top	3.7115	
8	4	2	1	Health	Cook_top	2.69927	
8	4	2	2	Health	Cook_top	2.9692	

SAN DIEGO GAS & ELECTRIC COMPANY

b	2014	CALIFORNIA	GAS	REPORT-REQUIRED	DATE	WORK	PAPER	EQcost
8	5	1	1	Health	Fryer			3.37409
8	5	1	2	Health	Fryer			3.7115
8	5	2	1	Health	Fryer			2.69927
8	5	2	2	Health	Fryer			2.9692
8	6	1	1	Health	Griddle			3.37409
8	6	1	2	Health	Griddle			3.7115
8	6	2	1	Health	Griddle			2.69927
8	6	2	2	Health	Griddle			2.9692
8	7	1	1	Health	Other_Cooking			0.33743
8	7	1	2	Health	Other_Cooking			0.37118
8	7	2	1	Health	Other_Cooking			0.26995
8	7	2	2	Health	Other_Cooking			0.29694
8	8	1	1	Health	Drying			1.86871
8	8	1	2	Health	Drying			2.05558
8	8	2	1	Health	Drying			1.49497
8	8	2	2	Health	Drying			1.64446
8	10	1	1	Health	AC_Compressor			1.45749
8	10	1	2	Health	AC_Compressor			1.60324
8	10	2	1	Health	AC_Compressor			1.16599
8	10	2	2	Health	AC_Compressor			1.28259
8	11	1	1	Health	Other			0
8	11	2	1	Health	Other			0
9	1	1	1	Lodging	Space_Heat			4.85892
9	1	1	2	Lodging	Space_Heat			5.3448
9	1	1	3	Lodging	Space_Heat			5.8307
9	1	1	4	Lodging	Space_Heat			6.3166
9	1	2	1	Lodging	Space_Heat			3.8871
9	1	2	2	Lodging	Space_Heat			4.2759
9	1	2	3	Lodging	Space_Heat			4.6646
9	1	2	4	Lodging	Space_Heat			5.0533
9	2	1	1	Lodging	Water_Heat			8.6651
9	2	1	2	Lodging	Water_Heat			9.5317
9	2	1	3	Lodging	Water_Heat			10.3982
9	2	1	4	Lodging	Water_Heat			11.2647
9	2	2	1	Lodging	Water_Heat			6.9321
9	2	2	2	Lodging	Water_Heat			7.6253
9	2	2	3	Lodging	Water_Heat			8.3185
9	2	2	4	Lodging	Water_Heat			9.0118
9	4	1	1	Lodging	Cook_top			4.0305
9	4	1	2	Lodging	Cook_top			4.4335
9	4	2	1	Lodging	Cook_top			3.2244
9	4	2	2	Lodging	Cook_top			3.5468
9	5	1	1	Lodging	Fryer			5.2524
9	5	1	2	Lodging	Fryer			5.7777
9	5	2	1	Lodging	Fryer			4.2019
9	5	2	2	Lodging	Fryer			4.6221
9	6	1	1	Lodging	Griddle			5.2524
9	6	1	2	Lodging	Griddle			5.7777
9	6	2	1	Lodging	Griddle			4.2019
9	6	2	2	Lodging	Griddle			4.6221
9	7	1	1	Lodging	Other_Cooking			0.5148
9	7	1	2	Lodging	Other_Cooking			0.5663
9	7	2	1	Lodging	Other_Cooking			0.4118
9	7	2	2	Lodging	Other_Cooking			0.453
9	8	1	1	Lodging	Drying			2.1663
9	8	1	2	Lodging	Drying			2.3829
9	8	2	1	Lodging	Drying			1.733
9	8	2	2	Lodging	Drying			1.9063
9	10	1	1	Lodging	AC_Compressor			0.7157
9	10	1	2	Lodging	AC_Compressor			0.7872
9	10	2	1	Lodging	AC_Compressor			0.5725
9	10	2	2	Lodging	AC_Compressor			0.6298
9	11	1	1	Lodging	Other			0
9	11	2	1	Lodging	Other			0
10	1	1	1	Misc	Space_Heat			2.1455
10	1	1	2	Misc	Space_Heat			2.36
10	1	1	3	Misc	Space_Heat			2.5746
10	1	1	4	Misc	Space_Heat			2.7891
10	1	2	1	Misc	Space_Heat			1.7164
10	1	2	2	Misc	Space_Heat			1.888
10	1	2	3	Misc	Space_Heat			2.0597
10	1	2	4	Misc	Space_Heat			2.2313
10	2	1	1	Misc	Water_Heat			2.9412
10	2	1	2	Misc	Water_Heat			3.2354
10	2	1	3	Misc	Water_Heat			3.5295
10	2	1	4	Misc	Water_Heat			3.8236
10	2	2	1	Misc	Water_Heat			2.353
10	2	2	2	Misc	Water_Heat			2.5883

SAN DIEGO GAS & ELECTRIC COMPANY

b	2014	CALIFORNIA GAS REPORT-REDUCED	DATE	WORKPAPERS	PAPERS	EQcost
	10	2	2	3 Misc	Water_Heat	2.8236
	10	2	2	4 Misc	Water_Heat	3.0589
	10	4	1	1 Misc	Cook_top	0.6282
	10	4	1	2 Misc	Cook_top	0.691
	10	4	2	1 Misc	Cook_top	0.5025
	10	4	2	2 Misc	Cook_top	0.5528
	10	5	1	1 Misc	Fryer	0.6285
	10	5	1	2 Misc	Fryer	0.6913
	10	5	2	1 Misc	Fryer	0.5028
	10	5	2	2 Misc	Fryer	0.5531
	10	6	1	1 Misc	Griddle	0.6285
	10	6	1	2 Misc	Griddle	0.6913
	10	6	2	1 Misc	Griddle	0.5028
	10	6	2	2 Misc	Griddle	0.5531
	10	7	1	1 Misc	Other_Cooking	0.6282
	10	7	1	2 Misc	Other_Cooking	0.691
	10	7	2	1 Misc	Other_Cooking	0.5025
	10	7	2	2 Misc	Other_Cooking	0.5528
	10	10	1	1 Misc	AC_Compressor	1.9306
	10	10	1	2 Misc	AC_Compressor	2.1237
	10	10	2	1 Misc	AC_Compressor	1.5445
	10	10	2	2 Misc	AC_Compressor	1.6989
	10	11	1	1 Misc	Other	0
	10	11	2	1 Misc	Other	0
	11	1	1	1 Government	Space_Heat	3.815
	11	1	1	2 Government	Space_Heat	4.1965
	11	1	1	3 Government	Space_Heat	4.578
	11	1	1	4 Government	Space_Heat	4.9595
	11	1	2	1 Government	Space_Heat	3.052
	11	1	2	2 Government	Space_Heat	3.3572
	11	1	2	3 Government	Space_Heat	3.6624
	11	1	2	4 Government	Space_Heat	3.9676
	11	2	1	1 Government	Water_Heat	0.5935
	11	2	1	2 Government	Water_Heat	0.6528
	11	2	1	3 Government	Water_Heat	0.7122
	11	2	1	4 Government	Water_Heat	0.7715
	11	2	2	1 Government	Water_Heat	0.4748
	11	2	2	2 Government	Water_Heat	0.5222
	11	2	2	3 Government	Water_Heat	0.5697
	11	2	2	4 Government	Water_Heat	0.6172
	11	4	1	1 Government	Cook_top	0.4333
	11	4	1	2 Government	Cook_top	0.4766
	11	4	2	1 Government	Cook_top	0.3466
	11	4	2	2 Government	Cook_top	0.3813
	11	5	1	1 Government	Fryer	0.4332
	11	5	1	2 Government	Fryer	0.4765
	11	5	2	1 Government	Fryer	0.3465
	11	5	2	2 Government	Fryer	0.3812
	11	6	1	1 Government	Griddle	0.4332
	11	6	1	2 Government	Griddle	0.4765
	11	6	2	1 Government	Griddle	0.3465
	11	6	2	2 Government	Griddle	0.3812
	11	7	1	1 Government	Other_Cooking	0.4333
	11	7	1	2 Government	Other_Cooking	0.4766
	11	7	2	1 Government	Other_Cooking	0.3466
	11	7	2	2 Government	Other_Cooking	0.3813
	11	10	1	1 Government	AC_Compressor	1.3062
	11	10	1	2 Government	AC_Compressor	1.4368
	11	10	2	1 Government	AC_Compressor	1.0449
	11	10	2	2 Government	AC_Compressor	1.1494
	11	11	1	1 Government	Other	0
	11	11	2	1 Government	Other	0
	12	1	1	1 TCU	Space_Heat	1.8457
	12	1	1	2 TCU	Space_Heat	2.0303
	12	1	1	3 TCU	Space_Heat	2.2149
	12	1	1	4 TCU	Space_Heat	2.3995
	12	1	2	1 TCU	Space_Heat	1.4766
	12	1	2	2 TCU	Space_Heat	1.6242
	12	1	2	3 TCU	Space_Heat	1.7719
	12	1	2	4 TCU	Space_Heat	1.9196
	12	2	1	1 TCU	Water_Heat	2.5303
	12	2	1	2 TCU	Water_Heat	2.7833
	12	2	1	3 TCU	Water_Heat	3.0364
	12	2	1	4 TCU	Water_Heat	3.2894
	12	2	2	1 TCU	Water_Heat	2.0243
	12	2	2	2 TCU	Water_Heat	2.2267
	12	2	2	3 TCU	Water_Heat	2.4291
	12	2	2	4 TCU	Water_Heat	2.6315

SAN DIEGO GAS & ELECTRIC COMPANY					
b	2014	CALIFORNIA GAS REPORT-REDUCED	DATE	WORKPAPERS	EQcost
	12	9	1	1 TCU Engine	30.6768
	12	9	1	2 TCU Engine	33.7445
	12	9	2	1 TCU Engine	24.5415
	12	9	2	2 TCU Engine	26.9956
	12	11	1	1 TCU Other	0
	12	11	2	1 TCU Other	0
	13	1	1	1 Construction Space_Heat	2.2951
	13	1	1	2 Construction Space_Heat	2.5246
	13	1	1	3 Construction Space_Heat	2.7542
	13	1	1	4 Construction Space_Heat	2.9837
	13	1	2	1 Construction Space_Heat	1.8361
	13	1	2	2 Construction Space_Heat	2.0197
	13	1	2	3 Construction Space_Heat	2.2033
	13	1	2	4 Construction Space_Heat	2.3869
	13	2	1	1 Construction Water_Heat	3.1464
	13	2	1	2 Construction Water_Heat	3.461
	13	2	1	3 Construction Water_Heat	3.7757
	13	2	1	4 Construction Water_Heat	4.0903
	13	2	2	1 Construction Water_Heat	2.5171
	13	2	2	2 Construction Water_Heat	2.7688
	13	2	2	3 Construction Water_Heat	3.0205
	13	2	2	4 Construction Water_Heat	3.2722
	13	11	1	1 Construction Other	0
	13	11	2	1 Construction Other	0
	14	1	1	1 Agriculture Space_Heat	1.6583
	14	1	1	2 Agriculture Space_Heat	1.8242
	14	1	1	3 Agriculture Space_Heat	1.99
	14	1	1	4 Agriculture Space_Heat	2.1558
	14	1	2	1 Agriculture Space_Heat	1.3267
	14	1	2	2 Agriculture Space_Heat	1.4593
	14	1	2	3 Agriculture Space_Heat	1.592
	14	1	2	4 Agriculture Space_Heat	1.7247
	14	2	1	1 Agriculture Water_Heat	2.2734
	14	2	1	2 Agriculture Water_Heat	2.5008
	14	2	1	3 Agriculture Water_Heat	2.7281
	14	2	1	4 Agriculture Water_Heat	2.9554
	14	2	2	1 Agriculture Water_Heat	1.8187
	14	2	2	2 Agriculture Water_Heat	2.0006
	14	2	2	3 Agriculture Water_Heat	2.1825
	14	2	2	4 Agriculture Water_Heat	2.3644
	14	8	1	1 Agriculture Drying	2.2734
	14	8	1	2 Agriculture Drying	2.5008
	14	8	2	1 Agriculture Drying	1.8187
	14	8	2	2 Agriculture Drying	2.0006
	14	9	1	1 Agriculture Engine	9.7757
	14	9	1	2 Agriculture Engine	10.7533
	14	9	2	1 Agriculture Engine	7.8206
	14	9	2	2 Agriculture Engine	8.6026
	14	11	1	1 Agriculture Other	0
	14	11	2	1 Agriculture Other	0

2014 California Gas Report Employment by Industry (in millions)

YEAR	Office	Restaurant	Retail	Laundry	Warehouse	School	College
2013	0.2908917	0.11235833	0.137475	0.01665	0.045375	0.0908083	0.044175
2014	0.2958384	0.11588256	0.14055649	0.0167386	0.04617337	0.0931074	0.0452915
2015	0.3087576	0.11847442	0.14186729	0.0166781	0.04711163	0.0948278	0.0461289
2016	0.3181177	0.12062841	0.14297474	0.0166874	0.04832565	0.0973283	0.047346
2017	0.3253022	0.12263319	0.14414958	0.0167954	0.04943548	0.1001316	0.0487096
2018	0.33067	0.12409015	0.14438379	0.0168576	0.05031218	0.102813	0.0500139
2019	0.3363514	0.12488455	0.14408764	0.0168525	0.05092235	0.1047421	0.0509515
2020	0.3421059	0.12524356	0.14341933	0.0168326	0.05134395	0.1059741	0.0515504
2021	0.3472263	0.12537588	0.14241272	0.016831	0.0515557	0.1069463	0.0520231
2022	0.3528283	0.12542092	0.14151471	0.0168226	0.05181204	0.1077681	0.0524228
2023	0.3593139	0.12531213	0.1406605	0.0168052	0.05202445	0.1084735	0.0527657
2024	0.3657577	0.12524469	0.14013138	0.0168194	0.05231427	0.1090722	0.053057
2025	0.3723668	0.12520644	0.14005546	0.0168718	0.05272379	0.1100295	0.053523
2026	0.3787953	0.12551148	0.14053619	0.0169482	0.05310138	0.1112823	0.0541325
2027	0.3851453	0.12628528	0.14117306	0.0170538	0.05346318	0.1126374	0.0547917
2028	0.3908923	0.1274097	0.14216387	0.0172025	0.05348883	0.114132	0.0555189
2029	0.396527	0.12864608	0.14304484	0.0173328	0.05356649	0.1155586	0.0562128
2030	0.4025338	0.12981135	0.14360984	0.0174549	0.05354815	0.1168571	0.0568443
2031	0.4084145	0.13096053	0.14419531	0.017527	0.0535326	0.1181339	0.0574654
2032	0.4147005	0.13216447	0.14487335	0.017601	0.05338994	0.119516	0.0581378
2033	0.4212828	0.13342191	0.14563649	0.0177065	0.05332033	0.1210304	0.0588745
2034	0.4273994	0.13462236	0.14644688	0.0178062	0.05315704	0.1225143	0.0595963
2035	0.433362	0.13577733	0.14723674	0.0179025	0.05306404	0.1238187	0.0602307

YEAR	Health	Lodging	Misc	Government	TCU	Construction	Agriculture
2013	0.1298667	0.028725	0.05815	0.1240833	0.051925	0.0586167	0.0097333
2014	0.1331426	0.02962806	0.0584644	0.1243659	0.05279384	0.0645649	0.009782
2015	0.1356086	0.03029137	0.05825262	0.1247763	0.05381625	0.0719598	0.0098309
2016	0.1391879	0.03084212	0.05828445	0.125564	0.05570981	0.0804745	0.0098801
2017	0.1431974	0.03135497	0.05866189	0.1268008	0.05743716	0.086577	0.0099295
2018	0.1470324	0.03172808	0.05887938	0.128229	0.05880397	0.0892273	0.0099791
2019	0.1497848	0.03193171	0.05886176	0.1295867	0.05974125	0.090563	0.010029
2020	0.1515434	0.03202396	0.05879206	0.132393	0.0605088	0.0919587	0.0100792
2021	0.1529307	0.03205777	0.05878636	0.132759	0.06118427	0.0929987	0.0101295
2022	0.154107	0.03206947	0.05875722	0.1341736	0.06187659	0.0939418	0.0101802
2023	0.155115	0.03204178	0.05869602	0.1354948	0.06252261	0.0951969	0.0102311
2024	0.1559709	0.03202449	0.05874576	0.1369024	0.06311287	0.0966553	0.0102823
2025	0.1573437	0.0320147	0.05892863	0.1380451	0.06360826	0.0985196	0.0103337
2026	0.1591345	0.03209202	0.0591953	0.1387694	0.06403578	0.1005515	0.0103853
2027	0.1610733	0.03228967	0.05956368	0.1394665	0.06435393	0.1025977	0.0104373
2028	0.1632109	0.03257685	0.06008313	0.1401582	0.06479132	0.1044553	0.0104894
2029	0.1652493	0.03289315	0.06053801	0.1408649	0.06530398	0.1063983	0.0105419
2030	0.1671069	0.03319109	0.06096513	0.1427448	0.06584558	0.1087035	0.0105946
2031	0.1689323	0.03348482	0.06121708	0.1420546	0.06637527	0.1106014	0.0106476
2032	0.1709096	0.03379263	0.06147534	0.1425238	0.06689994	0.1114258	0.0107008
2033	0.1730756	0.03411425	0.06184381	0.1429904	0.06730788	0.1120128	0.0107543
2034	0.175197	0.03442115	0.06219204	0.1434597	0.06775984	0.113092	0.0108081
2035	0.1770609	0.03471661	0.06252837	0.1439032	0.06811914	0.114997	0.0108621

Com3Avg

2014 California Gas Report
 SDG&E Commercial Forecast
 Average Year Weather Design

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commercial	2013	1,870	1,846	1,605	1,533	1,387	1,247	1,195	1,137	1,213	1,249	1,575	1,857	17,713
GN3Commercial	2014	1,838	1,814	1,578	1,507	1,364	1,226	1,175	1,118	1,192	1,228	1,548	1,825	17,412
GN3Commercial	2015	1,839	1,815	1,579	1,508	1,364	1,226	1,175	1,119	1,193	1,228	1,549	1,826	17,422
GN3Commercial	2016	1,848	1,825	1,587	1,516	1,371	1,233	1,182	1,125	1,199	1,235	1,557	1,836	17,513
GN3Commercial	2017	1,855	1,831	1,592	1,521	1,376	1,237	1,186	1,128	1,203	1,239	1,562	1,842	17,571
GN3Commercial	2018	1,858	1,834	1,595	1,524	1,379	1,239	1,188	1,130	1,205	1,241	1,565	1,845	17,604
GN3Commercial	2019	1,856	1,832	1,593	1,522	1,377	1,238	1,186	1,129	1,204	1,240	1,564	1,843	17,583
GN3Commercial	2020	1,849	1,825	1,587	1,516	1,372	1,233	1,182	1,125	1,199	1,235	1,558	1,836	17,516
GN3Commercial	2021	1,842	1,819	1,582	1,511	1,367	1,229	1,178	1,121	1,195	1,231	1,552	1,829	17,454
GN3Commercial	2022	1,838	1,814	1,578	1,507	1,364	1,226	1,175	1,118	1,192	1,228	1,548	1,825	17,412
GN3Commercial	2023	1,831	1,807	1,572	1,501	1,358	1,221	1,170	1,114	1,188	1,223	1,542	1,818	17,346
GN3Commercial	2024	1,826	1,803	1,568	1,497	1,355	1,218	1,167	1,111	1,185	1,220	1,538	1,813	17,301
GN3Commercial	2025	1,823	1,799	1,565	1,495	1,352	1,216	1,165	1,109	1,182	1,218	1,536	1,810	17,270
GN3Commercial	2026	1,821	1,798	1,563	1,493	1,351	1,215	1,164	1,108	1,181	1,216	1,534	1,808	17,253
GN3Commercial	2027	1,822	1,798	1,564	1,494	1,352	1,215	1,164	1,108	1,182	1,217	1,535	1,809	17,259
GN3Commercial	2028	1,823	1,800	1,565	1,495	1,353	1,216	1,166	1,109	1,183	1,218	1,536	1,811	17,275
GN3Commercial	2029	1,825	1,801	1,567	1,496	1,354	1,217	1,166	1,110	1,184	1,219	1,537	1,812	17,288
GN3Commercial	2030	1,827	1,803	1,568	1,498	1,355	1,218	1,168	1,111	1,185	1,220	1,539	1,814	17,307
GN3Commercial	2031	1,827	1,804	1,569	1,498	1,356	1,219	1,168	1,112	1,185	1,221	1,539	1,815	17,312
GN3Commercial	2032	1,829	1,805	1,570	1,500	1,357	1,220	1,169	1,113	1,186	1,222	1,541	1,816	17,327
GN3Commercial	2033	1,831	1,808	1,572	1,501	1,359	1,221	1,171	1,114	1,188	1,223	1,543	1,818	17,349
GN3Commercial	2034	1,832	1,808	1,573	1,502	1,359	1,222	1,171	1,114	1,188	1,224	1,543	1,819	17,356
GN3Commercial	2035	1,834	1,810	1,574	1,504	1,361	1,223	1,172	1,116	1,189	1,225	1,545	1,821	17,373

2014 California Gas Report
 SDG&E Commercial Forecast
 Cold Year Weather Design

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commercial	2013	2,002	1,972	1,676	1,587	1,407	1,235	1,169	1,300	1,189	1,237	1,639	1,986	18,399
GN3Commercial	2014	1,968	1,939	1,647	1,560	1,383	1,214	1,149	1,278	1,169	1,216	1,611	1,952	18,086
GN3Commercial	2015	1,969	1,940	1,648	1,561	1,384	1,214	1,150	1,279	1,169	1,216	1,612	1,954	18,096
GN3Commercial	2016	1,979	1,950	1,657	1,569	1,391	1,221	1,156	1,286	1,175	1,223	1,620	1,964	18,191
GN3Commercial	2017	1,986	1,957	1,662	1,574	1,396	1,225	1,159	1,290	1,179	1,227	1,626	1,970	18,251
GN3Commercial	2018	1,989	1,960	1,666	1,577	1,399	1,227	1,162	1,292	1,181	1,229	1,629	1,974	18,286
GN3Commercial	2019	1,987	1,958	1,664	1,575	1,397	1,225	1,160	1,291	1,180	1,228	1,627	1,972	18,264
GN3Commercial	2020	1,979	1,950	1,657	1,569	1,392	1,221	1,156	1,286	1,176	1,223	1,621	1,964	18,193
GN3Commercial	2021	1,972	1,944	1,651	1,564	1,387	1,216	1,152	1,281	1,171	1,219	1,615	1,957	18,129
GN3Commercial	2022	1,968	1,939	1,647	1,560	1,383	1,213	1,149	1,278	1,169	1,216	1,611	1,952	18,085
GN3Commercial	2023	1,960	1,931	1,641	1,554	1,378	1,209	1,145	1,273	1,164	1,211	1,605	1,945	18,017
GN3Commercial	2024	1,955	1,926	1,637	1,550	1,375	1,206	1,142	1,270	1,161	1,208	1,601	1,940	17,971
GN3Commercial	2025	1,952	1,923	1,634	1,547	1,372	1,204	1,140	1,268	1,159	1,206	1,598	1,936	17,938
GN3Commercial	2026	1,950	1,921	1,632	1,546	1,371	1,202	1,138	1,267	1,158	1,205	1,596	1,935	17,921
GN3Commercial	2027	1,950	1,922	1,633	1,546	1,371	1,203	1,139	1,267	1,158	1,205	1,597	1,935	17,927
GN3Commercial	2028	1,952	1,924	1,634	1,548	1,373	1,204	1,140	1,268	1,159	1,206	1,598	1,937	17,943
GN3Commercial	2029	1,954	1,925	1,636	1,549	1,374	1,205	1,141	1,269	1,160	1,207	1,600	1,939	17,957
GN3Commercial	2030	1,956	1,927	1,637	1,551	1,375	1,206	1,142	1,271	1,162	1,208	1,601	1,941	17,977
GN3Commercial	2031	1,956	1,928	1,638	1,551	1,376	1,207	1,142	1,271	1,162	1,209	1,602	1,941	17,982
GN3Commercial	2032	1,958	1,929	1,639	1,552	1,377	1,208	1,143	1,272	1,163	1,210	1,603	1,943	17,998
GN3Commercial	2033	1,961	1,932	1,641	1,554	1,378	1,209	1,145	1,274	1,164	1,211	1,605	1,945	18,020
GN3Commercial	2034	1,961	1,933	1,642	1,555	1,379	1,210	1,145	1,274	1,165	1,212	1,606	1,946	18,028
GN3Commercial	2035	1,963	1,935	1,644	1,557	1,380	1,211	1,146	1,275	1,166	1,213	1,607	1,948	18,046

Com3Hot

2014 California Gas Report
 SDG&E Commercial Forecast
 Hot Year Weather Design

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commercial	2013	1,737	1,719	1,534	1,479	1,367	1,259	1,221	1,300	1,229	1,261	1,511	1,727	17,345
GN3Commercial	2014	1,708	1,689	1,508	1,454	1,344	1,238	1,201	1,278	1,208	1,239	1,486	1,698	17,050
GN3Commercial	2015	1,709	1,690	1,509	1,455	1,344	1,239	1,201	1,279	1,208	1,240	1,486	1,699	17,060
GN3Commercial	2016	1,718	1,699	1,517	1,462	1,351	1,245	1,208	1,286	1,215	1,247	1,494	1,708	17,149
GN3Commercial	2017	1,723	1,705	1,522	1,467	1,356	1,249	1,212	1,290	1,219	1,251	1,499	1,713	17,206
GN3Commercial	2018	1,727	1,708	1,525	1,470	1,359	1,252	1,214	1,292	1,221	1,253	1,502	1,717	17,239
GN3Commercial	2019	1,724	1,706	1,523	1,468	1,357	1,250	1,212	1,291	1,220	1,252	1,500	1,715	17,218
GN3Commercial	2020	1,718	1,700	1,517	1,462	1,352	1,245	1,208	1,286	1,215	1,247	1,494	1,708	17,152
GN3Commercial	2021	1,712	1,694	1,512	1,457	1,347	1,241	1,204	1,281	1,211	1,242	1,489	1,702	17,091
GN3Commercial	2022	1,708	1,689	1,508	1,454	1,344	1,238	1,201	1,278	1,208	1,239	1,486	1,698	17,050
GN3Commercial	2023	1,701	1,683	1,503	1,448	1,339	1,233	1,196	1,273	1,203	1,235	1,480	1,691	16,985
GN3Commercial	2024	1,697	1,679	1,499	1,445	1,335	1,230	1,193	1,270	1,200	1,231	1,476	1,687	16,942
GN3Commercial	2025	1,694	1,676	1,496	1,442	1,333	1,228	1,191	1,268	1,198	1,229	1,473	1,684	16,911
GN3Commercial	2026	1,692	1,674	1,494	1,440	1,331	1,227	1,190	1,267	1,197	1,228	1,472	1,682	16,895
GN3Commercial	2027	1,693	1,675	1,495	1,441	1,332	1,227	1,190	1,267	1,197	1,228	1,473	1,683	16,901
GN3Commercial	2028	1,694	1,676	1,496	1,442	1,333	1,228	1,191	1,268	1,198	1,230	1,474	1,685	16,916
GN3Commercial	2029	1,696	1,677	1,498	1,443	1,334	1,229	1,192	1,269	1,199	1,231	1,475	1,686	16,929
GN3Commercial	2030	1,697	1,679	1,499	1,445	1,336	1,230	1,193	1,271	1,201	1,232	1,477	1,688	16,948
GN3Commercial	2031	1,698	1,680	1,500	1,445	1,336	1,231	1,194	1,271	1,201	1,232	1,477	1,688	16,953
GN3Commercial	2032	1,699	1,681	1,501	1,447	1,337	1,232	1,195	1,272	1,202	1,233	1,478	1,690	16,967
GN3Commercial	2033	1,701	1,683	1,503	1,448	1,339	1,233	1,196	1,274	1,203	1,235	1,480	1,692	16,988
GN3Commercial	2034	1,702	1,684	1,503	1,449	1,339	1,234	1,197	1,274	1,204	1,235	1,481	1,693	16,996
GN3Commercial	2035	1,704	1,686	1,505	1,451	1,341	1,235	1,198	1,275	1,205	1,237	1,482	1,694	17,012

Com3Bas

2014 California Gas Report
 SDG&E Commercial Forecast
 Base Year Weather Design

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commercial	2013	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	15,605
GN3Commercial	2014	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	15,340
GN3Commercial	2015	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	15,348
GN3Commercial	2016	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	15,428
GN3Commercial	2017	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	15,480
GN3Commercial	2018	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	15,509
GN3Commercial	2019	1,291	1,291	1,291	1,291	1,291	1,291	1,291	1,291	1,291	1,291	1,291	1,291	15,491
GN3Commercial	2020	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	1,286	15,431
GN3Commercial	2021	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	15,376
GN3Commercial	2022	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	15,339
GN3Commercial	2023	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	15,281
GN3Commercial	2024	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	15,242
GN3Commercial	2025	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	15,214
GN3Commercial	2026	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	15,199
GN3Commercial	2027	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	15,205
GN3Commercial	2028	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	15,219
GN3Commercial	2029	1,269	1,269	1,269	1,269	1,269	1,269	1,269	1,269	1,269	1,269	1,269	1,269	15,230
GN3Commercial	2030	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	15,247
GN3Commercial	2031	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	15,252
GN3Commercial	2032	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	15,265
GN3Commercial	2033	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	15,284
GN3Commercial	2034	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	15,290
GN3Commercial	2035	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	15,305

GN3 Industrial DATA TABLES

San Diego Gas and Electric Company
2014 CGR - 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>
Mining	1981	1974	1978	1978	1968	1980	1973	1980	1975
Food	1980	1982	1975	1978	1976	1983	1970	1987	1977
Textile	1985	1979	1977	1978	1981	1976	1976		1979
Wood_Paper	1979	1975	1975	1976	1976	1976	1976		1980
Chemical	1980	1980	1976	1977	1967	1976	1974	1980	1979
Petroleum	1980	1981	1974	1977	1975	1979		1972	1978
Stone	1980	1973	1975	1977	1980	1978	1982		1977
Prim_Metal	1986	1979	1975	1976	1976	1977	1978		1974
Fab_Metal	1982	1981	1976	1977	1979	1979	1976	1972	1976
Transport	1980	1978	1976	1976	1980	1980	1974	1988	1976
Misc	1979	1980	1976	1976	1978	1978	1976	1979	1977

San Diego Gas and Electric Company
2014 CGR - 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>
2013	13.92	14.53	16.85	16.37	13.65	15.98	13.87	13.66	14.38	13.31	13.72
2014	14.44	15.12	17.67	17.11	14.14	16.79	14.37	14.15	14.95	13.75	14.20
2015	14.86	15.52	17.96	17.42	14.57	17.13	14.79	14.58	15.35	14.19	14.62
2016	15.42	16.08	18.54	18.00	15.13	17.69	15.36	15.14	15.91	14.76	15.19
2017	15.77	16.43	18.89	18.35	15.48	18.05	15.71	15.49	16.27	15.11	15.54
2018	16.29	16.96	19.46	18.90	15.99	18.61	16.22	16.00	16.79	15.61	16.05
2019	16.78	17.44	19.90	19.35	16.49	19.07	16.72	16.50	17.28	16.11	16.54
2020	17.33	17.96	20.29	19.76	17.05	19.51	17.27	17.06	17.80	16.69	17.10
2021	17.89	18.51	20.81	20.29	17.61	20.05	17.83	17.63	18.36	17.26	17.66
2022	18.42	19.06	21.36	20.84	18.15	20.61	18.36	18.16	18.90	17.79	18.20
2023	18.99	19.61	21.89	21.37	18.72	21.15	18.93	18.73	19.45	18.36	18.76
2024	19.55	20.18	22.47	21.94	19.27	21.74	19.48	19.28	20.02	18.91	19.32
2025	20.13	20.78	23.10	22.56	19.86	22.37	20.07	19.87	20.61	19.48	19.90
2026	20.75	21.41	23.77	23.22	20.47	23.03	20.68	20.48	21.24	20.09	20.51
2027	21.38	22.05	24.47	23.90	21.09	23.72	21.31	21.10	21.88	20.70	21.13
2028	22.03	22.72	25.18	24.60	21.73	24.43	21.96	21.75	22.54	21.33	21.78
2029	22.71	23.41	25.90	25.31	22.41	25.15	22.64	22.42	23.23	22.00	22.45
2030	23.39	24.11	26.64	26.03	23.09	25.88	23.32	23.10	23.92	22.67	23.13
2031	24.12	24.85	27.42	26.80	23.81	26.66	24.05	23.83	24.66	23.39	23.85
2032	24.88	25.62	28.24	27.61	24.57	27.47	24.81	24.58	25.43	24.13	24.61
2033	25.67	26.43	29.10	28.45	25.35	28.33	25.59	25.36	26.23	24.90	25.39
2034	26.50	27.27	29.97	29.31	26.17	29.19	26.42	26.19	27.07	25.72	26.22
2035	27.34	28.13	30.89	30.21	27.01	30.10	27.26	27.02	27.93	26.55	27.05

(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>
2013	11.23	11.57	13.11	11.90	10.98	12.25	11.13	11.14	11.32	10.76	11.00
2014	11.64	12.04	13.84	12.43	11.36	12.84	11.53	11.55	11.76	11.10	11.37
2015	11.96	12.35	14.08	12.72	11.69	13.12	11.85	11.87	12.07	11.44	11.70
2016	12.41	12.79	14.51	13.17	12.14	13.55	12.30	12.32	12.52	11.89	12.15
2017	12.69	13.07	14.79	13.45	12.42	13.83	12.58	12.60	12.80	12.17	12.43
2018	13.10	13.49	15.25	13.87	12.82	14.27	12.99	13.00	13.21	12.57	12.84
2019	13.48	13.87	15.60	14.24	13.21	14.63	13.37	13.39	13.59	12.96	13.22
2020	13.90	14.27	15.92	14.63	13.64	15.00	13.79	13.81	14.01	13.40	13.65
2021	14.34	14.70	16.34	15.06	14.08	15.43	14.23	14.25	14.44	13.85	14.09
2022	14.76	15.13	16.78	15.49	14.50	15.86	14.66	14.67	14.87	14.26	14.51
2023	15.20	15.57	17.20	15.92	14.95	16.29	15.10	15.11	15.31	14.71	14.96
2024	15.64	16.01	17.66	16.37	15.39	16.74	15.54	15.56	15.75	15.15	15.40
2025	16.11	16.49	18.17	16.85	15.85	17.23	16.00	16.02	16.22	15.60	15.86
2026	16.60	16.98	18.71	17.36	16.33	17.75	16.49	16.51	16.71	16.08	16.34
2027	17.10	17.49	19.27	17.88	16.82	18.28	16.98	17.00	17.21	16.56	16.83
2028	17.62	18.02	19.84	18.42	17.33	18.83	17.50	17.52	17.73	17.07	17.34
2029	18.15	18.57	20.41	18.97	17.87	19.38	18.04	18.05	18.27	17.60	17.88
2030	18.70	19.12	21.00	19.53	18.40	19.95	18.58	18.60	18.82	18.13	18.41
2031	19.27	19.70	21.63	20.12	18.97	20.56	19.15	19.17	19.40	18.69	18.99
2032	19.88	20.32	22.29	20.74	19.57	21.19	19.75	19.77	20.00	19.28	19.58
2033	20.50	20.95	22.98	21.39	20.19	21.85	20.37	20.40	20.63	19.89	20.20
2034	21.16	21.62	23.67	22.06	20.84	22.53	21.03	21.05	21.29	20.54	20.85
2035	21.83	22.30	24.40	22.75	21.50	23.23	21.69	21.71	21.96	21.19	21.51

San Diego Gas and Electric Company
2014 CGR - 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>
2013	100.00	0.6686	0.6978	0.8094	0.7861	0.6556	0.7676	0.6659	0.6560	0.6905	0.6393	0.6586
2014	100.32	0.7163	0.7503	0.8764	0.8485	0.7014	0.8330	0.7130	0.7019	0.7416	0.6820	0.7042
2015	102.03	0.7829	0.8177	0.9465	0.9178	0.7676	0.9028	0.7795	0.7682	0.8089	0.7477	0.7705
2016	103.82	0.7784	0.8117	0.9359	0.9087	0.7637	0.8927	0.7752	0.7642	0.8033	0.7448	0.7667
2017	105.75	0.8086	0.8426	0.9686	0.9408	0.7937	0.9252	0.8054	0.7942	0.8339	0.7744	0.7966
2018	107.86	0.8363	0.8709	0.9991	0.9706	0.8211	0.9554	0.8330	0.8217	0.8621	0.8014	0.8240
2019	109.87	0.8898	0.9251	1.0552	1.0261	0.8744	1.0114	0.8865	0.8750	0.9162	0.8543	0.8773
2020	112.04	0.9847	1.0207	1.1529	1.1231	0.9690	1.1088	0.9812	0.9696	1.0115	0.9484	0.9719
2021	114.34	1.0476	1.0844	1.2188	1.1883	1.0316	1.1745	1.0441	1.0323	1.0750	1.0106	1.0345
2022	116.51	1.0900	1.1274	1.2640	1.2328	1.0737	1.2194	1.0864	1.0744	1.1179	1.0522	1.0766
2023	118.71	1.1570	1.1951	1.3338	1.3019	1.1404	1.2890	1.1532	1.1411	1.1854	1.1185	1.1432
2024	120.91	1.2026	1.2414	1.3823	1.3497	1.1858	1.3373	1.1988	1.1865	1.2315	1.1634	1.1886
2025	123.26	1.2389	1.2785	1.4216	1.3883	1.2218	1.3764	1.2350	1.2225	1.2684	1.1989	1.2246
2026	125.73	1.2756	1.3160	1.4616	1.4275	1.2582	1.4160	1.2717	1.2590	1.3057	1.2348	1.2610
2027	128.23	1.3065	1.3477	1.4957	1.4608	1.2888	1.4499	1.3024	1.2895	1.3372	1.2649	1.2915
2028	130.79	1.3452	1.3872	1.5377	1.5021	1.3272	1.4916	1.3411	1.3279	1.3765	1.3027	1.3299
2029	133.42	1.3936	1.4364	1.5895	1.5530	1.3752	1.5431	1.3893	1.3760	1.4255	1.3502	1.3779
2030	136.03	1.4367	1.4804	1.6360	1.5987	1.4180	1.5893	1.4323	1.4188	1.4692	1.3925	1.4206
2031	138.81	1.4836	1.5282	1.6865	1.6484	1.4646	1.6396	1.4792	1.4654	1.5168	1.4385	1.4672
2032	141.72	1.5303	1.5758	1.7370	1.6980	1.5109	1.6897	1.5258	1.5118	1.5642	1.4842	1.5135
2033	144.73	1.5750	1.6215	1.7856	1.7456	1.5552	1.7380	1.5704	1.5562	1.6096	1.5280	1.5579
2034	147.84	1.6399	1.6874	1.8546	1.8136	1.6197	1.8067	1.6352	1.6207	1.6752	1.5919	1.6224
2035	150.98	1.6867	1.7352	1.9054	1.8635	1.6661	1.8572	1.6818	1.6671	1.7227	1.6376	1.6687

(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>
2013	100.00	0.6370	0.6565	0.7439	0.6754	0.6233	0.6952	0.6314	0.6323	0.6426	0.6107	0.6239
2014	100.32	0.6800	0.7034	0.8083	0.7261	0.6636	0.7498	0.6733	0.6744	0.6867	0.6483	0.6643
2015	102.03	0.7457	0.7699	0.8780	0.7933	0.7288	0.8177	0.7388	0.7399	0.7527	0.7131	0.7295
2016	103.82	0.7427	0.7656	0.8682	0.7879	0.7267	0.8110	0.7362	0.7372	0.7494	0.7118	0.7274
2017	105.75	0.7723	0.7957	0.9005	0.8185	0.7560	0.8421	0.7656	0.7667	0.7791	0.7407	0.7566
2018	107.86	0.7994	0.8233	0.9306	0.8466	0.7826	0.8708	0.7925	0.7936	0.8063	0.7670	0.7833
2019	109.87	0.8523	0.8768	0.9864	0.9006	0.8352	0.9253	0.8453	0.8464	0.8594	0.8192	0.8359
2020	112.04	0.9465	0.9715	1.0838	0.9959	0.9290	1.0212	0.9393	0.9405	0.9537	0.9127	0.9297
2021	114.34	1.0087	1.0343	1.1493	1.0593	0.9907	1.0852	1.0013	1.0025	1.0161	0.9741	0.9915
2022	116.51	1.0504	1.0766	1.1941	1.1021	1.0320	1.1286	1.0429	1.0441	1.0580	1.0150	1.0328
2023	118.71	1.1167	1.1435	1.2635	1.1695	1.0979	1.1966	1.1090	1.1102	1.1244	1.0805	1.0987
2024	120.91	1.1616	1.1890	1.3116	1.2156	1.1425	1.2433	1.1538	1.1551	1.1696	1.1247	1.1433
2025	123.26	1.1972	1.2252	1.3506	1.2524	1.1776	1.2807	1.1892	1.1905	1.2053	1.1594	1.1784
2026	125.73	1.2332	1.2618	1.3901	1.2896	1.2131	1.3186	1.2250	1.2263	1.2415	1.1945	1.2140
2027	128.23	1.2632	1.2925	1.4238	1.3210	1.2428	1.3506	1.2549	1.2562	1.2717	1.2237	1.2436
2028	130.79	1.3012	1.3311	1.4653	1.3602	1.2802	1.3905	1.2926	1.2940	1.3098	1.2607	1.2811
2029	133.42	1.3487	1.3794	1.5167	1.4091	1.3273	1.4401	1.3399	1.3414	1.3576	1.3073	1.3282
2030	136.03	1.3910	1.4223	1.5627	1.4528	1.3691	1.4845	1.3820	1.3835	1.4001	1.3487	1.3700
2031	138.81	1.4371	1.4691	1.6128	1.5003	1.4146	1.5327	1.4279	1.4294	1.4464	1.3938	1.4156
2032	141.72	1.4829	1.5157	1.6627	1.5476	1.4599	1.5808	1.4735	1.4750	1.4924	1.4386	1.4609
2033	144.73	1.5266	1.5603	1.7108	1.5929	1.5031	1.6269	1.5170	1.5186	1.5364	1.4813	1.5041
2034	147.84	1.5906	1.6250	1.7793	1.6585	1.5665	1.6933	1.5807	1.5823	1.6006	1.5441	1.5675
2035	150.98	1.6364	1.6716	1.8296	1.7059	1.6117	1.7415	1.6263	1.6279	1.6466	1.5888	1.6128

**San Diego Gas and Electric Company
 2014 CGR - Industrial GN3
 Historical Throughput and Customer Counts**

<u>Business Type</u>	<u>therms_</u> <u>2013</u> <u>Temp. Adj.</u>	<u>meters_</u> <u>2013</u>	<u>meters_</u> <u>2013</u> <u>ExCust</u>	<u>meters_</u> <u>2013</u> <u>NewCust</u>	<u>avgUse_</u> <u>2013</u> <u>ExCust</u>	<u>avgUse_</u> <u>2013</u> <u>NewCust</u>	<u>Price</u> <u>Elasticity</u>	<u>Employment</u> <u>Elasticity</u>
Mining	71,464	5	5	0	14,293	0	0.000000	0.321451
Food	2,524,732	318	303	15	8,208	2,523	-0.190795	1.242506
Textile	43,064	25	25	0	1,723	0	0.000000	0.033325
Wood_Paper	28,480	18	18	0	1,582	0	0.000000	0.508272
Chemical	1,744,916	81	79	2	21,559	20,877	-0.080517	0.650067
Petroleum	12,875	2	2	0	6,437	0	-0.180563	0.084537
Stone	323,201	30	30	0	10,773	0	0.000000	0.416909
Prim_Metal	351,112	15	15	0	23,407	0	0.000000	0.956685
Fab_Metal	1,257,666	161	160	1	7,852	1,335	-0.137441	1.023881
Transport	1,566,552	56	56	0	27,974	0	0.000000	0.402505
Misc	6,857,011	588	585	3	11,655	13,038	-0.108307	0.879307
Total	14,781,073	1,299	1,278					

San Diego Gas and Electric Company
2014 CGR - 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>
Mining	4366.6	42.6	491.8	121.7	1553.1	1535.6	11.0	1218.1	4169.3	13509.8
Food	16172.7	3829.2	1397.9	549.5	1970.7	4751.6	95.4	397.2	3383.0	32547.2
Textile	13453.1	3495.6	435.2	874.1	8247.0	1773.6	282.9	0.0	904.9	29466.4
Wood_Paper	4003.5	1313.9	895.2	91.2	727.6	1271.4	12.3	0.0	1333.4	9648.5
Chemical	5933.3	3338.2	757.4	575.4	49.0	1093.9	6.3	0.3	3051.2	14805.0
Petroleum	7748.0	1953.7	342.9	449.8	25523.9	112.3	0.0	34.5	10240.9	46406.0
Stone	1797.2	357.2	697.5	675.5	3176.5	6897.1	127.4	0.0	1204.3	14932.7
Prim_Metal	442.0	1396.6	1205.0	287.3	59.1	25647.9	237.4	0.0	2342.9	31618.2
Fab_Metal	1535.4	1498.7	1207.0	266.6	133.7	3842.0	20.7	0.0	2434.7	10938.7
Transport	387.3	225.6	666.8	192.0	424.5	723.0	5.7	2.5	373.0	3000.4
Misc	750.9	528.1	496.4	138.2	336.2	1853.1	33.0	6.0	952.2	5094.1

San Diego Gas and Electric Company
2014 CGR - 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>
Mining	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35872.2	0.0	35872.2
Food	13791.7	2.8	205.1	225.3	0.0	0.0	0.0	0.0	0.0	14224.8
Textile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wood_Paper										0.0
Chemical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17866.6	17866.6
Petroleum	0.0	0.0	0.0	0.0	140409.4	0.0	0.0	0.0	0.0	140409.4
Stone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prim_Metal	0.0	0.0	0.0	891.7	0.0	14986.1	0.0	0.0	4995.4	20873.2
Fab_Metal	0.0	0.0	558.2	0.0	0.0	3041.6	0.0	0.0	8110.9	11710.8
Transport	0.0	0.0	0.0	0.0	0.0	2306.4	0.0	0.0	331.4	2637.8
Misc	612.3	0.0	0.0	5.0	2182.2	1428.8	0.0	0.0	983.8	5212.0

**San Diego Gas and Electric Company
 2014 CGR - 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	12053557	117480	22540	4117	3349437	1388699	3261	2871579 .	
Food	992080	234899	77958	15939	1062552	781260	24817	1163891 .	
Textile	1428304	371125	20797	30369	3811277	1069238	74615	0 .	
Wood_Paper	11051345	3626956	48301	2915	523062	985476	3282	0 .	
Chemical	1169880	658201	34723	19440	26417	593554	1620	738 .	
Petroleum	1527674	385215	15711	15192	13761553	60935	0	101154 .	
Stone	4960873	985989	31975	22824	6850607	6237158	37820	0 .	
Primary_Metal	174313	550730	55233	9317	25494	13916258	66288	0 .	
Fabricated_Metal	605450	591011	55315	8658	57653	2084618	5763	0 .	
Transportation	76358	44486	30560	6490	228869	392291	1456	7240 .	
Miscellaneous	148060	104128	22745	4673	181266	1005453	8471	17618 .	

San Diego Gas and Electric Company
2014 CGR - 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>
Mining	587697	5728	1099	281	163309	67709	159	140010	4169
Food	48371	11453	3801	1088	51807	38092	1210	56748	3383
Textile	69640	18095	1014	2073	185827	52133	3638	0	905
Wood_Paper	538832	176840	2355	199	25503	48049	160	0	1333
Chemical	57040	32092	1693	1327	1288	28940	79	36	3051
Petroleum	74485	18782	766	1037	670974	2971	0	4932	10241
Stone	241878	48074	1559	1558	334016	304106	1844	0	1204
Primary_Metal	8499	26852	2693	636	1243	678517	3232	0	2343
Fabricated_Metal	29520	28816	2697	591	2811	101640	281	0	2435
Transportation	3723	2169	1490	443	11159	19127	71	353	373
Miscellaneous	7219	5077	1109	319	8838	49023	413	859	952

**San Diego Gas and Electric Company
 2014 CGR - 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	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Fabricated_Metal	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Food	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Mining	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Miscellaneous	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Petroleum	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Primary_Metal	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Stone	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Textile	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Transportation	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1
Wood_Paper	0.74	0.74	0.61	0.59	0.32	0.38	0.11	0.01	1

San Diego Gas and Electric Company
2014 CGR - 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>
Mining	0.01	0.01	0.73	0.73	0.03	0.06	0.64	0.87	1.00
Food	0.45	0.45	0.60	0.85	0.12	0.33	0.73	0.70	1.00
Textile	0.26	0.26	0.70	0.71	0.14	0.09	0.72	0.46	1.00
Wood_Paper	0.01	0.01	0.62	0.77	0.09	0.07	0.71	0.50	1.00
Chemical	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
Petroleum	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
Stone	0.01	0.01	0.73	0.73	0.03	0.06	0.64	0.87	1.00
Prim_Metal	0.07	0.07	0.73	0.76	0.15	0.10	0.68	0.86	1.00
Fab_Metal	0.07	0.07	0.73	0.76	0.15	0.10	0.68	0.86	1.00
Transport	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
Misc	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00

**San Diego Gas and Electric Company
 2014 CGR - 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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 & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED 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
 2014 CGR - Industrial GN3
 Employment Forecast (in thousands)**

YEAR	Mining	Food	Textile	Wood_Paper	Chemical	Petroleum	Stone	Primary_Metal	Fabricated_Metal	Transportation	Miscellaneous	Total
2013	2908	13415	1347	3439	5996	1042	2140	1604	10805	9214	40913	92825
2014	2939	13266	1295	3618	6060	1042	2263	1619	11297	9265	41028	93691
2015	2979	13362	1258	3935	6120	1038	2386	1646	11785	9494	40729	94732
2016	3029	13417	1218	4194	6188	1019	2484	1683	12210	9591	40335	95368
2017	3080	13549	1183	4288	6284	1001	2496	1731	12472	9472	40462	96018
2018	3137	13803	1157	4307	6414	991	2492	1763	12555	9424	40836	96880
2019	3150	13994	1127	4374	6471	980	2487	1780	12660	9325	41070	97418
2020	3151	14133	1088	4447	6464	966	2466	1783	12767	9114	41166	97545
2021	3177	14216	1044	4452	6433	947	2430	1777	12841	8905	41213	97434
2022	3216	14254	998	4434	6385	924	2391	1771	12901	8699	41220	97193
2023	3203	14299	954	4474	6359	903	2362	1766	12953	8522	41281	97076
2024	3183	14378	929	4531	6328	884	2343	1762	13005	8391	41362	97098
2025	3168	14435	920	4572	6289	868	2329	1752	12986	8319	41207	96844
2026	3157	14498	918	4608	6253	854	2323	1731	12874	8320	40969	96503
2027	3142	14535	912	4587	6208	839	2328	1702	12707	8311	40759	96031
2028	3128	14560	904	4540	6161	826	2322	1667	12523	8284	40539	95453
2029	3112	14586	898	4524	6121	814	2314	1631	12327	8245	40279	94851
2030	3088	14594	892	4554	6082	800	2315	1593	12162	8186	39993	94259
2031	3064	14602	885	4565	6033	785	2314	1558	12065	8132	39783	93786
2032	3046	14606	878	4483	5984	770	2295	1521	11982	8095	39686	93346
2033	3026	14588	872	4417	5934	756	2283	1483	11873	8099	39637	92966
2034	3013	14561	863	4435	5891	742	2287	1446	11764	8105	39611	92718
2035	3005	14525	853	4452	5865	728	2296	1400	11659	8113	39598	92494

San Diego Gas and Electric Company
2014 CGR - Industrial GN3
Core Industrial Demand Forecast (Mdth)
Average Temperature

YEAR	<u>Model Output</u>		
	<u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	<u>Core Ind Final</u>
2013	1478.1	0.0	1478.1
2014	1462.3	4.2	1458.1
2015	1447.8	9.0	1438.8
2016	1447.5	13.8	1433.7
2017	1443.3	18.6	1424.7
2018	1443.3	23.4	1420.0
2019	1434.4	28.2	1406.2
2020	1413.7	33.0	1380.7
2021	1398.0	37.8	1360.3
2022	1385.3	42.6	1342.7
2023	1369.3	47.3	1322.0
2024	1359.1	47.9	1311.2
2025	1348.4	47.9	1300.5
2026	1336.9	47.9	1289.0
2027	1325.6	47.9	1277.7
2028	1312.7	47.9	1264.8
2029	1298.4	47.9	1250.4
2030	1285.0	47.9	1237.1
2031	1273.2	47.9	1225.2
2032	1262.9	47.9	1215.0
2033	1253.3	47.9	1205.4
2034	1243.9	47.9	1196.0
2035	1234.5	47.9	1186.6

San Diego Gas and Electric Company
2014 CGR - Industrial GN3
Core Industrial Demand Forecast (Mdth)
Cold Temperature

<u>YEAR</u>	<u>Model Output</u>		
	<u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	<u>Core Ind Final</u>
2013	1537.4	0.0	1537.4
2014	1521.6	4.4	1517.2
2015	1507.1	9.3	1497.8
2016	1506.8	14.3	1492.5
2017	1502.6	19.2	1483.3
2018	1502.6	24.2	1478.4
2019	1493.7	29.2	1464.5
2020	1473.0	34.1	1438.9
2021	1457.3	39.1	1418.3
2022	1444.5	44.0	1400.5
2023	1428.6	49.0	1379.6
2024	1418.4	49.6	1368.8
2025	1407.7	49.6	1358.1
2026	1396.2	49.6	1346.6
2027	1384.9	49.6	1335.3
2028	1372.0	49.6	1322.4
2029	1357.6	49.6	1308.1
2030	1344.3	49.6	1294.7
2031	1332.4	49.6	1282.9
2032	1322.2	49.6	1272.6
2033	1312.6	49.6	1263.0
2034	1303.2	49.6	1253.6
2035	1293.8	49.6	1244.2

San Diego Gas and Electric Company
2014 CGR - 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>
2013	1418.8	0.0	1418.8
2014	1403.0	4.1	1398.9
2015	1388.5	8.7	1379.8
2016	1388.2	13.3	1374.9
2017	1384.0	17.9	1366.0
2018	1384.1	22.6	1361.5
2019	1375.1	27.2	1347.9
2020	1354.4	31.8	1322.6
2021	1338.8	36.4	1302.3
2022	1326.0	41.1	1284.9
2023	1310.0	45.7	1264.3
2024	1299.9	46.2	1253.6
2025	1289.1	46.2	1242.9
2026	1277.6	46.2	1231.3
2027	1266.3	46.2	1220.1
2028	1253.4	46.2	1207.2
2029	1239.1	46.2	1192.8
2030	1225.7	46.2	1179.5
2031	1213.9	46.2	1167.6
2032	1203.6	46.2	1157.4
2033	1194.1	46.2	1147.8
2034	1184.6	46.2	1138.3
2035	1175.2	46.2	1128.9

San Diego Gas and Electric Company
2014 CGR - Industrial GN3
Core Industrial Demand Forecast (Mdth)
 Base Temperature

<u>YEAR</u>	<u>Model Output</u> <u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	<u>Core Ind Final</u>
2013	1223.1	0.0	1223.1
2014	1207.3	3.6	1203.7
2015	1192.8	7.7	1185.0
2016	1192.4	11.7	1180.7
2017	1188.2	15.8	1172.4
2018	1188.3	19.9	1168.4
2019	1179.3	24.1	1155.2
2020	1158.6	28.4	1130.2
2021	1143.0	32.4	1110.6
2022	1130.2	36.5	1093.7
2023	1114.3	40.7	1073.6
2024	1104.1	41.0	1063.1
2025	1093.4	41.0	1052.3
2026	1081.8	41.1	1040.8
2027	1070.6	41.1	1029.5
2028	1057.7	41.1	1016.6
2029	1043.3	41.2	1002.2
2030	1030.0	41.1	988.9
2031	1018.1	41.1	977.0
2032	1007.9	41.0	966.8
2033	998.3	41.0	957.3
2034	988.8	41.0	947.8
2035	979.4	41.0	938.4

2016 CALIFORNIA GAS REPORT

NONCORE COMMERCIAL, INDUSTRIAL AND COGEN DEMAND FORECAST
JULY 2016



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

Cogeneration (MDTH_CGNNC_SD)

Cochrane-Orcutt
 MONTHLY data for 95 periods from FEB 2006 to DEC 2013

mdth_cgnc_sd

$$= - 731.248 * \text{dum2006janmay} + 1668.60 * \text{dum2009novdec} \\
 (5.98513) \quad (12.2509) \\
 + 15.9679 * \text{eisd}/1000 \\
 (62.5494)$$

Sum Sq	2051410	Std Err	150.142	LHS Mean	1558.66
R Sq	0.8120	R Bar Sq	0.8058	F	4, 91 98.2396
D.W.(1)	2.1244	D.W.(12)	1.6377		

$$\text{AR}_0 = + 0.36700 * \text{AR}_1 \\
 (3.24287)$$

Commercial (MDTH_COMNC_SD)

MDTH_COMNC_SD
 Cochrane-Orcutt
 MONTHLY data for 95 periods from FEB 2006 to DEC 2013

mdth_comnc_sd

$$= 0.17660 * \text{ecsd}/1000 + 129.128 * \text{dum2006janmay} \\
 (27.0252) \quad (4.27074)$$

Sum Sq	63669.5	Std Err	26.3068	LHS Mean	216.886
R Sq	0.7588	R Bar Sq	0.7535	F	3, 92 96.4661
D.W.(1)	2.3485	D.W.(12)	1.1674		

$$\text{AR}_0 = + 0.64752 * \text{AR}_1 \\
 (8.09322)$$

Industrial (MDTH_INDNC_SD)

MDTH_INDNC_SD
 Cochrane-Orcutt
 MONTHLY data for 94 periods from MAR 2006 to DEC 2013

mdth_indnc_sd

$$= 1.63787 * \text{eisd}/1000 - 41.3079 * \text{dum2013sepoct} \\
 (8.42386) \quad (4.67430)$$

Sum Sq	23991.7	Std Err	16.3249	LHS Mean	154.467
R Sq	0.7098	R Bar Sq	0.7001	F	4, 90 55.0327
D.W.(1)	2.0151	D.W.(12)	1.1603		

$$\text{AR}_0 = + 0.54778 * \text{AR}_1 + 0.36000 * \text{AR}_2 \\
 (5.37146) \quad (3.53430)$$

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED 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 ECSD	Industrial EISD	DSM Cmcl (MDth)	DSM Indl. (MDth)	Cogen (MDth)	Industrial (MDth)
	Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial						
2006	16,300	3,757	1,374	16,300	3,757	1,374	1,208,058	104,417	0	0	0	0
2007	19,920	2,560	1,483	19,920	2,560	1,483	1,216,850	102,850	0	0	0	0
2008	18,929	2,546	1,886	18,929	2,546	1,886	1,206,425	103,158	0	0	0	0
2009	23,606	2,536	1,670	23,606	2,536	1,670	1,146,017	95,667	0	0	0	0
2010	17,480	2,559	1,912	17,480	2,559	1,912	1,139,667	93,308	0	0	0	0
2011	17,046	2,525	2,019	17,046	2,525	2,019	1,149,625	93,558	0	0	0	0
2012	17,541	2,390	2,262	17,541	2,390	2,262	1,174,783	93,842	0	0	0	0
2013	17,976	2,185	2,162	17,976	2,185	2,162	1,198,833	92,825	0	0	0	0
2014	17,871	2,548	1,881	17,990	2,550	1,911	1,226,330	93,690	-2	-21	-119	-9
2015	18,039	2,662	1,839	18,152	2,666	1,891	1,258,382	94,732	-5	-44	-113	-8
2016	18,153	2,729	1,811	18,274	2,737	1,887	1,291,351	95,367	-8	-68	-121	-9
2017	18,273	2,790	1,793	18,398	2,800	1,893	1,321,116	96,018	-10	-91	-125	-9
2018	18,431	2,833	1,783	18,564	2,846	1,907	1,343,020	96,880	-13	-115	-132	-9
2019	18,533	2,865	1,768	18,667	2,881	1,916	1,359,290	97,417	-15	-138	-134	-10
2020	18,560	2,893	1,747	18,691	2,911	1,918	1,373,769	97,545	-18	-161	-131	-9
2021	18,527	2,911	1,720	18,670	2,931	1,915	1,383,217	97,434	-21	-185	-143	-10
2022	18,465	2,930	1,690	18,624	2,954	1,910	1,393,695	97,193	-23	-208	-159	-11
2023	18,434	2,951	1,664	18,601	2,977	1,908	1,404,654	97,075	-26	-232	-167	-12
2024	18,425	2,975	1,661	18,605	3,001	1,908	1,416,091	97,098	-26	-235	-181	-13
2025	18,361	3,003	1,655	18,557	3,030	1,903	1,429,570	96,844	-26	-235	-196	-14
2026	18,282	3,035	1,647	18,491	3,061	1,897	1,444,471	96,502	-26	-235	-210	-15
2027	18,177	3,069	1,636	18,401	3,095	1,887	1,460,332	96,030	-26	-235	-224	-16
2028	18,053	3,103	1,624	18,290	3,129	1,876	1,476,573	95,453	-26	-235	-237	-17
2029	17,928	3,137	1,612	18,175	3,163	1,864	1,492,678	94,850	-26	-235	-246	-18
2030	17,804	3,173	1,599	18,062	3,200	1,853	1,509,811	94,259	-26	-235	-257	-19
2031	17,703	3,203	1,589	17,971	3,229	1,843	1,523,542	93,785	-26	-235	-267	-19
2032	17,608	3,233	1,580	17,886	3,260	1,835	1,538,111	93,345	-26	-235	-278	-20
2033	17,524	3,266	1,572	17,814	3,292	1,827	1,553,372	92,966	-26	-235	-289	-21
2034	17,471	3,298	1,566	17,766	3,324	1,822	1,568,472	92,717	-26	-235	-295	-21
2035	17,416	3,330	1,561	17,723	3,356	1,818	1,583,579	92,494	-26	-235	-307	-22
	-0.1%	1.9%	-1.5%	<==Average annual growth, 2013-2035.								

MONTHLY

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 ECSD	Industrial EISD	DSM Cmcl (MDth)	DSM Indl. (MDth)	Cogen (MDth)	Industrial (MDth)
	Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial						
Jan-06	726.9	453.7	119.7	726.9	453.7	119.7	1,183,900	103,700	0.0	0.0	0.0	0.0
Feb-06	773.8	449.3	128.8	773.8	449.3	128.8	1,193,300	104,300	0.0	0.0	0.0	0.0
Mar-06	693.2	409.3	108.2	693.2	409.3	108.2	1,199,800	104,900	0.0	0.0	0.0	0.0
Apr-06	750.4	474.6	130.8	750.4	474.6	130.8	1,201,800	104,500	0.0	0.0	0.0	0.0
May-06	1,210.4	351.8	134.1	1,210.4	351.8	134.1	1,210,300	104,700	0.0	0.0	0.0	0.0
Jun-06	1,716.4	244.8	126.5	1,716.4	244.8	126.5	1,218,400	105,200	0.0	0.0	0.0	0.0
Jul-06	1,695.0	231.9	133.6	1,695.0	231.9	133.6	1,203,900	105,000	0.0	0.0	0.0	0.0
Aug-06	1,788.4	206.3	98.9	1,788.4	206.3	98.9	1,208,400	104,600	0.0	0.0	0.0	0.0
Sep-06	1,778.3	222.2	117.8	1,778.3	222.2	117.8	1,213,400	104,400	0.0	0.0	0.0	0.0
Oct-06	1,803.7	214.9	97.9	1,803.7	214.9	97.9	1,214,200	103,800	0.0	0.0	0.0	0.0
Nov-06	1,733.6	257.5	96.4	1,733.6	257.5	96.4	1,223,800	104,000	0.0	0.0	0.0	0.0
Dec-06	1,630.1	240.2	80.9	1,630.1	240.2	80.9	1,225,500	103,900	0.0	0.0	0.0	0.0
Jan-07	1,806.8	235.9	100.4	1,806.8	235.9	100.4	1,195,400	103,000	0.0	0.0	0.0	0.0
Feb-07	1,746.5	274.8	127.9	1,746.5	274.8	127.9	1,204,700	102,800	0.0	0.0	0.0	0.0
Mar-07	1,542.7	236.5	97.4	1,542.7	236.5	97.4	1,212,600	103,100	0.0	0.0	0.0	0.0
Apr-07	1,523.2	263.3	123.3	1,523.2	263.3	123.3	1,212,000	102,000	0.0	0.0	0.0	0.0
May-07	1,640.0	228.3	122.3	1,640.0	228.3	122.3	1,220,800	102,100	0.0	0.0	0.0	0.0
Jun-07	1,757.6	207.0	123.9	1,757.6	207.0	123.9	1,228,900	102,200	0.0	0.0	0.0	0.0
Jul-07	1,634.3	169.5	118.6	1,634.3	169.5	118.6	1,218,500	103,100	0.0	0.0	0.0	0.0
Aug-07	1,739.6	167.8	127.4	1,739.6	167.8	127.4	1,219,600	102,800	0.0	0.0	0.0	0.0
Sep-07	1,768.7	172.0	141.3	1,768.7	172.0	141.3	1,219,600	102,500	0.0	0.0	0.0	0.0
Oct-07	1,739.9	162.9	118.7	1,739.9	162.9	118.7	1,217,800	103,100	0.0	0.0	0.0	0.0
Nov-07	1,599.3	201.1	140.0	1,599.3	201.1	140.0	1,224,000	103,500	0.0	0.0	0.0	0.0
Dec-07	1,421.7	240.6	142.0	1,421.7	240.6	142.0	1,228,300	104,000	0.0	0.0	0.0	0.0
Jan-08	1,726.7	244.4	138.1	1,726.7	244.4	138.1	1,197,800	103,000	0.0	0.0	0.0	0.0
Feb-08	1,629.8	263.2	147.7	1,629.8	263.2	147.7	1,206,800	103,000	0.0	0.0	0.0	0.0
Mar-08	1,576.5	233.0	165.5	1,576.5	233.0	165.5	1,211,900	103,400	0.0	0.0	0.0	0.0
Apr-08	1,578.0	234.3	164.5	1,578.0	234.3	164.5	1,211,800	103,300	0.0	0.0	0.0	0.0
May-08	1,530.6	192.1	166.6	1,530.6	192.1	166.6	1,215,500	103,400	0.0	0.0	0.0	0.0
Jun-08	1,443.4	208.4	171.5	1,443.4	208.4	171.5	1,218,900	103,700	0.0	0.0	0.0	0.0
Jul-08	1,552.3	171.2	169.1	1,552.3	171.2	169.1	1,206,800	103,500	0.0	0.0	0.0	0.0
Aug-08	1,611.5	182.4	172.7	1,611.5	182.4	172.7	1,206,200	103,700	0.0	0.0	0.0	0.0
Sep-08	1,551.3	196.6	170.8	1,551.3	196.6	170.8	1,202,700	103,300	0.0	0.0	0.0	0.0
Oct-08	1,453.5	209.0	150.2	1,453.5	209.0	150.2	1,201,300	103,200	0.0	0.0	0.0	0.0
Nov-08	1,553.0	238.4	145.6	1,553.0	238.4	145.6	1,200,800	102,500	0.0	0.0	0.0	0.0
Dec-08	1,722.6	172.6	124.2	1,722.6	172.6	124.2	1,196,600	101,900	0.0	0.0	0.0	0.0
Jan-09	1,753.0	216.3	117.6	1,753.0	216.3	117.6	1,159,600	101,400	0.0	0.0	0.0	0.0
Feb-09	1,717.4	224.2	123.4	1,717.4	224.2	123.4	1,157,000	100,300	0.0	0.0	0.0	0.0
Mar-09	1,287.6	232.7	149.7	1,287.6	232.7	149.7	1,156,100	99,200	0.0	0.0	0.0	0.0
Apr-09	1,617.9	235.2	143.8	1,617.9	235.2	143.8	1,151,400	97,300	0.0	0.0	0.0	0.0
May-09	1,284.3	274.0	118.7	1,284.3	274.0	118.7	1,154,500	96,100	0.0	0.0	0.0	0.0
Jun-09	1,822.4	181.9	110.2	1,822.4	181.9	110.2	1,154,000	95,600	0.0	0.0	0.0	0.0
Jul-09	1,728.2	176.4	147.9	1,728.2	176.4	147.9	1,130,700	94,200	0.0	0.0	0.0	0.0
Aug-09	1,923.2	174.7	146.0	1,923.2	174.7	146.0	1,131,800	93,700	0.0	0.0	0.0	0.0
Sep-09	1,694.0	204.6	159.0	1,694.0	204.6	159.0	1,127,600	93,200	0.0	0.0	0.0	0.0
Oct-09	2,133.5	204.3	146.9	2,133.5	204.3	146.9	1,139,000	92,500	0.0	0.0	0.0	0.0
Nov-09	3,441.1	198.1	171.5	3,441.1	198.1	171.5	1,144,700	92,200	0.0	0.0	0.0	0.0
Dec-09	3,203.8	214.1	135.5	3,203.8	214.1	135.5	1,145,800	92,300	0.0	0.0	0.0	0.0

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

SD&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 CmcI	DSM IndI.	Cogen	Industrial	
Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial	ECSD	EISD	(MDth)	(MDth)	(MDth)	(MDth)	
Jan-10	1,578.7	223.0	144.0	1,578.7	223.0	144.0	1,116,500	92,600	0.0	0.0	0.0	0.0
Feb-10	1,580.9	220.6	138.3	1,580.9	220.6	138.3	1,120,800	92,500	0.0	0.0	0.0	0.0
Mar-10	1,457.6	206.2	128.2	1,457.6	206.2	128.2	1,125,700	92,900	0.0	0.0	0.0	0.0
Apr-10	1,700.8	207.0	157.0	1,700.8	207.0	157.0	1,138,500	93,900	0.0	0.0	0.0	0.0
May-10	1,462.0	202.3	142.8	1,462.0	202.3	142.8	1,149,700	93,800	0.0	0.0	0.0	0.0
Jun-10	1,325.2	221.2	169.0	1,325.2	221.2	169.0	1,151,400	93,500	0.0	0.0	0.0	0.0
Jul-10	1,350.5	204.3	178.4	1,350.5	204.3	178.4	1,139,200	93,200	0.0	0.0	0.0	0.0
Aug-10	1,424.6	216.1	169.4	1,424.6	216.1	169.4	1,142,000	93,600	0.0	0.0	0.0	0.0
Sep-10	1,497.0	207.9	177.2	1,497.0	207.9	177.2	1,140,700	93,300	0.0	0.0	0.0	0.0
Oct-10	1,345.8	199.5	176.3	1,345.8	199.5	176.3	1,146,600	93,200	0.0	0.0	0.0	0.0
Nov-10	1,392.5	228.3	176.5	1,392.5	228.3	176.5	1,151,100	93,400	0.0	0.0	0.0	0.0
Dec-10	1,364.1	223.0	155.0	1,364.1	223.0	155.0	1,153,800	93,800	0.0	0.0	0.0	0.0
Jan-11	1,514.2	246.1	144.0	1,514.2	246.1	144.0	1,132,500	93,200	0.0	0.0	0.0	0.0
Feb-11	1,518.4	229.5	168.8	1,518.4	229.5	168.8	1,140,900	93,200	0.0	0.0	0.0	0.0
Mar-11	1,340.9	226.4	167.9	1,340.9	226.4	167.9	1,145,000	93,300	0.0	0.0	0.0	0.0
Apr-11	1,559.1	223.0	165.2	1,559.1	223.0	165.2	1,147,500	93,200	0.0	0.0	0.0	0.0
May-11	1,389.4	196.6	152.3	1,389.4	196.6	152.3	1,150,700	93,500	0.0	0.0	0.0	0.0
Jun-11	1,430.9	197.8	175.0	1,430.9	197.8	175.0	1,153,800	94,000	0.0	0.0	0.0	0.0
Jul-11	1,403.5	189.0	179.9	1,403.5	189.0	179.9	1,143,100	93,500	0.0	0.0	0.0	0.0
Aug-11	1,382.0	203.0	186.5	1,382.0	203.0	186.5	1,146,000	93,700	0.0	0.0	0.0	0.0
Sep-11	1,532.9	186.9	190.3	1,532.9	186.9	190.3	1,149,600	93,900	0.0	0.0	0.0	0.0
Oct-11	1,356.7	186.4	169.1	1,356.7	186.4	169.1	1,155,500	93,600	0.0	0.0	0.0	0.0
Nov-11	1,181.2	235.3	176.8	1,181.2	235.3	176.8	1,164,800	93,600	0.0	0.0	0.0	0.0
Dec-11	1,437.1	205.2	143.1	1,437.1	205.2	143.1	1,166,100	94,000	0.0	0.0	0.0	0.0
Jan-12	1,653.7	211.5	178.1	1,653.7	211.5	178.1	1,143,300	92,900	0.0	0.0	0.0	0.0
Feb-12	1,465.8	199.7	191.4	1,465.8	199.7	191.4	1,152,100	93,100	0.0	0.0	0.0	0.0
Mar-12	1,563.5	216.2	193.5	1,563.5	216.2	193.5	1,159,200	93,200	0.0	0.0	0.0	0.0
Apr-12	1,406.6	194.9	192.6	1,406.6	194.9	192.6	1,169,300	93,600	0.0	0.0	0.0	0.0
May-12	1,450.1	193.8	204.5	1,450.1	193.8	204.5	1,178,700	93,800	0.0	0.0	0.0	0.0
Jun-12	1,424.4	181.4	184.8	1,424.4	181.4	184.8	1,186,600	94,000	0.0	0.0	0.0	0.0
Jul-12	1,444.8	183.3	201.1	1,444.8	183.3	201.1	1,172,700	94,500	0.0	0.0	0.0	0.0
Aug-12	1,544.6	170.2	213.0	1,544.6	170.2	213.0	1,178,300	94,700	0.0	0.0	0.0	0.0
Sep-12	1,606.9	153.4	187.7	1,606.9	153.4	187.7	1,177,900	94,300	0.0	0.0	0.0	0.0
Oct-12	1,397.9	207.1	195.8	1,397.9	207.1	195.8	1,187,800	94,300	0.0	0.0	0.0	0.0
Nov-12	1,100.8	246.2	175.4	1,100.8	246.2	175.4	1,196,800	93,900	0.0	0.0	0.0	0.0
Dec-12	1,482.3	231.9	144.1	1,482.3	231.9	144.1	1,194,700	93,800	0.0	0.0	0.0	0.0
Jan-13	1,479.4	261.6	180.2	1,479.4	261.6	180.2	1,173,200	92,900	0.0	0.0	0.0	0.0
Feb-13	1,365.1	222.7	174.0	1,365.1	222.7	174.0	1,181,900	94,400	0.0	0.0	0.0	0.0
Mar-13	1,544.7	205.1	189.7	1,544.7	205.1	189.7	1,191,000	93,800	0.0	0.0	0.0	0.0
Apr-13	1,306.5	210.2	199.8	1,306.5	210.2	199.8	1,192,600	93,800	0.0	0.0	0.0	0.0
May-13	1,592.2	165.6	181.8	1,592.2	165.6	181.8	1,198,600	93,700	0.0	0.0	0.0	0.0
Jun-13	1,553.4	144.9	195.6	1,553.4	144.9	195.6	1,205,600	92,300	0.0	0.0	0.0	0.0
Jul-13	1,610.0	138.9	182.3	1,610.0	138.9	182.3	1,192,900	92,000	0.0	0.0	0.0	0.0
Aug-13	1,608.5	140.7	195.8	1,608.5	140.7	195.8	1,195,500	92,000	0.0	0.0	0.0	0.0
Sep-13	1,583.8	149.1	126.8	1,583.8	149.1	126.8	1,202,000	92,600	0.0	0.0	0.0	0.0
Oct-13	1,402.5	158.8	202.2	1,402.5	158.8	202.2	1,213,400	92,100	0.0	0.0	0.0	0.0
Nov-13	1,392.2	198.8	183.2	1,392.2	198.8	183.2	1,219,700	92,100	0.0	0.0	0.0	0.0
Dec-13	1,537.6	188.9	150.5	1,537.6	188.9	150.5	1,219,600	92,200	0.0	0.0	0.0	0.0
Jan-14	1,470.5	194.5	158.3	1,480.3	194.7	160.7	1,199,780	91,205	-0.2	-1.7	-9.8	-0.7
Feb-14	1,486.3	202.2	156.2	1,496.2	202.4	158.6	1,208,884	93,146	-0.2	-1.7	-9.9	-0.7
Mar-14	1,478.7	207.8	157.3	1,488.6	208.0	159.8	1,218,599	93,022	-0.2	-1.7	-9.8	-0.7
Apr-14	1,480.3	210.8	156.5	1,490.1	211.0	159.0	1,221,258	93,246	-0.2	-1.7	-9.9	-0.7
May-14	1,489.3	213.5	157.4	1,499.2	213.7	159.8	1,227,317	93,862	-0.2	-1.7	-9.9	-0.7
Jun-14	1,478.0	215.8	155.7	1,487.9	216.0	158.2	1,234,297	93,169	-0.2	-1.7	-9.8	-0.7
Jul-14	1,496.1	214.3	157.3	1,506.1	214.5	159.7	1,221,948	94,317	-0.2	-1.7	-10.0	-0.7
Aug-14	1,495.8	215.1	156.9	1,505.8	215.3	159.3	1,223,664	94,297	-0.2	-1.7	-10.0	-0.7
Sep-14	1,505.2	216.4	157.5	1,515.2	216.6	160.0	1,229,514	94,892	-0.2	-1.7	-10.0	-0.7
Oct-14	1,497.9	218.2	156.5	1,507.9	218.3	158.9	1,238,353	94,434	-0.2	-1.7	-10.0	-0.7
Nov-14	1,496.5	219.6	156.0	1,506.4	219.8	158.5	1,245,715	94,340	-0.2	-1.7	-10.0	-0.7
Dec-14	1,496.6	219.8	155.8	1,506.6	220.0	158.2	1,246,630	94,349	-0.2	-1.7	-10.0	-0.7
Jan-15	1,482.3	216.2	152.1	1,491.6	216.7	156.5	1,227,365	93,413	-0.4	-3.7	-9.3	-0.7
Feb-15	1,509.6	218.1	154.7	1,519.0	218.5	159.0	1,237,506	95,128	-0.4	-3.7	-9.4	-0.7
Mar-15	1,503.2	220.0	153.8	1,512.6	220.4	158.2	1,248,352	94,729	-0.4	-3.7	-9.4	-0.7
Apr-15	1,502.7	220.7	153.6	1,512.1	221.1	157.9	1,252,313	94,699	-0.4	-3.7	-9.4	-0.7
May-15	1,508.2	221.9	153.9	1,517.6	222.3	158.3	1,259,082	95,043	-0.4	-3.7	-9.4	-0.7
Jun-15	1,492.7	223.3	152.2	1,502.0	223.7	156.5	1,266,874	94,064	-0.4	-3.7	-9.3	-0.7
Jul-15	1,500.6	221.4	152.8	1,509.9	221.8	157.2	1,255,880	94,561	-0.4	-3.7	-9.4	-0.7
Aug-15	1,501.9	221.6	152.8	1,511.3	222.0	157.2	1,257,342	94,648	-0.4	-3.7	-9.4	-0.7
Sep-15	1,513.1	222.7	153.8	1,522.6	223.1	158.2	1,263,364	95,353	-0.4	-3.7	-9.5	-0.7
Oct-15	1,509.1	224.3	153.3	1,518.5	224.7	157.6	1,272,543	95,098	-0.4	-3.7	-9.4	-0.7
Nov-15	1,507.7	225.6	153.0	1,517.2	226.0	157.4	1,279,623	95,013	-0.4	-3.7	-9.4	-0.7
Dec-15	1,508.0	225.7	152.9	1,517.5	226.1	157.3	1,280,334	95,031	-0.4	-3.7	-9.4	-0.7
Jan-16	1,492.8	221.9	149.3	1,502.7	222.5	155.7	1,260,004	94,108	-0.6	-5.6	-9.9	-0.7
Feb-16	1,520.2	223.7	152.0	1,530.3	224.4	158.4	1,270,463	95,836	-0.6	-5.6	-10.1	-0.7
Mar-16	1,513.8	225.7	151.3	1,523.9	226.3	157.6	1,281,438	95,434	-0.6	-5.6	-10.1	-0.7
Apr-16	1,513.7	226.4	151.2	1,523.8	227.0	157.5	1,285,411	95,427	-0.6	-5.6	-10.1	-0.7
May-16	1,518.8	227.6	151.6	1,528.9	228.2	158.0	1,292,101	95,749	-0.6	-5.6	-10.1	-0.7
Jun-16	1,502.8	229.0	149.9	1,512.8	229.6	156.2	1,300,054	94,739	-0.6	-5.6	-10.0	-0.7
Jul-16	1,510.7	227.0	150.6	1,520.7	227.7	157.0	1,289,098	95,237	-0.6	-5.6	-10.1	-0.7
Aug-16	1,511.4	227.2	150.6	1,521.4	227.8	157.0	1,290,077	95,280	-0.6	-5.6	-10.1	-0.7
Sep-16	1,521.9	228.3	151.7	1,532.1	228.9	158.0	1,296,277	95,946	-0.6	-5.6	-10.1	-0.7
Oct-16	1,516.4	230.0	151.0	1,526.5	230.6	157.4	1,305,689	95,595	-0.6	-5.6	-10.1	-0.7
Nov-16	1,515.1	231.2	150.8	1,525.2	231.8	157.2	1,312,559	95,516	-0.6	-5.6	-10.1	-0.7
Dec-16	1,515.5	231.3	150.8	1,525.6	231.9	157.2	1,313,043	95,540	-0.6	-5.6	-10.1	-0.7
Jan-17	1,500.0	227.3	147.2	1,510.3	228.2	155.6	1,291,953	94,582	-0.8	-7.6	-10.3	-0.7
Feb-17	1,528.2	229.1	150.1	1,538.7	230.0	158.4	1,302,331	96,362	-0.8	-7.6	-10.5	-0.8
Mar-17	1,522.5	231.1	149.5	1,532.9	231.9	157.8	1,313,126	96,001	-0.8	-7.6	-10.4	-0.8

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

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)	
Apr-17	1,523.6	231.7	149.6	1,534.1	232.6	157.9	1,317,051	96,071	-0.8	-7.6	-10.4	-0.8
May-17	1,528.9	232.8	150.1	1,539.4	233.7	158.4	1,323,110	96,405	-0.8	-7.6	-10.5	-0.8
Jun-17	1,513.0	234.1	148.4	1,523.3	235.0	156.7	1,330,556	95,398	-0.8	-7.6	-10.4	-0.7
Jul-17	1,520.9	232.0	149.2	1,531.3	232.9	157.5	1,318,752	95,899	-0.8	-7.6	-10.4	-0.7
Aug-17	1,521.9	232.1	149.2	1,532.3	232.9	157.6	1,318,833	95,962	-0.8	-7.6	-10.4	-0.7
Sep-17	1,532.9	233.1	150.3	1,543.3	233.9	158.7	1,324,620	96,653	-0.8	-7.6	-10.5	-0.8
Oct-17	1,527.9	234.7	149.8	1,538.4	235.5	158.2	1,333,594	96,343	-0.8	-7.6	-10.5	-0.8
Nov-17	1,526.6	235.8	149.7	1,537.1	236.6	158.0	1,339,849	96,259	-0.8	-7.6	-10.4	-0.8
Dec-17	1,526.9	235.7	149.7	1,537.4	236.6	158.0	1,339,612	96,280	-0.8	-7.6	-10.5	-0.8
Jan-18	1,510.6	231.6	146.0	1,521.4	232.6	156.3	1,317,343	95,280	-1.1	-9.5	-10.8	-0.8
Feb-18	1,539.4	233.3	149.0	1,550.5	234.4	159.3	1,327,206	97,100	-1.1	-9.5	-11.0	-0.8
Mar-18	1,534.1	235.1	148.4	1,545.1	236.2	158.7	1,337,468	96,763	-1.1	-9.5	-11.0	-0.8
Apr-18	1,535.6	235.7	148.5	1,546.6	236.7	158.9	1,340,476	96,857	-1.1	-9.5	-11.0	-0.8
May-18	1,541.4	236.6	149.1	1,552.5	237.7	159.5	1,346,004	97,223	-1.1	-9.5	-11.1	-0.8
Jun-18	1,525.8	237.9	147.5	1,536.7	238.9	157.8	1,352,934	96,237	-1.1	-9.5	-10.9	-0.8
Jul-18	1,534.2	235.6	148.4	1,545.2	236.7	158.7	1,340,356	96,771	-1.1	-9.5	-11.0	-0.8
Aug-18	1,535.7	235.5	148.5	1,546.7	236.6	158.8	1,339,649	96,865	-1.1	-9.5	-11.0	-0.8
Sep-18	1,547.2	236.4	149.7	1,558.3	237.5	160.0	1,344,882	97,592	-1.1	-9.5	-11.1	-0.8
Oct-18	1,544.0	237.9	149.3	1,555.1	238.9	159.7	1,352,874	97,386	-1.1	-9.5	-11.1	-0.8
Nov-18	1,541.9	238.9	149.1	1,552.9	240.0	159.4	1,358,840	97,254	-1.1	-9.5	-11.1	-0.8
Dec-18	1,541.5	238.8	149.0	1,552.5	239.9	159.4	1,358,217	97,227	-1.1	-9.5	-11.1	-0.8
Jan-19	1,525.0	234.5	145.4	1,536.0	235.8	157.7	1,335,240	96,191	-1.3	-11.5	-11.0	-0.8
Feb-19	1,553.0	236.2	148.3	1,564.2	237.5	160.6	1,344,959	97,959	-1.3	-11.5	-11.2	-0.8
Mar-19	1,546.5	238.0	147.6	1,557.7	239.3	159.9	1,355,036	97,551	-1.3	-11.5	-11.2	-0.8
Apr-19	1,547.1	238.5	147.6	1,558.3	239.8	159.9	1,357,713	97,588	-1.3	-11.5	-11.2	-0.8
May-19	1,551.7	239.4	148.1	1,562.9	240.7	160.4	1,362,929	97,879	-1.3	-11.5	-11.2	-0.8
Jun-19	1,534.8	240.6	146.4	1,545.8	241.9	158.7	1,369,487	96,809	-1.3	-11.5	-11.1	-0.8
Jul-19	1,541.9	238.2	147.1	1,553.0	239.5	159.4	1,356,144	97,259	-1.3	-11.5	-11.1	-0.8
Aug-19	1,542.3	238.0	147.1	1,553.5	239.3	159.4	1,355,093	97,287	-1.3	-11.5	-11.1	-0.8
Sep-19	1,552.8	238.9	148.2	1,564.0	240.2	160.5	1,360,187	97,949	-1.3	-11.5	-11.2	-0.8
Oct-19	1,547.4	240.3	147.6	1,558.6	241.6	159.9	1,367,989	97,607	-1.3	-11.5	-11.2	-0.8
Nov-19	1,545.3	241.3	147.4	1,556.5	242.6	159.7	1,373,765	97,475	-1.3	-11.5	-11.2	-0.8
Dec-19	1,544.9	241.2	147.4	1,556.0	242.5	159.7	1,372,941	97,448	-1.3	-11.5	-11.2	-0.8
Jan-20	1,528.9	236.7	143.7	1,539.7	238.1	158.0	1,348,511	96,422	-1.5	-13.5	-10.8	-0.8
Feb-20	1,556.8	238.5	146.6	1,567.8	240.0	160.9	1,359,231	98,182	-1.5	-13.5	-11.0	-0.8
Mar-20	1,550.1	240.5	145.9	1,561.0	242.0	160.2	1,370,338	97,760	-1.5	-13.5	-10.9	-0.8
Apr-20	1,550.7	241.5	146.0	1,561.6	243.0	160.2	1,375,758	97,796	-1.5	-13.5	-10.9	-0.8
May-20	1,554.9	242.2	146.4	1,565.8	243.7	160.7	1,380,074	98,061	-1.5	-13.5	-10.9	-0.8
Jun-20	1,537.5	243.2	144.6	1,548.3	244.7	158.9	1,385,748	96,962	-1.5	-13.5	-10.8	-0.8
Jul-20	1,544.2	240.6	145.3	1,555.1	242.1	159.5	1,370,960	97,390	-1.5	-13.5	-10.9	-0.8
Aug-20	1,544.2	240.3	145.3	1,555.1	241.8	159.5	1,369,182	97,387	-1.5	-13.5	-10.9	-0.8
Sep-20	1,554.2	241.1	146.3	1,565.2	242.6	160.6	1,373,711	98,019	-1.5	-13.5	-10.9	-0.8
Oct-20	1,548.3	242.3	145.7	1,559.2	243.8	160.0	1,380,601	97,644	-1.5	-13.5	-10.9	-0.8
Nov-20	1,545.7	243.3	145.5	1,556.6	244.8	159.7	1,386,103	97,485	-1.5	-13.5	-10.9	-0.8
Dec-20	1,544.9	243.1	145.4	1,555.8	244.6	159.6	1,385,007	97,431	-1.5	-13.5	-10.9	-0.8
Jan-21	1,527.2	238.7	141.6	1,538.9	240.4	157.9	1,361,365	96,376	-1.7	-15.4	-11.8	-0.9
Feb-21	1,554.6	240.4	144.4	1,566.6	242.1	160.7	1,370,797	98,111	-1.7	-15.4	-12.0	-0.9
Mar-21	1,547.6	242.1	143.7	1,559.5	243.8	160.0	1,380,603	97,666	-1.7	-15.4	-11.9	-0.9
Apr-21	1,547.3	242.5	143.7	1,559.2	244.2	159.9	1,382,687	97,645	-1.7	-15.4	-11.9	-0.9
May-21	1,551.6	243.3	144.1	1,563.6	245.0	160.4	1,387,528	97,920	-1.7	-15.4	-12.0	-0.9
Jun-21	1,534.4	244.4	142.3	1,546.2	246.1	158.6	1,393,691	96,833	-1.7	-15.4	-11.8	-0.9
Jul-21	1,541.5	241.9	143.1	1,553.4	243.6	159.4	1,379,470	97,283	-1.7	-15.4	-11.9	-0.9
Aug-21	1,541.4	241.6	143.1	1,553.3	243.4	159.3	1,378,017	97,277	-1.7	-15.4	-11.9	-0.9
Sep-21	1,551.4	242.5	144.1	1,563.3	244.2	160.4	1,382,932	97,905	-1.7	-15.4	-12.0	-0.9
Oct-21	1,545.7	243.8	143.5	1,557.6	245.6	159.8	1,390,466	97,543	-1.7	-15.4	-11.9	-0.9
Nov-21	1,542.8	244.8	143.2	1,554.7	246.5	159.5	1,396,036	97,364	-1.7	-15.4	-11.9	-0.9
Dec-21	1,541.7	244.6	143.1	1,553.5	246.4	159.4	1,395,018	97,291	-1.7	-15.4	-11.9	-0.9
Jan-22	1,523.4	240.3	139.3	1,536.5	242.2	157.6	1,371,432	96,224	-1.9	-17.4	-13.1	-0.9
Feb-22	1,550.4	242.0	142.1	1,563.7	243.9	160.4	1,381,023	97,929	-1.9	-17.4	-13.3	-1.0
Mar-22	1,542.9	243.7	141.3	1,556.2	245.6	159.6	1,390,949	97,458	-1.9	-17.4	-13.3	-1.0
Apr-22	1,541.9	244.1	141.2	1,555.1	246.0	159.5	1,392,997	97,390	-1.9	-17.4	-13.3	-1.0
May-22	1,546.1	244.9	141.6	1,559.4	246.9	160.0	1,397,942	97,657	-1.9	-17.4	-13.3	-1.0
Jun-22	1,528.8	246.1	139.9	1,542.0	248.0	158.2	1,404,210	96,566	-1.9	-17.4	-13.2	-1.0
Jul-22	1,535.5	243.5	140.5	1,548.7	245.5	158.9	1,389,984	96,989	-1.9	-17.4	-13.2	-1.0
Aug-22	1,535.6	243.3	140.6	1,548.8	245.2	158.9	1,388,543	96,996	-1.9	-17.4	-13.2	-1.0
Sep-22	1,545.7	244.2	141.6	1,559.0	246.1	159.9	1,393,538	97,636	-1.9	-17.4	-13.3	-1.0
Oct-22	1,540.2	245.5	141.0	1,553.4	247.5	159.3	1,401,225	97,285	-1.9	-17.4	-13.2	-1.0
Nov-22	1,537.6	246.5	140.8	1,550.9	248.4	159.1	1,406,750	97,123	-1.9	-17.4	-13.2	-1.0
Dec-22	1,536.7	246.3	140.7	1,549.9	248.3	159.0	1,405,752	97,066	-1.9	-17.4	-13.2	-1.0
Jan-23	1,519.3	241.9	136.9	1,533.1	244.1	157.3	1,382,184	96,012	-2.1	-19.3	-13.8	-1.0
Feb-23	1,546.6	243.7	139.7	1,560.7	245.8	160.1	1,391,877	97,737	-2.1	-19.3	-14.0	-1.0
Mar-23	1,539.6	245.4	139.0	1,553.5	247.6	159.4	1,401,837	97,290	-2.1	-19.3	-14.0	-1.0
Apr-23	1,539.0	245.7	139.0	1,553.0	247.9	159.3	1,403,639	97,256	-2.1	-19.3	-14.0	-1.0
May-23	1,543.4	246.6	139.4	1,557.4	248.8	159.8	1,408,732	97,536	-2.1	-19.3	-14.0	-1.0
Jun-23	1,526.4	247.8	137.7	1,540.3	249.9	158.0	1,415,134	96,460	-2.1	-19.3	-13.8	-1.0
Jul-23	1,533.5	245.3	138.4	1,547.4	247.4	158.7	1,401,013	96,908	-2.1	-19.3	-13.9	-1.0
Aug-23	1,533.6	245.0	138.4	1,547.5	247.2	158.7	1,399,556	96,915	-2.1	-19.3	-13.9	-1.0
Sep-23	1,543.7	245.9	139.4	1,557.7	248.1	159.8	1,404,610	97,555	-2.1	-19.3	-14.0	-1.0
Oct-23	1,537.9	247.3	138.8	1,551.8	249.4	159.2	1,412,430	97,185	-2.1	-19.3	-13.9	-1.0
Nov-23	1,535.6	248.3	138.6	1,549.6	250.4	158.9	1,417,921	97,043	-2.1	-19.3	-13.9	-1.0
Dec-23	1,535.1	248.1	138.6	1,549.0	250.2	158.9	1,416,910	97,006	-2.1	-19.3	-13.9	-1.0
Jan-24	1,517.7	243.9	136.6	1,532.6	246.0	157.2	1,393,182	95,982	-2.2	-19.6	-14.9	-1.1
Feb-24	1,545.2	245.6	139.4	1,560.3	247.8	160.0	1,403,044	97,717	-2.2	-19.6	-15.2	-1.1
Mar-24	1,538.3	247.4	138.7	1,553.4	249.6	159.3	1,413,165	97,280	-2.2	-19.6	-15.1	-1.1
Apr-24	1,537.9	247.7	138.6	1,553.0	249.9	159.3	1,415,161	97,256	-2.2	-19.6	-15.1	-1.1
May-24	1,542.5	248.6	139.1	1,557.6	250.8	159.8	1,420,214	97,546	-2.2	-19.6	-15.1	-1.1
Jun-24	1,525.6	249.8	137.4	1,540.6	251.9	158.0	1,426,636	96,480	-2.2	-19.6	-15.0	-1.1

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

SD&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)	
Jul-24	1,532.9	247.2	138.1	1,548.0	249.4	158.8	1,412,324	96,942	-2.2	-19.6	-15.0	-1.1
Aug-24	1,533.1	247.0	138.2	1,548.2	249.2	158.8	1,410,903	96,956	-2.2	-19.6	-15.0	-1.1
Sep-24	1,543.4	247.9	139.2	1,558.5	250.1	159.9	1,416,076	97,602	-2.2	-19.6	-15.1	-1.1
Oct-24	1,538.4	249.3	138.7	1,553.5	251.5	159.3	1,423,921	97,289	-2.2	-19.6	-15.1	-1.1
Nov-24	1,535.5	250.3	138.4	1,550.5	252.5	159.0	1,429,630	97,103	-2.2	-19.6	-15.1	-1.1
Dec-24	1,534.2	250.2	138.3	1,549.3	252.3	158.9	1,428,832	97,023	-2.2	-19.6	-15.1	-1.1
Jan-25	1,515.9	246.0	136.4	1,532.1	248.2	157.2	1,405,199	95,949	-2.2	-19.6	-16.2	-1.2
Feb-25	1,542.7	247.8	139.2	1,559.2	250.0	159.9	1,415,414	97,646	-2.2	-19.6	-16.5	-1.2
Mar-25	1,535.3	249.6	138.4	1,551.6	251.8	159.2	1,425,853	97,172	-2.2	-19.6	-16.4	-1.2
Apr-25	1,534.5	250.0	138.3	1,550.9	252.2	159.1	1,428,046	97,125	-2.2	-19.6	-16.4	-1.2
May-25	1,538.3	251.0	138.7	1,554.7	253.1	159.5	1,433,382	97,364	-2.2	-19.6	-16.4	-1.2
Jun-25	1,520.7	252.1	136.9	1,536.9	254.3	157.6	1,440,112	96,250	-2.2	-19.6	-16.2	-1.2
Jul-25	1,526.9	249.7	137.6	1,543.2	251.8	158.3	1,426,043	96,644	-2.2	-19.6	-16.3	-1.2
Aug-25	1,526.6	249.4	137.5	1,542.9	251.6	158.3	1,424,706	96,625	-2.2	-19.6	-16.3	-1.2
Sep-25	1,536.3	250.4	138.5	1,552.6	252.6	159.3	1,430,123	97,235	-2.2	-19.6	-16.4	-1.2
Oct-25	1,530.2	251.9	137.9	1,546.5	254.0	158.6	1,438,422	96,849	-2.2	-19.6	-16.3	-1.2
Nov-25	1,527.3	252.9	137.6	1,543.6	255.0	158.3	1,444,159	96,671	-2.2	-19.6	-16.3	-1.2
Dec-25	1,526.2	252.7	137.5	1,542.5	254.9	158.2	1,443,386	96,598	-2.2	-19.6	-16.3	-1.2
Jan-26	1,508.1	248.5	135.7	1,525.4	250.7	156.5	1,419,551	95,529	-2.2	-19.6	-17.3	-1.3
Feb-26	1,535.0	250.4	138.4	1,552.6	252.5	159.3	1,429,955	97,231	-2.2	-19.6	-17.6	-1.3
Mar-26	1,527.7	252.2	137.7	1,545.3	254.4	158.5	1,440,549	96,773	-2.2	-19.6	-17.5	-1.3
Apr-26	1,527.2	252.6	137.6	1,544.7	254.8	158.4	1,442,819	96,736	-2.2	-19.6	-17.5	-1.3
May-26	1,531.2	253.6	138.0	1,548.7	255.8	158.9	1,448,204	96,991	-2.2	-19.6	-17.6	-1.3
Jun-26	1,513.9	254.8	136.3	1,531.3	257.0	157.1	1,455,009	95,897	-2.2	-19.6	-17.4	-1.3
Jul-26	1,520.3	252.3	136.9	1,537.8	254.4	157.7	1,440,720	96,303	-2.2	-19.6	-17.4	-1.3
Aug-26	1,520.3	252.0	136.9	1,537.8	254.2	157.7	1,439,494	96,304	-2.2	-19.6	-17.4	-1.3
Sep-26	1,530.3	253.0	137.9	1,547.8	255.2	158.8	1,445,132	96,932	-2.2	-19.6	-17.5	-1.3
Oct-26	1,525.3	254.6	137.4	1,542.8	256.7	158.2	1,453,725	96,618	-2.2	-19.6	-17.5	-1.3
Nov-26	1,522.0	255.6	137.1	1,539.5	257.8	157.9	1,459,594	96,410	-2.2	-19.6	-17.5	-1.3
Dec-26	1,520.4	255.5	136.9	1,537.8	257.6	157.7	1,458,905	96,307	-2.2	-19.6	-17.4	-1.3
Jan-27	1,501.7	251.2	135.0	1,520.3	253.4	155.9	1,434,925	95,207	-2.2	-19.6	-18.5	-1.3
Feb-27	1,528.1	253.1	137.7	1,546.9	255.3	158.7	1,445,569	96,877	-2.2	-19.6	-18.9	-1.4
Mar-27	1,520.5	255.0	137.0	1,539.2	257.2	157.9	1,456,354	96,394	-2.2	-19.6	-18.8	-1.4
Apr-27	1,519.4	255.4	136.9	1,538.2	257.6	157.8	1,458,779	96,330	-2.2	-19.6	-18.7	-1.4
May-27	1,523.0	256.4	137.2	1,541.8	258.6	158.1	1,464,197	96,557	-2.2	-19.6	-18.8	-1.4
Jun-27	1,505.4	257.6	135.4	1,524.0	259.8	156.3	1,471,049	95,442	-2.2	-19.6	-18.6	-1.3
Jul-27	1,511.4	255.1	136.0	1,530.0	257.2	156.9	1,456,637	95,818	-2.2	-19.6	-18.6	-1.4
Aug-27	1,511.0	254.8	136.0	1,529.6	257.0	156.9	1,455,314	95,792	-2.2	-19.6	-18.6	-1.4
Sep-27	1,520.4	255.8	137.0	1,539.2	258.0	157.9	1,461,014	96,390	-2.2	-19.6	-18.8	-1.4
Oct-27	1,514.5	257.4	136.3	1,533.1	259.5	157.3	1,469,686	96,014	-2.2	-19.6	-18.7	-1.4
Nov-27	1,511.4	258.4	136.0	1,530.0	260.6	156.9	1,475,584	95,817	-2.2	-19.6	-18.6	-1.4
Dec-27	1,509.9	258.3	135.9	1,528.5	260.5	156.8	1,474,873	95,724	-2.2	-19.6	-18.6	-1.4
Jan-28	1,491.8	254.0	134.1	1,511.4	256.2	155.0	1,450,503	94,651	-2.2	-19.6	-19.6	-1.4
Feb-28	1,518.0	255.9	136.7	1,537.9	258.1	157.7	1,461,398	96,311	-2.2	-19.6	-19.9	-1.4
Mar-28	1,510.4	257.9	136.0	1,530.2	260.0	157.0	1,472,408	95,830	-2.2	-19.6	-19.8	-1.4
Apr-28	1,509.5	258.3	135.9	1,529.3	260.5	156.9	1,475,039	95,773	-2.2	-19.6	-19.8	-1.4
May-28	1,512.9	259.3	136.2	1,532.8	261.5	157.2	1,480,480	95,992	-2.2	-19.6	-19.8	-1.4
Jun-28	1,495.4	260.5	134.4	1,515.0	262.7	155.4	1,487,391	94,876	-2.2	-19.6	-19.6	-1.4
Jul-28	1,501.1	257.9	135.0	1,520.8	260.1	156.0	1,472,740	95,243	-2.2	-19.6	-19.7	-1.4
Aug-28	1,500.6	257.7	135.0	1,520.3	259.9	155.9	1,471,483	95,210	-2.2	-19.6	-19.7	-1.4
Sep-28	1,509.9	258.7	135.9	1,529.7	260.9	156.9	1,477,349	95,798	-2.2	-19.6	-19.8	-1.4
Oct-28	1,503.9	260.3	135.3	1,523.6	262.5	156.3	1,486,310	95,417	-2.2	-19.6	-19.7	-1.4
Nov-28	1,500.7	261.4	135.0	1,520.4	263.5	155.9	1,492,252	95,214	-2.2	-19.6	-19.7	-1.4
Dec-28	1,499.1	261.2	134.8	1,518.8	263.4	155.8	1,491,526	95,115	-2.2	-19.6	-19.7	-1.4
Jan-29	1,481.1	256.9	133.0	1,501.5	259.1	154.0	1,466,971	94,032	-2.2	-19.6	-20.4	-1.5
Feb-29	1,507.2	258.8	135.7	1,527.9	261.0	156.7	1,477,912	95,684	-2.2	-19.6	-20.7	-1.5
Mar-29	1,499.7	260.8	134.9	1,520.3	262.9	155.9	1,488,945	95,209	-2.2	-19.6	-20.6	-1.5
Apr-29	1,498.8	261.2	134.8	1,519.4	263.4	155.8	1,491,549	95,152	-2.2	-19.6	-20.6	-1.5
May-29	1,502.3	262.2	135.2	1,523.0	264.3	156.2	1,496,824	95,376	-2.2	-19.6	-20.6	-1.5
Jun-29	1,484.9	263.4	133.4	1,505.4	265.5	154.4	1,503,617	94,273	-2.2	-19.6	-20.4	-1.5
Jul-29	1,490.8	260.7	134.0	1,511.3	262.9	155.0	1,488,501	94,648	-2.2	-19.6	-20.5	-1.5
Aug-29	1,490.4	260.5	133.9	1,510.9	262.6	155.0	1,487,209	94,618	-2.2	-19.6	-20.5	-1.5
Sep-29	1,499.6	261.5	134.9	1,520.2	263.7	155.9	1,493,114	95,205	-2.2	-19.6	-20.6	-1.5
Oct-29	1,493.8	263.1	134.3	1,514.3	265.3	155.3	1,502,042	94,833	-2.2	-19.6	-20.5	-1.5
Nov-29	1,490.6	264.1	134.0	1,511.1	266.3	155.0	1,508,065	94,632	-2.2	-19.6	-20.5	-1.5
Dec-29	1,489.0	264.0	133.8	1,509.5	266.2	154.8	1,507,386	94,533	-2.2	-19.6	-20.5	-1.5
Jan-30	1,471.4	259.5	132.0	1,492.6	261.6	153.1	1,481,586	93,476	-2.2	-19.6	-21.3	-1.5
Feb-30	1,496.9	261.6	134.6	1,518.5	263.8	155.8	1,493,778	95,098	-2.2	-19.6	-21.6	-1.6
Mar-30	1,489.1	263.8	133.8	1,510.7	266.0	155.0	1,506,027	94,605	-2.2	-19.6	-21.5	-1.6
Apr-30	1,487.3	264.7	133.6	1,508.8	266.9	154.8	1,511,437	94,491	-2.2	-19.6	-21.5	-1.6
May-30	1,491.1	265.6	134.0	1,512.6	267.7	155.2	1,516,111	94,730	-2.2	-19.6	-21.5	-1.6
Jun-30	1,474.1	266.7	132.3	1,495.4	268.9	153.4	1,522,407	93,651	-2.2	-19.6	-21.3	-1.5
Jul-30	1,480.2	263.9	132.9	1,501.6	266.0	154.0	1,506,499	94,040	-2.2	-19.6	-21.4	-1.6
Aug-30	1,480.0	263.5	132.9	1,501.4	265.7	154.0	1,504,600	94,026	-2.2	-19.6	-21.4	-1.6
Sep-30	1,489.5	264.5	133.9	1,511.0	266.7	155.0	1,510,027	94,626	-2.2	-19.6	-21.5	-1.6
Oct-30	1,484.1	265.9	133.3	1,505.6	268.1	154.4	1,518,129	94,287	-2.2	-19.6	-21.4	-1.6
Nov-30	1,481.0	267.0	133.0	1,502.4	269.1	154.1	1,523,936	94,089	-2.2	-19.6	-21.4	-1.6
Dec-30	1,479.5	266.8	132.8	1,500.9	269.0	153.9	1,523,136	93,994	-2.2	-19.6	-21.4	-1.6
Jan-31	1,461.6	262.4	131.0	1,483.7	264.5	152.2	1,497,963	92,917	-2.2	-19.6	-22.1	-1.6
Feb-31	1,487.5	264.3	133.7	1,510.0	266.5	154.9	1,509,085	94,562	-2.2	-19.6	-22.5	-1.6
Mar-31	1,480.3	266.3	133.0	1,502.7	268.5	154.1	1,520,212	94,105	-2.2	-19.6	-22.4	-1.6
Apr-31	1,479.7	266.7	132.9	1,502.1	268.9	154.1	1,522,558	94,068	-2.2	-19.6	-22.4	-1.6
May-31	1,483.3	267.6	133.3	1,505.7	269.8	154.4	1,527,824	94,296	-2.2	-19.6	-22.4	-1.6
Jun-31	1,466.3	268.9	131.5	1,488.4	271.0	152.7	1,534,727	93,212	-2.2	-19.6	-22.1	-1.6
Jul-31	1,472.1	266.2	132.1	1,494.3	268.4	153.3	1,519,635	93,581	-2.2	-19.6	-22.2	-1.6
Aug-31	1,471.8	265.9	132.1	1,494.0	268.1	153.2	1,518,006	93,565	-2.2	-19.6	-22.2	-1.6
Sep-31	1,481.1	266.9	133.0	1,503.5	269.1	154.2	1,523,799	94,158	-2.2	-19.6	-22.4	-1.6

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

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 CmcI	DSM IndI.	Cogen	Industrial	
Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial	ECSD	EISD	(MDth)	(MDth)	(MDth)	(MDth)	
Oct-31	1,475.6	268.5	132.5	1,497.9	270.7	153.6	1,532,652	93,804	-2.2	-19.6	-22.3	-1.6
Nov-31	1,472.6	269.5	132.2	1,494.9	271.7	153.3	1,538,489	93,617	-2.2	-19.6	-22.2	-1.6
Dec-31	1,471.3	269.4	132.0	1,493.5	271.5	153.2	1,537,555	93,532	-2.2	-19.6	-22.2	-1.6
Jan-32	1,453.8	264.8	130.3	1,476.8	267.0	151.5	1,511,952	92,483	-2.2	-19.6	-22.9	-1.7
Feb-32	1,479.5	266.8	132.9	1,502.9	269.0	154.2	1,523,272	94,117	-2.2	-19.6	-23.4	-1.7
Mar-32	1,472.3	268.8	132.2	1,495.5	271.0	153.4	1,534,602	93,659	-2.2	-19.6	-23.2	-1.7
Apr-32	1,471.5	269.3	132.1	1,494.7	271.4	153.3	1,537,074	93,609	-2.2	-19.6	-23.2	-1.7
May-32	1,475.2	270.2	132.5	1,498.5	272.4	153.7	1,542,396	93,841	-2.2	-19.6	-23.3	-1.7
Jun-32	1,458.3	271.4	130.7	1,481.3	273.6	151.9	1,549,351	92,769	-2.2	-19.6	-23.0	-1.7
Jul-32	1,464.3	268.7	131.3	1,487.4	270.9	152.6	1,534,036	93,150	-2.2	-19.6	-23.1	-1.7
Aug-32	1,464.0	268.5	131.3	1,487.2	270.6	152.5	1,532,527	93,134	-2.2	-19.6	-23.1	-1.7
Sep-32	1,473.3	269.5	132.3	1,496.6	271.7	153.5	1,538,457	93,724	-2.2	-19.6	-23.3	-1.7
Oct-32	1,467.7	271.1	131.7	1,490.8	273.3	152.9	1,547,524	93,364	-2.2	-19.6	-23.2	-1.7
Nov-32	1,464.8	272.2	131.4	1,488.0	274.3	152.6	1,553,508	93,185	-2.2	-19.6	-23.1	-1.7
Dec-32	1,463.6	272.0	131.3	1,486.7	274.2	152.5	1,552,634	93,107	-2.2	-19.6	-23.1	-1.7
Jan-33	1,446.3	267.5	129.5	1,470.2	269.7	150.8	1,526,939	92,072	-2.2	-19.6	-23.9	-1.7
Feb-33	1,471.9	269.5	132.2	1,496.2	271.7	153.5	1,538,426	93,702	-2.2	-19.6	-24.3	-1.8
Mar-33	1,464.8	271.5	131.4	1,489.0	273.7	152.7	1,549,903	93,250	-2.2	-19.6	-24.2	-1.8
Apr-33	1,464.0	272.0	131.3	1,488.1	274.1	152.6	1,552,353	93,196	-2.2	-19.6	-24.2	-1.8
May-33	1,467.8	272.9	131.7	1,492.0	275.1	153.0	1,557,740	93,438	-2.2	-19.6	-24.2	-1.8
Jun-33	1,451.1	274.2	130.0	1,475.1	276.3	151.3	1,564,722	92,380	-2.2	-19.6	-24.0	-1.7
Jul-33	1,457.2	271.4	130.6	1,481.3	273.6	151.9	1,549,227	92,766	-2.2	-19.6	-24.1	-1.7
Aug-33	1,457.2	271.2	130.6	1,481.2	273.3	151.9	1,547,715	92,762	-2.2	-19.6	-24.1	-1.7
Sep-33	1,466.6	272.2	131.6	1,490.8	274.4	152.9	1,553,692	93,364	-2.2	-19.6	-24.2	-1.8
Oct-33	1,461.2	273.8	131.0	1,485.3	276.0	152.4	1,562,895	93,019	-2.2	-19.6	-24.1	-1.8
Nov-33	1,458.6	274.9	130.8	1,482.7	277.1	152.1	1,568,887	92,853	-2.2	-19.6	-24.1	-1.7
Dec-33	1,457.6	274.7	130.7	1,481.6	276.9	152.0	1,567,966	92,789	-2.2	-19.6	-24.1	-1.7
Jan-34	1,441.0	270.1	129.0	1,465.3	272.3	150.3	1,542,014	91,768	-2.2	-19.6	-24.4	-1.8
Feb-34	1,466.7	272.2	131.6	1,491.5	274.4	153.0	1,553,601	93,409	-2.2	-19.6	-24.8	-1.8
Mar-34	1,459.9	274.2	130.9	1,484.6	276.4	152.3	1,565,169	92,975	-2.2	-19.6	-24.7	-1.8
Apr-34	1,459.6	274.7	130.9	1,484.2	276.8	152.2	1,567,554	92,951	-2.2	-19.6	-24.7	-1.8
May-34	1,463.4	275.6	131.3	1,488.1	277.8	152.6	1,572,931	93,195	-2.2	-19.6	-24.8	-1.8
Jun-34	1,446.9	276.8	129.6	1,471.3	279.0	150.9	1,579,911	92,144	-2.2	-19.6	-24.5	-1.8
Jul-34	1,453.0	274.1	130.2	1,477.6	276.2	151.6	1,564,220	92,535	-2.2	-19.6	-24.6	-1.8
Aug-34	1,453.0	273.8	130.2	1,477.5	276.0	151.6	1,562,665	92,532	-2.2	-19.6	-24.6	-1.8
Sep-34	1,462.4	274.9	131.2	1,487.1	277.0	152.5	1,568,674	93,132	-2.2	-19.6	-24.7	-1.8
Oct-34	1,457.0	276.5	130.6	1,481.7	278.7	152.0	1,577,924	92,791	-2.2	-19.6	-24.6	-1.8
Nov-34	1,454.4	277.6	130.4	1,479.0	279.7	151.7	1,583,964	92,622	-2.2	-19.6	-24.6	-1.8
Dec-34	1,453.3	277.4	130.3	1,477.9	279.6	151.6	1,583,041	92,555	-2.2	-19.6	-24.6	-1.8
Jan-35	1,436.2	272.8	128.5	1,461.5	274.9	149.9	1,556,851	91,529	-2.2	-19.6	-25.3	-1.8
Feb-35	1,461.9	274.8	131.2	1,487.7	277.0	152.6	1,568,594	93,166	-2.2	-19.6	-25.8	-1.9
Mar-35	1,455.1	276.9	130.5	1,480.8	279.1	151.9	1,580,279	92,733	-2.2	-19.6	-25.7	-1.9
Apr-35	1,454.6	277.3	130.4	1,480.3	279.5	151.8	1,582,662	92,703	-2.2	-19.6	-25.6	-1.9
May-35	1,458.6	278.3	130.8	1,484.3	280.4	152.2	1,588,042	92,953	-2.2	-19.6	-25.7	-1.9
Jun-35	1,442.2	279.5	129.1	1,467.6	281.7	150.5	1,595,057	91,911	-2.2	-19.6	-25.4	-1.8
Jul-35	1,448.4	276.7	129.8	1,473.9	278.9	151.2	1,579,179	92,304	-2.2	-19.6	-25.5	-1.9
Aug-35	1,448.5	276.4	129.8	1,474.0	278.6	151.2	1,577,639	92,311	-2.2	-19.6	-25.5	-1.9
Sep-35	1,458.0	277.5	130.8	1,483.7	279.7	152.2	1,583,773	92,920	-2.2	-19.6	-25.7	-1.9
Oct-35	1,452.7	279.2	130.2	1,478.4	281.3	151.6	1,593,156	92,583	-2.2	-19.6	-25.6	-1.9
Nov-35	1,450.4	280.3	130.0	1,475.9	282.4	151.4	1,599,288	92,432	-2.2	-19.6	-25.6	-1.9
Dec-35	1,449.6	280.1	129.9	1,475.1	282.3	151.3	1,598,432	92,381	-2.2	-19.6	-25.6	-1.9

2016 CALIFORNIA GAS REPORT

NATURAL GAS VEHICLES
JULY 2016



SoCalGas and SDG&E 2014 CGR forecast summary and methodologies

SoCalGas Forecast:

Throughput is expected to double in the next 21 years, from 11,686 MDtherms to 23,969 MDtherms. Compound average growth rate (CAGR) over the 21 years is 3.32%, or 5.4 mil therms per year. Station growth will be from 289 at the end of 2013 to 648 at the end of 2035, an average of 16 stations per year.

Methodologies:

Determine the throughput CAGR for 2008 through 2013 - 5.39%. Determine the CAGR for the percentage change in throughput for the years 2008 through 2013 - (-6.67%).

Apply the 5.39% growth at a declining rate of 6.67% per year 2014 through 2035. Also add the prorated 5.5 mil therms from Swift Trucking which is expected Oct 2014 through Sept 2015, and another 1.5 mil therms from Oct 2015 through Sept 2016 (total of 7.0 mil therms for Swift).

Determine the stations CAGR over 2008 through 2013 - 8.08%. Determine the CAGR of the yearly percentage change in stations - (-8.33%).

Apply the 8.08% growth at a declining rate of 8.33% per year 2014 through 2035, resulting in adding 16 stations per year.

SDG&E Forecast:

Throughput is expected to triple in the next 21 years, from 1,423.6 MDtherms to 4,670.4 MDtherms. Compound average growth rate (CAGR) over the 21 years is 5.45%, or 1.5 mil therms per year. Station growth will be from 31 at the end of 2013 to 57 at the end of 2035, an average of one station per year.

Methodologies:

Determine the throughput CAGR for 2008 through 2013 - 5.5%. Determine the CAGR for the percentage change in throughput for the years.

2008 through 2013 - 50.9% (percentage growth is abnormal). Apply the 5.5% growth rate per year, 2014 through 2035.

Determine the stations CAGR over 2008 through 2013 - 2.8%. Apply the 2.8% growth per year 2014 through 2035, resulting in adding one station per year.

SoCalGas compressed, uncompressed and Transportation only throughput forecast 2013 thru

YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL	RATE	NGVTYPE
	5%	7%								45.83	12.5				
2013	20	18	20	21	22	18	19	20	20	23	20	20	240	GNV	C
2014	21	19	22	22	23	19	20	21	21	24	21	21	253	GNV	C
2015	22	20	23	23	24	20	21	22	22	25	22	22	266	GNV	C
2016	23	21	24	24	25	21	22	23	23	26	23	23	279	GNV	C
2017	24	22	25	25	26	22	23	24	24	28	24	24	291	GNV	C
2018	25	23	26	26	27	22	24	25	25	29	25	25	303	GNV	C
2019	26	24	27	27	28	23	25	26	26	30	26	26	314	GNV	C
2020	27	24	28	28	29	24	26	27	27	31	27	27	326	GNV	C
2021	28	25	29	29	30	25	27	28	28	32	28	28	336	GNV	C
2022	29	26	29	30	31	26	27	29	29	33	29	29	347	GNV	C
2023	30	27	30	30	32	26	28	30	29	34	30	30	357	GNV	C
2024	31	28	31	31	33	27	29	30	30	35	31	31	367	GNV	C
2025	32	28	32	32	34	28	30	31	31	36	31	32	376	GNV	C
2026	32	29	33	33	34	29	30	32	32	37	32	32	385	GNV	C
2027	33	30	33	34	35	29	31	33	32	37	33	33	393	GNV	C
2028	34	30	34	34	36	30	32	33	33	38	34	34	401	GNV	C
2029	34	31	35	35	37	30	32	34	34	39	34	34	409	GNV	C
2030	35	31	35	36	37	31	33	35	34	40	35	35	416	GNV	C
2031	36	32	36	36	38	31	33	35	35	40	35	35	423	GNV	C
2032	36	32	37	37	38	32	34	36	35	41	36	36	430	GNV	C
2033	37	33	37	37	39	32	35	36	36	41	36	37	436	GNV	C
2034	37	33	38	38	40	33	35	37	36	42	37	37	442	GNV	C
2035	38	34	38	38	40	33	35	37	37	42	37	38	448	GNV	C
2013	917	848	919	792	818	750	799	799	777	834	742	755	9,749	GNV	U
2014	966	894	968	835	862	790	842	842	819	925	828	841	10,412	GNV	U
2015	1,060	985	1,063	923	952	876	930	930	906	984	882	896	11,387	GNV	U
2016	1,123	1,044	1,125	979	1,009	930	986	987	961	1,030	923	938	12,034	GNV	U
2017	1,172	1,089	1,175	1,022	1,053	970	1,029	1,030	1,003	1,075	964	979	12,562	GNV	U
2018	1,220	1,134	1,223	1,064	1,096	1,010	1,071	1,072	1,044	1,119	1,003	1,020	13,076	GNV	U
2019	1,267	1,177	1,270	1,104	1,138	1,049	1,112	1,113	1,084	1,162	1,042	1,058	13,576	GNV	U
2020	1,312	1,219	1,315	1,144	1,179	1,086	1,152	1,153	1,122	1,203	1,079	1,096	14,060	GNV	U
2021	1,356	1,260	1,359	1,182	1,218	1,122	1,190	1,191	1,160	1,243	1,115	1,133	14,528	GNV	U
2022	1,398	1,299	1,401	1,218	1,256	1,157	1,227	1,228	1,196	1,282	1,150	1,168	14,980	GNV	U
2023	1,438	1,337	1,441	1,254	1,292	1,191	1,263	1,264	1,230	1,319	1,183	1,202	15,414	GNV	U
2024	1,477	1,373	1,480	1,288	1,327	1,223	1,297	1,298	1,264	1,355	1,215	1,234	15,831	GNV	U
2025	1,514	1,408	1,518	1,320	1,361	1,254	1,330	1,331	1,296	1,389	1,246	1,266	16,231	GNV	U
2026	1,550	1,441	1,554	1,351	1,393	1,283	1,361	1,362	1,326	1,422	1,275	1,295	16,614	GNV	U
2027	1,584	1,473	1,588	1,381	1,424	1,312	1,391	1,392	1,355	1,453	1,303	1,324	16,980	GNV	U
2028	1,617	1,503	1,621	1,409	1,453	1,339	1,420	1,421	1,383	1,483	1,330	1,351	17,329	GNV	U
2029	1,648	1,532	1,652	1,437	1,481	1,364	1,447	1,448	1,410	1,511	1,355	1,377	17,661	GNV	U

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

2030	1,677	1,559	1,681	1,462	1,507	1,389	1,473	1,474	1,435	1,538	1,380	1,402	17,978	GNV	U
2031	1,705	1,585	1,709	1,487	1,532	1,412	1,498	1,499	1,459	1,564	1,403	1,425	18,278	GNV	U
2032	1,732	1,610	1,736	1,510	1,556	1,434	1,521	1,522	1,482	1,589	1,425	1,447	18,563	GNV	U
2033	1,757	1,633	1,761	1,532	1,579	1,455	1,543	1,544	1,503	1,612	1,445	1,468	18,834	GNV	U
2034	1,781	1,656	1,785	1,553	1,601	1,475	1,564	1,565	1,524	1,634	1,465	1,488	19,089	GNV	U
2035	1,804	1,677	1,808	1,572	1,621	1,493	1,584	1,585	1,543	1,654	1,483	1,507	19,332	GNV	U
2013	10	10	9	163	176	158	169	197	203	218	193	192	1,697	GNV	UT
2014	195	195	223	172	185	166	178	208	214	230	203	203	2,371	GNV	UT
2015	205	204	234	180	195	175	187	218	225	241	213	213	2,490	GNV	UT
2016	215	214	245	189	204	183	195	229	235	253	223	223	2,607	GNV	UT
2017	224	223	256	197	213	191	204	239	246	264	233	233	2,722	GNV	UT
2018	233	233	266	205	222	199	212	248	256	275	243	242	2,833	GNV	UT
2019	242	241	276	213	230	206	220	258	265	285	252	251	2,941	GNV	UT
2020	251	250	286	221	238	214	228	267	275	295	261	260	3,046	GNV	UT
2021	259	258	296	228	246	221	236	276	284	305	270	269	3,148	GNV	UT
2022	267	266	305	235	254	228	243	285	293	315	278	277	3,246	GNV	UT
2023	275	274	314	242	261	234	250	293	301	324	286	286	3,340	GNV	UT
2024	282	282	322	248	268	241	257	301	309	333	294	293	3,430	GNV	UT
2025	289	289	330	255	275	247	263	308	317	341	301	301	3,517	GNV	UT
2026	296	295	338	261	282	253	270	316	325	349	308	308	3,600	GNV	UT
2027	303	302	346	266	288	258	276	323	332	357	315	315	3,679	GNV	UT
2028	309	308	353	272	294	264	281	329	339	364	322	321	3,755	GNV	UT
2029	315	314	359	277	299	269	287	335	345	371	328	327	3,827	GNV	UT
2030	321	320	366	282	305	273	292	341	351	378	334	333	3,895	GNV	UT
2031	326	325	372	287	310	278	297	347	357	384	339	339	3,960	GNV	UT
2032	331	330	378	291	315	282	301	353	363	390	345	344	4,022	GNV	UT
2033	336	335	383	296	319	286	306	358	368	396	350	349	4,081	GNV	UT
2034	340	339	388	300	323	290	310	363	373	401	354	354	4,136	GNV	UT
2035	345	344	393	303	328	294	314	367	378	406	359	358	4,189	GNV	UT

SoCalGas station growth 2013 through 2035

Station Forecast	No. of Stations	Stations added per year	Average Stations per Year	Station growth Rate	0
2013	289	23	8.08%	-0.083309	
2014	312	23			
2015	335	23			
2016	358	22			
2017	381	22			
2018	402	21			

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

2019	423	20	
2020	444	19	
2021	463	19	
2022	482	18	
2023	499	17	
2024	516	16	
2025	532	15	
2026	547	14	
2027	562	13	
2028	575	13	
2029	588	12	
2030	600	11	
2031	611	10	
2032	621	10	16
2033	631	9	
2034	639	8	
2035	648	8	
2036	655	(655)	

Throughput forecast methodology.

					Debbie Liou provided from CSD		
					Year	Mcf	Therms
Years	Total Volume	Yearly Volume	Yearly Percentage	CAGR (2008 -	2007	8,267,231	84,821,790
	MM CCF	MM CCF	%		2008	9,182,139	94,208,746
2013	113.3	6.26	5.85%	0.0539346	2009	9,578,723	98,277,698
2012	107.04	6.25	6.20%	-0.06667882	2010	9,868,510	101,250,913
2011	100.79	2.1	2.13%		2011	10,078,659	103,407,041
2010	98.69	2.9	3.03%	12.5	2012	10,704,124	109,824,312
2009	95.79	3.97	4.32%	45.83	2013	11,329,676	116,242,476
2008	91.82	9.15	11.07%		Year	MDtherms	CAGR 2013-2035
2007	82.67	6.72	8.85%		2013	11,686	
2006	75.95	n/a	#VALUE!		2035	23,969	3.32%

Station count forecast methodology.

					Average % change	CAGR
NGV Station Count					-0.0833	0.0808
Year	Historical Station count	Private stations	yearly change	% change		
2013	289			0.08646617		
2012	266			0.0390625		
2011	256	182	22	0.09401709		
2010	234	166	14	0.06363636		
2009	220	155	24	0.12244898		
2008	196	137	n/a	#DIV/0!		
Count Forecast						
2013	289					
2014	312		23.34			
2015	335		23.12			
2016	358		22.77			
2017	381		22.28			
2018	402		21.70			
2019	423		21.03			
2020	444		20.28			
2021	463		19.48			
2022	482		18.64			
2023	499		17.78			
2024	516		16.90			
2025	532		16.02			
2026	547		15.14			
2027	562		14.27			
2028	575		13.42			
2029	588		12.60			
2030	600		11.80	16		
2031	611		11.04			
2032	621		10.30			

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

2033	631
2034	639
2035	648
2035	656

9.60
8.94
8.31

2013	11686
2035	22939

i

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

0.055487

SDG&E compressed, uncompressed, and transportation only throughput forecast 2013 through 2035 in MDTH

YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11
2013	8.51	8.65	8.55	9.79	10.14	10.65	10.18	11.09	8.88	11.47	10.52
2014	8.98	9.13	9.03	10.34	10.70	11.24	10.74	11.71	9.38	12.11	11.10
2015	9.48	9.63	9.53	10.91	11.30	11.87	11.34	12.35	9.90	12.78	11.72
2016	10.00	10.17	10.06	11.51	11.92	12.52	11.97	13.04	10.45	13.49	12.37
2017	10.56	10.73	10.61	12.15	12.58	13.22	12.63	13.76	11.03	14.24	13.05
2018	11.15	11.33	11.20	12.83	13.28	13.95	13.33	14.53	11.64	15.03	13.78
2019	11.76	11.96	11.82	13.54	14.02	14.73	14.07	15.33	12.28	15.86	14.54
2020	12.42	12.62	12.48	14.29	14.80	15.54	14.86	16.18	12.97	16.74	15.35
2021	13.11	13.32	13.17	15.08	15.62	16.41	15.68	17.08	13.68	17.67	16.20
2022	13.83	14.06	13.90	15.92	16.49	17.32	16.55	18.03	14.44	18.65	17.10
2023	14.60	14.84	14.68	16.80	17.40	18.28	17.47	19.03	15.25	19.69	18.05
2024	15.41	15.66	15.49	17.74	18.37	19.29	18.44	20.09	16.09	20.78	19.05
2025	16.27	16.53	16.35	18.72	19.39	20.36	19.46	21.20	16.98	21.93	20.11
2026	17.17	17.45	17.26	19.76	20.46	21.49	20.54	22.38	17.93	23.15	21.22
2027	18.12	18.42	18.21	20.85	21.60	22.68	21.68	23.62	18.92	24.43	22.40
2028	19.13	19.44	19.22	22.01	22.79	23.94	22.88	24.93	19.97	25.79	23.65
2029	20.19	20.52	20.29	23.23	24.06	25.27	24.15	26.31	21.08	27.22	24.96
2030	21.31	21.65	21.42	24.52	25.39	26.67	25.49	27.77	22.25	28.73	26.34
2031	22.49	22.86	22.61	25.88	26.80	28.15	26.91	29.31	23.48	30.33	27.80
2032	23.74	24.12	23.86	27.32	28.29	29.72	28.40	30.94	24.79	32.01	29.35
2033	25.06	25.46	25.18	28.84	29.86	31.36	29.98	32.66	26.16	33.79	30.98
2034	26.45	26.88	26.58	30.44	31.52	33.10	31.64	34.47	27.61	35.66	32.69
2035	27.91	28.37	28.06	32.12	33.27	34.94	33.39	36.38	29.15	37.64	34.51
2013	39.22	39.97	38.92	33.62	37.98	36.51	34.28	34.89	37.33	36.20	38.17
2014	41.40	42.19	41.08	35.49	40.08	38.53	36.18	36.82	39.40	38.21	40.29
2015	43.69	44.53	43.36	37.46	42.31	40.67	38.19	38.87	41.58	40.33	42.52
2016	46.12	47.00	45.77	39.53	44.65	42.93	40.31	41.02	43.89	42.56	44.88
2017	48.68	49.61	48.30	41.73	47.13	45.31	42.54	43.30	46.33	44.93	47.37
2018	51.38	52.36	50.98	44.04	49.75	47.82	44.90	45.70	48.90	47.42	50.00
2019	54.23	55.27	53.81	46.49	52.51	50.48	47.39	48.24	51.61	50.05	52.77
2020	57.24	58.33	56.80	49.07	55.42	53.28	50.02	50.91	54.47	52.83	55.70
2021	60.41	61.57	59.95	51.79	58.50	56.23	52.80	53.74	57.50	55.76	58.79
2022	63.77	64.99	63.28	54.66	61.74	59.35	55.73	56.72	60.69	58.85	62.05
2023	67.30	68.59	66.79	57.70	65.17	62.65	58.82	59.87	64.05	62.12	65.50
2024	71.04	72.40	70.50	60.90	68.78	66.12	62.08	63.19	67.61	65.57	69.13
2025	74.98	76.42	74.41	64.28	72.60	69.79	65.53	66.70	71.36	69.20	72.97
2026	79.14	80.66	78.54	67.84	76.63	73.66	69.17	70.40	75.32	73.04	77.02
2027	83.53	85.13	82.89	71.61	80.88	77.75	73.00	74.30	79.50	77.10	81.29
2028	88.17	89.85	87.49	75.58	85.37	82.06	77.05	78.43	83.91	81.37	85.80
2029	93.06	94.84	92.35	79.77	90.11	86.62	81.33	82.78	88.57	85.89	90.56
2030	98.22	100.10	97.47	84.20	95.11	91.42	85.84	87.37	93.48	90.66	95.59
2032	109.42	111.52	108.59	93.80	105.95	101.85	95.63	97.34	104.14	100.99	106.49
2033	115.50	117.71	114.61	99.01	111.83	107.50	100.94	102.74	109.92	106.60	112.40
2034	121.90	124.24	120.97	104.50	118.04	113.47	106.54	108.44	116.02	112.51	118.63
2035	128.67	131.13	127.69	110.30	124.59	119.76	112.45	114.45	122.46	118.76	125.22
2013	66.78	68.44	64.56	70.32	72.89	73.04	67.82	81.58	74.85	75.19	77.45
2014	70.49	72.24	68.14	74.23	76.93	77.09	71.58	86.10	79.00	79.36	81.74
2015	74.40	76.25	71.92	78.34	81.20	81.37	75.55	90.88	83.38	83.76	86.28
2016	78.52	80.48	75.91	82.69	85.71	85.88	79.75	95.92	88.01	88.41	91.07
2017	82.88	84.95	80.12	87.28	90.46	90.65	84.17	101.25	92.89	93.32	96.12
2018	87.48	89.66	84.57	92.12	95.48	95.68	88.84	106.86	98.05	98.49	101.45
2019	92.33	94.63	89.26	97.23	100.78	100.99	93.77	112.79	103.49	103.96	107.08
2020	97.46	99.89	94.22	102.63	106.37	106.59	98.97	119.05	109.23	109.73	113.02
2021	102.87	105.43	99.44	108.32	112.28	112.51	104.47	125.66	115.29	115.82	119.29
2022	108.57	111.28	104.96	114.34	118.51	118.75	110.26	132.63	121.69	122.24	125.91
2023	114.60	117.45	110.79	120.68	125.08	125.34	116.38	139.99	128.44	129.03	132.90
2024	120.96	123.97	116.93	127.38	132.02	132.29	122.84	147.76	135.57	136.18	140.28
2025	127.67	130.85	123.42	134.44	139.35	139.63	129.65	155.95	143.09	143.74	148.06
2026	134.75	138.11	130.27	141.90	147.08	147.38	136.85	164.61	151.03	151.72	156.27
2027	142.23	145.77	137.50	149.78	155.24	155.56	144.44	173.74	159.41	160.14	164.95

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

2028	150.12	153.86	145.13	158.09	163.85	164.19	152.46	183.38	168.25	169.02	174.10
2029	158.45	162.40	153.18	166.86	172.95	173.30	160.91	193.56	177.59	178.40	183.76
2030	167.24	171.41	161.68	176.12	182.54	182.92	169.84	204.30	187.44	188.30	193.95
2031	176.52	180.92	170.65	185.89	192.67	193.06	179.27	215.63	197.85	198.75	204.72
2032	186.32	190.96	180.12	196.20	203.36	203.78	189.21	227.60	208.82	209.77	216.08
2033	196.66	201.55	190.11	207.09	214.65	215.08	199.71	240.23	220.41	221.41	228.06
2034	207.57	212.74	200.66	218.58	226.56	227.02	210.80	253.56	232.64	233.70	240.72
2035	219.09	224.54	211.80	230.71	239.13	239.62	222.49	267.63	245.55	246.67	254.08

2014 CGR SD&G Station Forecast

Year	No. of Stat Stations	ac	Station growth Rate
2013	31	1.0	2.80%
2014	32	0.9	
2015	33	0.9	
2016	34	0.9	
2017	35	0.9	
2018	36	1.0	
2019	37	1.0	
2020	38	1.0	
2021	39	1.1	
2022	40	1.1	
2023	41	1.1	
2024	42	1.1	
2025	43	1.2	
2026	44	1.2	
2027	46	1.2	
2028	47	1.3	
2029	48	1.3	
2030	50	1.4	
2031	51	1.4	
2032	52	1.4	
2033	54	1.5	
2034	55	1.5	
2035	57	1.6	

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

MDTH12	TOTAL	RATE	NGVTYPE
9.40	117.84	GNV	C
9.92	124.38	GNV	C
10.48	131.28	GNV	C
11.06	138.56	GNV	C
11.67	146.25	GNV	C
12.32	154.36	GNV	C
13.00	162.93	GNV	C
13.72	171.97	GNV	C
14.48	181.51	GNV	C
15.29	191.58	GNV	C
16.14	202.21	GNV	C
17.03	213.43	GNV	C
17.98	225.28	GNV	C
18.97	237.78	GNV	C
20.03	250.97	GNV	C
21.14	264.90	GNV	C
22.31	279.59	GNV	C
23.55	295.11	GNV	C
24.86	311.48	GNV	C
26.23	328.77	GNV	C
27.69	347.01	GNV	C
29.23	366.26	GNV	C
30.85	386.59	GNV	C
36.04	443.11	GNV	U
38.04	467.70	GNV	U
40.15	493.65	GNV	U
42.38	521.04	GNV	U
44.73	549.95	GNV	U
47.21	580.47	GNV	U
49.83	612.68	GNV	U
52.60	646.67	GNV	U
55.52	682.55	GNV	U
58.60	720.43	GNV	U
61.85	760.40	GNV	U
65.28	802.59	GNV	U
68.90	847.13	GNV	U
72.73	894.13	GNV	U
76.76	943.75	GNV	U
81.02	996.11	GNV	U
85.52	1051.38	GNV	U
90.26	1109.72	GNV	U
100.55	1236.29	GNV	U
106.13	1304.89	GNV	U
112.02	1377.29	GNV	U
118.24	1453.71	GNV	U
69.75	862.66	GNV	UT
73.63	910.53	GNV	UT
77.71	961.05	GNV	UT
82.02	1014.38	GNV	UT
86.57	1070.66	GNV	UT
91.38	1130.07	GNV	UT
96.45	1192.78	GNV	UT
101.80	1258.96	GNV	UT
107.45	1328.82	GNV	UT
113.41	1402.55	GNV	UT
119.70	1480.37	GNV	UT
126.34	1562.51	GNV	UT
133.36	1649.21	GNV	UT
140.75	1740.72	GNV	UT
148.56	1837.31	GNV	UT

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

156.81	1939.26	GNV	UT
165.51	2046.86	GNV	UT
174.69	2160.44	GNV	UT
184.39	2280.31	GNV	UT
194.62	2406.84	GNV	UT
205.42	2540.39	GNV	UT
216.81	2681.35	GNV	UT
228.84	2830.13	GNV	UT

SAN DIEGO GAS & ELECTRIC COMPANY
 2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

Table 1 - SDG&E Volume Forecast Growth

Years	Total Volume MDtherms	Yearly % change	CAGR (2008-2013)
2013	1365	9%	0.055487238
2012	1247	13%	
2011	1101	7%	
2010	1031	-3%	
2009	1061	2%	
2008	1042	n/a	

0.509324

			CAGR (2013-2035)
2013	1423.6113		0.055487209
2035	4670.43		

SDG&E Historical NGV Station Count

Year	Station count	CAGR (2008 - 2013)
2013	31	0.028015318
2012	30	
2011	29	
2010	28	
2009	26	
2008	27	

SDG&E NGV Station Count Forecast

2013	31	1
2014	32	0.9
2015	33	0.9
2016	34	0.9
2017	35	0.9
2018	36	1.0
2019	37	1.0
2020	38	1.0
2021	39	1.1
2022	40	1.1
2023	41	1.1
2024	42	1.1
2025	43	1.2
2026	44	1.2
2027	46	1.2
2028	47	1.3
2029	48	1.3
2030	50	1.4
2031	51	1.4
2032	52	1.4
2033	54	1.5
2034	55	1.5
2035	57	1.6

2016 CALIFORNIA GAS REPORT

ENERGY EFFICIENCY
JULY 2016



2014 California Gas Report
Energy Efficiency Savings (2013-2023)

CGR2014	Reported 2013 Therms	Forecast 2014 Therms	Forecast 2015 Therms	Forecast 2016 Therms	Forecast 2017 Therms	Forecast 2018 Therms	Forecast 2019 Therms	Forecast 2020 Therms	Forecast 2021 Therms	Forecast 2022 Therms	Forecast 2023 Therms
SDG&E EE Programs TOTAL	813,334										
PUC Goal	2,200,000	2,200,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Difference	(1,386,666)										

SDGE	2013 therms
Core Residential	(50,220)
Core Commercial	761,095
Core Industrial	15,589
NonCore Commercial	8,687
NonCore Industrial retail	78,183
Total	813,334

Proportionally scale savings down or up to match PUC Goals for 2011 - 2013

ANNUALSAVINGS	2013 mdth	2014 mdth	2015 mdth	2016 mdth	2017 mdth	2018 mdth	2019 mdth	2020 mdth	2021 mdth	2022 mdth	2023 mdth
Residential	(14)	(14)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Core Commercial	206	206	234	234	234	234	234	234	234	234	234
Core Industrial	4	4	5	5	5	5	5	5	5	5	5
Noncore Commercial	2	2	3	3	3	3	3	3	3	3	3
Noncore Industrial	21	21	24	24	24	24	24	24	24	24	24
Total	220	220	250	250	250	250	250	250	250	250	250

Cumulative Savings mdth SDGE	2013 mdth	2014 mdth	2015 mdth	2016 mdth	2017 mdth	2018 mdth	2019 mdth	2020 mdth	2021 mdth	2022 mdth	2023 mdth
Residential		(14)	(29)	(44)	(60)	(75)	(91)	(106)	(122)	(137)	(153)
Core Commercial		206	440	674	908	1,142	1,376	1,610	1,843	2,077	2,311
Core Industrial		4	9	14	19	23	28	33	38	43	47
Noncore Commercial		2	5	8	10	13	16	18	21	24	26
Noncore Industrial		21	45	69	93	117	141	165	189	213	237
Total Load Impacts		220	470	720	970	1,220	1,470	1,720	1,970	2,220	2,470

Cumulative Savings MMCF SDGE	2013 mmcf	MMCF factor: 2014 mmcf	2015 mmcf	2016 mmcf	2017 mmcf	2018 mmcf	2019 mmcf	2020 mmcf	2021 mmcf	2022 mmcf	2023 mmcf
Residential			(13)	(28)	(43)	(58)	(74)	(89)	(104)	(119)	(134)
Core Commercial			201	430	658	886	1,115	1,343	1,572	1,800	2,029
Core Industrial			4	9	13	18	23	28	32	37	42
Noncore Commercial			2	5	8	10	13	15	18	21	23
Noncore Industrial			21	44	68	91	115	138	161	185	208
Total Cumulative Load			215	459	703	947	1,191	1,436	1,680	1,924	2,168

2014 California Gas Report Energy Efficiency Savings (2024-2035)

CGR2014	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	Therms	Therms	Therms	Therms	Therms	Therms	Therms	Therms	Therms	Therms	Therms	Therms
SDG&E EE Programs TOTAL												
PUC Goal	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Difference												

SDGE
Core Residential
Core Commercial
Core Industrial
NonCore Commercial
NonCore Industrial retail
Total

Proportionally scale savings down or up to match PUC Goals for 2011 - 2013

ANNUALSAVINGS	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth
Residential	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Core Commercial	234	234	234	234	234	234	234	234	234	234	234	234
Core Industrial	5	5	5	5	5	5	5	5	5	5	5	5
Noncore Commercial	3	3	3	3	3	3	3	3	3	3	3	3
Noncore Industrial	24	24	24	24	24	24	24	24	24	24	24	24
Total	250	250	250	250	250	250	250	250	250	250	250	250

Cumulative Savings mdth	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
SDGE	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth	mdth
Residential	(154)	(154)	(154)	(154)	(154)	(154)	(154)	(154)	(154)	(154)	(154)	(154)
Core Commercial	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339
Core Industrial	48	48	48	48	48	48	48	48	48	48	48	48
Noncore Commercial	27	27	27	27	27	27	27	27	27	27	27	27
Noncore Industrial	240	240	240	240	240	240	240	240	240	240	240	240
Total Load Impacts	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500

Cumulative Savings MMCF	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
SDGE	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf	mmcf
Residential	(151)	(151)	(151)	(151)	(151)	(151)	(151)	(151)	(151)	(151)	(151)	(151)
Core Commercial	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285
Core Industrial	47	47	47	47	47	47	47	47	47	47	47	47
Noncore Commercial	26	26	26	26	26	26	26	26	26	26	26	26
Noncore Industrial	235	235	235	235	235	235	235	235	235	235	235	235
Total Cumulative Load	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441

2016 CALIFORNIA GAS REPORT

Electric Generation
JULY 2016



Please refer to SoCalGas' 2016 California Gas Report workpapers for detail on the documentation regarding non-cogen EG forecasting.

2016 CALIFORNIA GAS REPORT

EQTG'PEAKDAY FORECAST
JULY 2016



SDG&E Heating Degree Day (HDD) Weather Designs

	(Calendar Based)		Average	Hot	
	Cold			1-in-10 exceedance	1-in-35 exceedance
	1-in-35 exceedance	1-in-10 exceedance			
January	323.2	302.1	262.3	222.4	201.3
February	287.7	268.9	233.4	197.9	179.1
March	237.4	221.9	192.7	163.4	147.9
April	168.1	157.1	136.4	115.7	104.7
May	71.4	66.7	57.9	49.1	44.4
June	17.0	15.9	13.8	11.7	10.6
July	1.0	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	36.9	34.5	29.9	25.4	23.0
November	167.9	157.0	136.3	115.5	104.6
December	<u>342.0</u>	<u>319.6</u>	<u>277.4</u>	<u>235.3</u>	<u>212.9</u>
	1654.0	1546.0	1342.0	1138.0	1030.0

Notes:

1/ 20-Yr-Avg (Jan1994-Dec2013)

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

2014-CGR Sales + Transport + Exchange for Month of DECEMBER
(units=Mdth/Day)
"1-in-2" Likelihood Cold Day Temperature

No. "CGR_B"	CLASS	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	250.1	246.8	245.5	246.7	246.7	247.4	248.3	248.5	253.7	260.1	266.5
2	Com GN3	77.0	75.6	75.7	76.1	76.3	76.5	76.4	76.1	75.0	75.2	75.5
2	GAC 2/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	GEN 2/	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	5.9	5.8	5.7	5.7	5.7	5.7	5.6	5.5	5.2	4.9	4.7
4	NGV 2/	3.7	3.9	4.1	4.4	4.6	4.9	5.1	5.4	7.1	9.3	12.2
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total:	MDth/day	336.7	332.2	331.0	332.9	333.3	334.4	335.4	335.5	341.0	349.5	358.9
	MMcf/day 4/	328.8	324.4	323.3	325.1	325.5	326.6	327.6	327.7	333.0	341.4	350.5
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
	Hdd: December--ColdYr =	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0
	"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 2014-CGR Res and C&I Calculations](#)

Notes:

- 1/
$$= ("Cold-Dec" / 31 \text{ days}) + [("Cold-Dec" - "Base-Dec") / Cold-Dec_Hdd] * (65 \text{ degF} - 47.5 \text{ degF})$$
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0239

2014-CGR Sales + Transport + Exchange for Month of DECEMBER
(units=Mdth/Day)
"1-in-10" Likelihood Cold Day Temperature

No. "CGR_B"	CLASS	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	288.3	284.6	283.0	284.4	284.4	285.2	286.3	286.5	292.5	299.9	307.3
2	Com GN3	83.6	82.2	82.2	82.7	82.9	83.1	83.0	82.7	81.5	81.7	82.0
2	GAC 2/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	GEN 2/	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	6.4	6.3	6.2	6.2	6.1	6.1	6.1	5.9	5.6	5.3	5.1
4	NGV 2/	3.7	3.9	4.1	4.4	4.6	4.9	5.1	5.4	7.1	9.3	12.2
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total:	MDth/day	382.0	376.9	375.6	377.6	378.1	379.3	380.4	380.5	386.7	396.2	406.6
	MMcf/day 4/	373.1	368.1	366.8	368.8	369.2	370.5	371.6	371.6	377.6	387.0	397.1
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
	Hdd: December--ColdYr =	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0
	"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 2014-CGR Res and C&I Calculations](#)

Notes:

- 1/
$$= ("Cold-Dec" / 31 \text{ days}) + [("Cold-Dec" - "Base-Dec") / Cold-Dec_Hdd] * (65 \text{ degF} - 44.2 \text{ degF})$$
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0239

2014-CGR Sales + Transport + Exchange for Month of DECEMBER
(units=Mdth/Day)
"1-in-35" Likelihood Cold Day Temperature

No. "CGR_B"	CLASS	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	307.6	303.6	301.9	303.4	303.4	304.3	305.4	305.6	312.0	319.9	327.8
2	Com GN3	86.9	85.5	85.5	86.0	86.2	86.4	86.3	86.0	84.8	85.0	85.3
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	6.6	6.5	6.4	6.4	6.4	6.3	6.3	6.2	5.8	5.5	5.3
4	NGV <u>2/</u>	3.7	3.9	4.1	4.4	4.6	4.9	5.1	5.4	7.1	9.3	12.2
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	Total: MDth/day	404.8	399.5	398.0	400.2	400.6	401.9	403.1	403.2	409.7	419.7	430.6
	MMcf/day <u>4/</u>	395.4	390.1	388.7	390.8	391.2	392.5	393.7	393.8	400.1	409.9	420.5
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6
	Hdd: December--ColdYr =	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0	342.0
	"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 2014-CGR Res and C&I Calculations

Notes:

- 1/ = ("Cold-Dec" / 31 days) + (("Cold-Dec" - "Base-Dec") / Cold-Dec_Hdd] * (65 degF - 42.6 degF
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0239

2014-CGR Sales + Transport + Exchange for Month of DECEMBER
(units=mdth)
Temp=December, Cold Year

No. "CGR_CLASS	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035
1 Residen	5455.4	5384.0	5354.6	5381.7	5380.8	5396.7	5415.9	5420.2	5533.2	5674.0	5813.8
2 Com GN3	1986.2	1952.4	1953.6	1963.7	1970.3	1974.0	1971.7	1964.0	1936.5	1940.7	1948.1
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	153.9	151.8	149.8	149.3	148.3	147.8	146.4	143.7	135.4	128.8	123.5
4 NGV	115.2	121.6	128.3	135.5	143.0	150.9	159.3	168.1	220.2	288.5	377.9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	7711	7610	7586	7630	7642	7669	7693	7696	7825	8032	8263
2014 CGR: Mdth/Hdd	13.7	13.5	13.4	13.5	13.5	13.5	13.6	13.6	13.8	14.1	14.4

2014-CGR Sales + Transport + Exchange for Month of DECEMBER
(units=mdth)
Temp=December, "Base/Zero-Hdd" Year

No. "CGR_CLASS	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035
	----	----	----	----	----	----	----	----	----	----	----
1 Residen	1509.3	1489.6	1481.4	1488.9	1488.7	1493.1	1498.4	1499.6	1530.9	1569.8	1608.5
2 Com GN3	1300.4	1278.3	1279.0	1285.7	1290.0	1292.4	1290.9	1285.9	1267.8	1270.6	1275.4
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	104.7	103.2	101.9	101.5	100.9	100.5	99.6	97.7	92.1	87.6	84.0
4 NGV	115.2	121.6	128.3	135.5	143.0	150.9	159.3	168.1	220.2	288.5	377.9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	3030	2993	2991	3012	3023	3037	3048	3051	3111	3217	3346
2014 CGR: Mdth	3030	2993	2991	3012	3023	3037	3048	3051	3111	3217	3346

2016 CALIFORNIA GAS REPORT

SUPPORTING DATA
JULY 2016



2016 CALIFORNIA GAS REPORT

**WEATHER: HEATING DEGREE DAYS – AVERAGE AND “COLD” YEAR DESIGNS;
AND WINTER PEAK DAY DESIGN TEMPERATURES
JULY 2016**

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, SDGandE 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 ¹	1/3	Coastal and Inland
2. San Diego's Lindberg Field	$(1/3) \times (\#Coastal / (\#Coastal + \#Inland))$	Coastal
3. Miramar Naval Air Station	$(1/3) \times (\#Inland / (\#Coastal + \#Inland))$	Inland

SDGandE 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, SDGandE weights the HDD figure for each zone using the weights² shown in Table 1. These weights are used in calculating the data shown from January 1994 to December 2013.

¹ It turns out that the location of the station for El Cajon is at the boundary of the Coastal and Inland zones. Therefore, El Cajon is use to represent the entire combined Coastal and Inland zones.

² As of December 2013, there were 471,769 gas customers associated with the Coastal temperature zone and 399,805 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; less than 0.04% of SDG&E's gas customers were in the mountain and desert zones.

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://newweb.wrh.noaa.gov/sqx/obs/rtp/rtpmap.php?wfo=sqx>

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 SDGandE service area from 1994 to 2013 are listed in Table 2, below.

Table 2

Calendar Month Heating Degree-Days (Jan. 1994 through Dec. 2013)

	<u>Month</u>												<u>Total</u>
<u>Year</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>"Cal-Year"</u>
1993	268	225	132	65	16	9	0	0	2	7	122	262	1106
1994	227	232	160	126	93	2	0	0	0	30	288	306	1464
1995	264	117	163	127	107	23	0	0	0	7	44	221	1073
1996	235	189	175	73	18	3	0	0	1	73	142	243	1152
1997	255	249	145	102	2	2	0	0	0	16	94	287	1153
1998	252	256	205	195	94	22	1	0	5	31	172	338	1571
1999	276	266	279	223	115	51	3	0	4	4	146	243	1610
2000	247	216	224	94	28	3	0	0	0	50	237	227	1327
2001	352	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	244	197	159	118	33	5	0	0	4	38	95	231	1122
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	202	141	30	11	0	0	0	41	124	291	1262
2010	240	212	195	178	88	24	10	1	2	31	181	238	1402
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	1267
2013	323	269	150	104	23	6	0	0	0	40	104	241	1262
20-Yr-Avg (Jan1994-Dec2013)													
Avg.	262.2	233.3	192.6	136.3	57.9	13.8	0.8	0.1	1.1	29.9	136.2	277.4	1341.5
St.Dev.	55.2	41.3	48.0	42.6	36.1	12.7	2.4	0.2	1.6	18.5	60.1	38.8	153.924
Min.	141.4	116.6	97.5	65.5	2.3	0.0	0.0	0.0	0.0	3.7	44.4	221.3	1073.1
Max.	364.6	298.2	304.9	222.7	115.4	51.1	10.2	1.1	4.7	73.0	287.7	340.0	1610.2

II. Calculations to Define Our Average-Temperature Year

The simple average of the 20-year period (January 1994 through December 2013) was used to represent the Average Year total and the individual monthly values for HDD. The standard deviation of these 20 years of annual HDDs was 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.

Our model for the annual HDD data is essentially a regression model where the only “explanatory” variable is the constant term. For example, the annual HDDs are modeled by the equation below:

$$HDD_y = \beta_0 + e_y; \text{ where } \beta_0 \text{ represents the mean and the } e_y \text{ is an error term.}$$

It turns out (e.g., see *Econometrics*, Wonnacott and Wonnacott, 1970, Wiley & Sons, Inc., 1970, p. 254) that the average of the annual HDD y estimates β_0 and that the standard deviation of these HDDs about the mean, β_0 , estimates the standard deviation, s_e , of the error term, e_y . Further, 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:

$$U = (HDD_y - \beta_0) / s_e, \text{ has a T-Distribution with N-1 degrees of freedom.}$$

III. Calculating the Cold-Temperature Year Weather Designs

Cold Year HDD Weather Designs

For SDGandE, 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 of 153.924 HDD from the last 20 years of data, these equations yield values of about 1,654 HDD for a “1-in-35” cold year and 1,546 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:

$$(3) \quad \text{Cold-year HDD} = 1,673 \text{ which equals approximately} \\
 1,306 \text{ average-year HDDs} + 2.025 * 153.924$$

Table 3 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 1994 to 2013, as shown as the bottom of Table 2, above. For example, the average-year December value of 277.4 HDD equals the simple average of the 20 December HDD figures from 1994 to 2013, and represents 20.7 percent of the HDDs in an average-year. SDGandE calculates the cold--temperature-year monthly HDD values using the same shape of the average-year HDDs. For example, since 20.7 percent of average-temperature-year HDDs occurred in December, the estimated number of HDDs during December for a cold-year is equal to 1,654 HDDs multiplied by 20.7 percent, or 342.0 HDDs.

Table 3

Calendar Month Heating Degree-Day Designs

	Cold		Average	Hot	
	1-in-35 Design	1-in-10 Design		1-in-10 Design	1-in-35 Design
January	323.2	302.1	262.3	222.4	201.3
February	287.7	268.9	233.4	197.9	179.1
March	237.4	221.9	192.7	163.4	147.9
April	168.1	157.1	136.4	115.7	104.7
May	71.4	66.7	57.9	49.1	44.4
June	17.0	15.9	13.8	11.7	10.6
July	1.0	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	36.9	34.5	29.9	25.4	23.0
November	167.9	157.0	136.3	115.5	104.6
December	342.0	319.6	277.4	235.3	212.9
	1654	1546	1342	1138	1030

IV. Calculating the Peak-Day Design Temperature

SDG&E's Peak-Day design temperature of 42.6 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) $AVG_{y,d}$ = system average value of Temperature
for calendar year "y" and day "d".

The calendar year, y, can range from 1972 through 2013, 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:

$$(2) \quad \text{Min}AVG_y = \min_{d=1}^{n(y)} \{ AVG_{y,d} \}, \text{ for } y=1972, 1973, \dots, 2013.$$

(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 4, 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:

$$-\text{MinAVG}_y = -\min_{d=1}^{n(y)}\{\text{AVG}_{y,d}\} = \max_{d=1}^{n(y)}\{-\text{AVG}_{y,d}\}, \text{ for } y=1972, \dots, 2010;$$

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_y” (which is a *maximum* over a set of *negative* temperatures) with values of the variable MinAVG_y that are the same as shown in Table 4, below.

In Table 5, the data for -MinAVG_y 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 5) is a “small” positive value (usually less than ½) 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, γ , and scale parameter, θ , and a third parameter, v , that represents the number of degrees of freedom. For a given number of years of data, N , then $v=N-2$.

The following mathematical expression specifies the T_Dist model we fit to the data for “-MinAVG_y” shown in Table 5, below.

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

where “T_Dist{ . }” is the cumulative probability distribution function for Student’s T-Distribution³, and

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

the parameters “ γ ” and “ θ ” are estimated for this model for given degrees of freedom $v=N-2$. The estimated values for γ and θ are shown in Table 5 along with the fitted values of the model CDF (the column: “Fitted” Model CDF).

Now, to calculate a *peak-day design temperature*, TPDD_{δ} , with a specified likelihood, δ , that a value less than TPDD_{δ} 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,

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

which yields the following equation for z_{δ} ,

(7') $z_{\delta} = \{ \text{TINV_Dist}\{ (1-\delta); \gamma, \theta, v=N-2 \}$, where “TINV_Dist{ . }” is the inverse function of the T_Dist{ . } function⁴. The implied equation for TPDD_{δ} 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 $\text{TPDD}_{\delta} = - [\gamma + (z_{\delta})(\theta)] = 42.6$ degrees Fahrenheit, with values for “ $v=N-2$ ”; along with “ γ ” and “ θ ” in Table 5, below.

³ A common mathematical expression for Student’s T-Distribution is provided at http://en.wikipedia.org/wiki/Student%27s_t-distribution; with a probability density function

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

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

⁴ Computer software packages such as SAS and EXCEL have implemented statistical and mathematical functions to readily calculate values for T_Dist{ . } and TINV_Dist{ . } as defined above.

SDG&E's peak-day design temperature of 44.2 degrees Fahrenheit, is calculated in a methodologically similar way as for the 42.6 degree 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') solve for " z_{δ} " from equation (7') above with $(1-\delta) = (1 - 1/10) = 1 - 0.1000$,

which yields a " z_{δ} " value of $z_{\delta} = 1.303$ and, $TPDD_{\delta} = -[\gamma + (z_{\delta})(\theta)] = 44.2$ with values for " $v=N-2$ "; along with " γ " and " θ " in Table 5, below.

A plot of the cumulative distribution function for $MinAVG_y$ based on " $v=N-2$ ", the fitted model parameters, " γ " and " θ " with values in Table 5, below, is shown in Figure 1.

Table 4

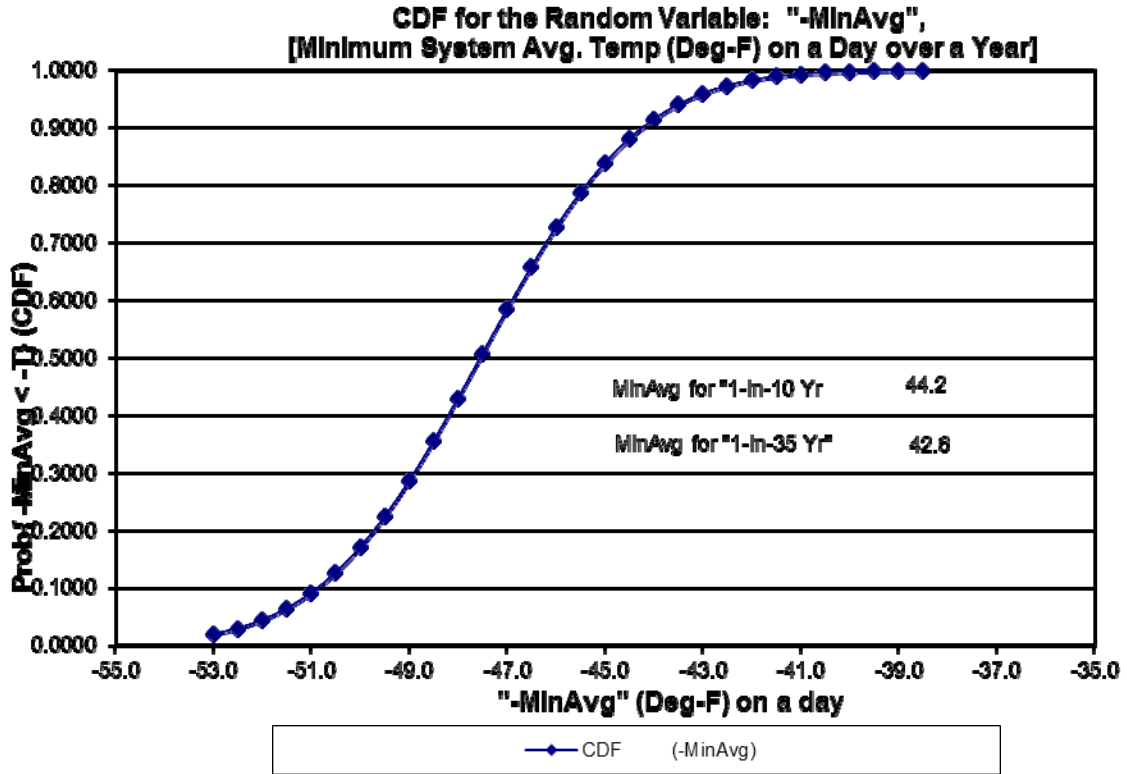
YEAR	MINAVG	Month(MinAvg)
1972	46.8593	Dec
1973	46.1101	Jan
1974	44.2202	Dec
1975	44.1101	Jan
1976	45.1651	Jan
1977	50.7492	Mar
1978	42.8043	Dec
1979	45.4985	Jan
1980	53.8043	Jan
1981	49.8593	Jan
1982	48.8318	Dec
1983	51.4985	Jan
1984	48.4709	Dec
1985	46.1101	Dec
1986	50.1101	Feb
1987	41.4985	Dec
1988	45.4434	Dec
1989	45.1651	Jan
1990	43.7768	Feb
1991	48.7768	Mar
1992	47.1651	Dec
1993	46.7768	Jan
1994	48.0550	Nov
1995	51.1651	Dec
1996	48.7768	Feb
1997	49.0826	Dec
1998	46.7768	Dec
1999	48.8043	Jan
2000	50.3609	Jan
2001	47.6942	Jan
2002	45.7492	Jan
2003	49.0550	Dec
2004	47.7492	Nov
2005	47.8043	Jan
2006	48.3609	Dec
2007	43.3609	Jan
2008	48.7217	Dec
2009	48.4159	Feb
2010	48.1927	Dec
2011	49.0826	Feb
2012	48.1376	Dec
2013	44.1376	Jan

Table 5

YEAR	Days/Yr	-MinAvg	Month (-MinAvg)	Rank	alpha= Empirical CDF	0.375 Fitted Model CDF
1980	366	-53.8043	Jan	1	-2.256	-2.4822
1983	365	-51.4985	Jan	2	-1.816	-1.5835
1995	365	-51.1651	Dec	3	-1.570	-1.4536
1977	365	-50.7492	Mar	4	-1.392	-1.2915
2000	366	-50.3609	Jan	5	-1.249	-1.1401
1986	365	-50.1101	Feb	6	-1.127	-1.0424
1981	365	-49.8593	Jan	7	-1.021	-0.9447
1997	365	-49.0826	Dec	8	-0.924	-0.6419
2011	365	-49.0826	Feb	9	-0.836	-0.6419
2003	365	-49.0550	Dec	10	-0.753	-0.6312
1982	365	-48.8318	Dec	11	-0.676	-0.5442
1999	365	-48.8043	Jan	12	-0.602	-0.5335
1991	365	-48.7768	Mar	13	-0.532	-0.5228
1996	366	-48.7768	Feb	14	-0.464	-0.5228
2008	366	-48.7217	Dec	15	-0.399	-0.5013
1984	366	-48.4709	Dec	16	-0.335	-0.4036
2009	365	-48.4159	Feb	17	-0.272	-0.3821
2006	365	-48.3609	Dec	18	-0.211	-0.3607
2010	365	-48.1927	Dec	19	-0.150	-0.2951
2012	366	-48.1376	Dec	20	-0.090	-0.2737
1994	365	-48.0550	Nov	21	-0.030	-0.2415
2005	365	-47.8043	Jan	22	0.030	-0.1438
2004	366	-47.7492	Nov	23	0.090	-0.1223
2001	365	-47.6942	Jan	24	0.150	-0.1009
1992	366	-47.1651	Dec	25	0.211	0.1053
1972	366	-46.8593	Dec	26	0.272	0.2245
1993	365	-46.7768	Jan	27	0.335	0.2567
1998	365	-46.7768	Dec	28	0.399	0.2567
1973	365	-46.1101	Jan	29	0.464	0.5165
1985	365	-46.1101	Dec	30	0.532	0.5165
2002	365	-45.7492	Jan	31	0.602	0.6572
1979	365	-45.4985	Jan	32	0.676	0.7549
1988	366	-45.4434	Dec	33	0.753	0.7763
1976	366	-45.1651	Jan	34	0.836	0.8848
1989	365	-45.1651	Jan	35	0.924	0.8848
1974	365	-44.2202	Dec	36	1.021	1.2531
2013	365	-44.1376	Jan	37	1.127	1.2853
1975	365	-44.1101	Jan	38	1.249	1.2960
1990	365	-43.7768	Feb	39	1.392	1.4259
2007	365	-43.3609	Jan	40	1.570	1.5880
1978	365	-42.8043	Dec	41	1.816	1.8049
1987	365	-41.4985	Dec	42	2.256	2.3138

"Gamma" (Fitted) = -47.55
 "Theta" (Fitted) = 2.54
 Deg. Freedom= 40

Figure 1



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 5, above) to calculate the fitted temperatures as a function of the empirical CDF listed in Table 5. 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 $e[i]$ = *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 0.3 Deg-F.

Table 6

Quantile: (Lower, Middle, Upper 3rd's)	Observed $T_{[i]}$ Temp. Ranked	Fitted Value of $T_{[i]}$	Residual $e_{[i]}$: Obs'd. less Fitted Value of $T_{[i]}$	Square of $e_{[i]}$:
U	53.8043	53.2847	0.5196	0.2700
U	51.4985	52.1640	-0.6655	0.4429
U	51.1651	51.5396	-0.3744	0.1402
U	50.7492	51.0867	-0.3375	0.1139
U	50.3609	50.7228	-0.3620	0.1310
U	50.1101	50.4137	-0.3037	0.0922
U	49.8593	50.1418	-0.2825	0.0798
U	49.0826	49.8967	-0.8142	0.6629
U	49.0826	49.6718	-0.5892	0.3472
U	49.0550	49.4625	-0.4074	0.1660
U	48.8318	49.2655	-0.4337	0.1881
U	48.8043	49.0785	-0.2742	0.0752
U	48.7768	48.8996	-0.1228	0.0151
U	48.7768	48.7272	0.0496	0.0025
M	48.7217	48.5602	0.1615	0.0261
M	48.4709	48.3975	0.0734	0.0054
M	48.4159	48.2383	0.1776	0.0315
M	48.3609	48.0819	0.2790	0.0778
M	48.1927	47.9275	0.2652	0.0703
M	48.1376	47.7745	0.3631	0.1318
M	48.0550	47.6224	0.4326	0.1872
M	47.8043	47.4706	0.3337	0.1114
M	47.7492	47.3184	0.4308	0.1856
M	47.6942	47.1655	0.5287	0.2796
M	47.1651	47.0111	0.1541	0.0237
M	46.8593	46.8546	0.0047	0.0000
M	46.7768	46.6954	0.0813	0.0066
M	46.7768	46.5328	0.2440	0.0595
L	46.1101	46.3658	-0.2557	0.0654
L	46.1101	46.1934	-0.0833	0.0069
L	45.7492	46.0144	-0.2652	0.0703
L	45.4985	45.8274	-0.3290	0.1082
L	45.4434	45.6305	-0.1870	0.0350
L	45.1651	45.4212	-0.2560	0.0655
L	45.1651	45.1962	-0.0311	0.0010
L	44.2202	44.9511	-0.7309	0.5343
L	44.1376	44.6792	-0.5416	0.2933
L	44.1101	44.3702	-0.2601	0.0676
L	43.7768	44.0063	-0.2295	0.0527
L	43.3609	43.5534	-0.1925	0.0371
L	42.8043	42.9290	-0.1247	0.0155
L	41.4985	41.8083	-0.3098	0.0960
Overall RMSE ($e_{[i]}$):				0.4 °F
Upper 3rd RMSE ($e_{[i]}$):				0.5 °F
Middle 3rd RMSE ($e_{[i]}$):				0.3 °F
Lower 3rd RMSE ($e_{[i]}$):				0.3 °F

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_δ), 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 (41.8°F) associated with a 1-in-35 annual likelihood, the return period is 35 years (δ=1/35). For the 44.2°F peak-day design temperature, the return period is 10 years (δ=1/10). Occasionally, a less precise terminology is used. For example, the 42.6°F peak-day design temperature may be referred to as a “1-in-35 year cold day”; and the 44.2°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_δ }.

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

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.

VII. Calculation of Likelihoods for Peak-Day Temperature Events Over a Specified Number of Years

With a specified annual likelihood (i.e., a level of risk) for a peak-day temperature event, several forward-looking questions can be posed:

- 1). What is the probability that we observe *no* peak-day event over the next N years?
- 2). What is the probability that we observe *at least one* specified peak-day event over the next N years?"
- 3). What is the probability that we observe exactly one peak-day event over the next N years?
- 4). What is the underlying peak-day temperature associated with the annual likelihood computed from setting the probability in question 3 above to a specified value?

To calculate the probabilities to answer questions 1-3, we use a binomial probability model:

$$(1) \text{ BiNomial}(s, N, \delta) = \{ N! / [(s!) (N-s)!] \} [\delta]^s [1 - \delta]^{(N-s)}, \text{ where}$$

N = # of years, s = # of peak-day events and δ = Annual Likelihood of a peak-day event.; the notation "N!" means the product "N(N-1)(N-2) ... (2)(1)" in the formula.

The binomial probability model is the one that applies here since for a specified number of years in the future, N, and a specified annual likelihood, δ , for the peak-day event, there are typically a number of ways that a specified number of annual peak-day events can occur out of the total, N, regardless of the order in which the outcomes might occur.

For $\delta=0.1$, N=10 years the answer to question 1) is calculated from:

$$(2) \text{ Prob}\{ \text{No peak-day event over 10 years} \} = \text{BiNomial}(0, 10, 0.1) = 0.3487$$

The answer to question 2) is simply:

$$(3) \text{ Prob}\{ \text{At Least One peak-day event over 10 years} \} = \\ 1 - \text{Prob}\{ \text{No peak-day event over 10 years} \} = 1 - 0.3487 = 0.6513$$

The answer to question 3) is calculated from:

$$(4) \text{ Prob}\{ \text{Exactly One peak-day event over 10 years} \} = \text{BiNomial}(1, 10, 0.1)$$

$$(4') \quad \text{Prob}\{ \textit{Exactly One peak-day event over 10 years} \} = 0.3874$$

Finally, to find an answer to question 4) where there's a 1/10 chance that only one peak-day event occurs over a ten-year period, we solve for δ in the equation:

$$(5) \quad 0.1000 = \text{BiNomial}(1, 10, \delta).$$

A numerical solution to this equation yields $\delta = 0.0011052$, approximately, for the annual likelihood of a peak-day event. Our estimation results of Section IV, above, allow us to calculate the peak-day design temperature for this value of δ . The resulting calculations yield $\text{TPDD}_{\delta} = 39.0^{\circ}\text{F}$. A similar set of calculations for the case where we want to find the annual likelihood of a peak-day where only one peak-day event occurs over a thirty-five year period with a chance of $1/35=0.0286$. The resulting value of $\delta = 0.000084085$ with $\text{TPDD}_{\delta} = 41.5^{\circ}\text{F}$ for this value of δ .

VIII. Attachment 1: SAS Program Execution Log

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

NOTE: Copyright (c) 1989-1996 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software Release 6.12 TS020
Licensed to SAN DIEGO GAS & ELECTRIC CO, Site 0009311007.

```
1 Title1 "Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).";
2 Title2 "Fit GEV Probability Model to Empirical CDF using NL-OLS Regression Methods." ;
3
4 /*****
5 /*
6 /*
7 /*
8 /* FILE SAVED: "S:\Weather\2014Cgr\SDGandE-Alt2Wgt\GEV4DlyTemp(NLReg2)_Sdge4WP.sas"
9 /*
10 /* Jul. 11th, 2014 for Annual Max of Negative of Min. Temp.
11 /* Also, separately for and each of twelve(12) calendar months Jan-Dec.
12 /* Fit GEV models (3-parameter and 2-parameter), plus a simple T-Dist. model.
13 /*
14 /*
15 /*
16 /* 2014 California Gas Report Work Paper: Model Estimation for the 2-Parameter T-Dist,
17 /* rather than the G.E.V. distribution, used for the 2012 CGR.
18 /*
19 /*
20 /*
21 /*****
22
23
24
25
26
27
28 options mprint ;
29 /* %cour8p
30 %cour8l ; */
31
32
33 options ls=211 ps=69 ; **<<LANDSCAPE: SAS-Monospace w/Roman 6pt. Font >>** ;
34 *options ls=160 ps=90 ; **<<PORTRAIT: SAS-Monospace w/Roman 6pt. Font >>** ;
35
36 options date number notes ;
37
38
39
40 libname out2 'S:\Weather\2014Cgr\SDGandE-Alt2Wgt\';
NOTE: Libref OUT2 was successfully assigned as follows:
Engine: V612
Physical Name: S:\Weather\2014Cgr\SDGandE-Alt2Wgt
41 **<< Change library reference to use applicable daily data. >>**
42
43 libname estout2 'S:\Weather\2014Cgr\SDGandE-Alt2Wgt\MinTemp\';
44 **<< Change library reference to use estimation results directory. >>** ;
45
46
47 proc contents data=out2.SAvgSDGE ;
48 run ;
```

NOTE: The PROCEDURE CONTENTS used 0.64 seconds.

```
49
50 data seriesD ;
51 set out2.SAvgSDGE ;
52 year = year(date) ;
53 month = month(date) ;
54 posAvg = avg ;
55 negAvg = -avg ;
56 run ;
```

NOTE: The data set WORK.SERIESD has 15372 observations and 10 variables.
NOTE: The DATA statement used 0.65 seconds.

57
58

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

```
59 proc means data=seriesD noprint nway ;
60   class year month ;
61   var posAvg negAvg ;
62   output out=mostat
63         mean=posAvg  negAvg
64         max=MxPosAvg MxNegAvg
65         min=MnPosAvg MnNegAvg  ;
66 run;
```

NOTE: The data set WORK.MOSTAT has 505 observations and 10 variables.
NOTE: The PROCEDURE MEANS used 0.11 seconds.

```
67
68
69 proc sort data=mostat ;
70   by year month ;
71 run ;
```

NOTE: The data set WORK.MOSTAT has 505 observations and 10 variables.
NOTE: The PROCEDURE SORT used 0.06 seconds.

```
72
73
74 data mostat ;
75   set mostat ;
76   MxPRatio = MxPosAvg/ PosAvg ;
77   MnPRatio = MnPosAvg/ PosAvg ;
78   MxNRatio = MxNegAvg/ NegAvg ;
79   MnNRatio = MnNegAvg/ NegAvg ;
80 run ;
```

NOTE: The data set WORK.MOSTAT has 505 observations and 14 variables.
NOTE: The DATA statement used 0.03 seconds.

```
81
82
83
84
85
86
87
88 /*****
89 ***<< Print Summary Tables of Means/Minimums/Maximums of daily NEGATIVE-Temperatures (degrees-F). >>*** ;
90
91 proc transpose data=mostat out=AvTData prefix=AvT_ ;   **<< Update "year" value as necessary! >>*** ;
92   where (year < 2014) ;
93   by year;
94   id month ;
95   var NegAvg ;
96 run ;
97
98 data AvTData ;
99   set AvTData ;
100
101 if (mod(year,4)=0) then do ;
102   AvTyr = (AvT_1 + AvT_3 + AvT_5 + AvT_7 + AvT_8 + AvT_10 + AvT_12)*31
103           + (AvT_4 + AvT_6 + AvT_9 + AvT_11)*30
104           + (AvT_2)*29 ;
105   AvTyr = AvTyr / 366 ;
106 end ;
107 else do ;
108   AvTyr = (AvT_1 + AvT_3 + AvT_5 + AvT_7 + AvT_8 + AvT_10 + AvT_12)*31
109           + (AvT_4 + AvT_6 + AvT_9 + AvT_11)*30
110           + (AvT_2)*28 ;
111   AvTyr = AvTyr / 365 ;
112 end ;
113
114 run ;
115
116 proc print data=AvTData ;
117   id year ;
118   var AvTyr AvT_1-AvT_12 ;
119   title3 'Monthly Mean NEGATIVE Temperature (Deg-F) from 1972 thru 2013.';
120 run ;
```

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

```
121
122
123
124
125
126 proc transpose data=mostat out=MnTData prefix=MnT_ ;
127   where (year < 2014) ;   ***<< Update "year" value as necessary! >>*** ;
128   by year;
129   id month ;
130   var MnNegAvg ;
131 run ;
132
133 data MnTData ;
134   set MnTData ;
135   MnTyr = min(of MnT_1-MnT_12) ;
136 run ;
137
138 proc print data=MnTData ;
139   id year ;
140   var MnTyr MnT_1-MnT_12 ;
141 title3 'Monthly MINIMUM NEGATIVE-Temperature (Deg-F) from 1972 thru 2013.';
142 run ;
143 *****/
144
145
146
147
148
149 proc transpose data=mostat out=MxTData prefix=MxT_ ;
150   where (year < 2014) ;   ***<< Update "year" value as necessary! >>*** ;
151   by year;
152   id month ;
153   var MxNegAvg ;
154 run ;
```

NOTE: The data set WORK.MXTDATA has 42 observations and 14 variables.
NOTE: The PROCEDURE TRANSPOSE used 0.07 seconds.

```
155
156 data MxTData ;
157   set MxTData ;
158   MxTyr = max(of MxT_1-MxT_12) ;
159 run ;
```

NOTE: The data set WORK.MXTDATA has 42 observations and 15 variables.
NOTE: The DATA statement used 0.06 seconds.

```
160
161 proc print data=MxTData ;
162   id year ;
163   var MxTyr MxT_1-MxT_12 ;
164 title3 'Monthly MAXIMUM NEGATIVE-Temperature (Deg-F) from 1972 thru 2013.'; ***<< Update "year" value as
necessary! >>*** ;
165 run ;
```

NOTE: The PROCEDURE PRINT used 0.04 seconds.

```
166
167
168
169
170
171
172
173
174
175
176 /*****
177 ***<< Descriptive Statistics: Maximums of daily NEGATIVE-Temperatures (Deg-F) for Year and each calendar month.
>>*** ;
178
179
180 proc corr data=MxTData ;
181   var MxTyr MxT_1 - MxT_12 ;
```

```
182 title3 'Correlation Matrix of Monthly Maximum NEGATIVE-Temperatures (Deg-F) within same year.';
183 run ;
184
185 proc arima data=MxTData ;
186   identify var=MxTYr ;
187   identify var=MxT_1 ;
188   identify var=MxT_2 ;
189   identify var=MxT_3 ;
190   identify var=MxT_4 ;
191   identify var=MxT_5 ;
192   identify var=MxT_6 ;
193   identify var=MxT_7 ;
194   identify var=MxT_8 ;
195   identify var=MxT_9 ;
196   identify var=MxT_10 ;
197   identify var=MxT_11 ;
198   identify var=MxT_12 ;
199 title3 "Auto-correlation analysis of each calendar month's Maximum NEGATIVE-Temperatures (Deg-F) within same
year.";
200 run ;
201
202 proc univariate normal data=MxTData plot ;
203   id year ;
204   var MxTYr MxT_1 - MxT_12 ;
205 title3 "Probability plots and tests for NORMALity by each calendar month's Maximun NEGATIVE-Temperatures (Deg-F)
time series.";
206 run ;
207
208
209 proc means data=MxTData ;
210   var MxT_1 - MxT_12 MxTYr ;
211 run ;
212 *****/
213
214
215
216
217
218
219
220
221 ***<< Statistical Estimation of GEV Models: Maximums of daily heating degrees for Year and each calendar month.
>>*** ;
222
223 %macro RankIt(file=MxTData,var=MxTYr,rank=RankYr,prob=PrMxTYr,Nobser=42,PltValue=0.375) ;
224
225     **<< Update "Nobser" value as necessary! >>*** ;
226
227 proc sort data=&file ;
228   by &var ;
229 run ;
230
231 data &file ;
232   set &file ;
233   retain &rank 0      alpha &pltvalue ;
234
235   &rank = &rank + 1 ;
236   &prob = (&rank - alpha) / (&Nobser +(1 - 2*alpha)) ;
237 run ;
238
239 proc print data=&file ;
240   var &var &rank &prob alpha year ;
241 run ;
242 %mend RankIt ;
243
244
245
246
247 %macro GEVfit(file=MxTData,ofile=MxTNL1,outfit=fit1,outest=est1,depvar=PrMxTYr,var=MxTYr,typeGEV=1,
248   KappaI=0.25,GammaI=-47.05,ThetaI=2.77,YrLo=1972,YrHi=2013) ;
249
250     **<< Update "YrHi" value as necessary! >>*** ;
251
252 proc sort data=&file ;
253   by year ;
254 run ;
255
```

```

256
257
258 proc model data=&file converge=0.001
259     maxit=500 dw ; outmodel=&ofile ;
260     range year = &YrLo to &YrHi ; **<< Dropped monthly data beyond 2013 data. >>** ;
261
262
263     y = (&var - Gamma) / Theta ;
264
265     %if &typeGEV=1 %then %do ; ***<< 3-parameter GEV Model. >>*** ;
266         &depvar = exp( -(1 - Kappa * (y))**(1/Kappa) ) ;
267         %let typmod = 3-parameter GEV Model. ;
268     %end ;
269
270     %if &typeGEV=2 %then %do ; **<< 2-parameter "Double Exponential" or "Gumbel" Model. >>** ;
271         &depvar = exp( -exp(-(y)) ) ;
272         %let typmod = 2-parameter Double Exponential or Gumbel Model. ;
273     %end ;
274
275     %if (&typeGEV NE 1) AND (&typeGEV NE 2) %then %do ; **<< 2-parameter "T-Dist" Model. >>** ;
276         dft=(&YrHi - &YrLo) +1 -2 ;
277         &depvar = probt(y,dft) ;
278         %let typmod = 2-parameter T-Dist Model. ;
279     %end ;
280
281
282     %if &typeGEV = 1 %then %do ;
283     parms
284         Kappa &KappaI
285         Gamma &GammaI
286         Theta &ThetaI ;
287     %end ;
288
289     %if (&typeGEV NE 1) %then %do ;
290     parms
291         Gamma &GammaI
292         Theta &ThetaI ;
293     %end ;
294
295
296     fit &depvar /out=&outfit outall
297         outest=&outest corrb corrs outcov ;
298
299     title3 "Non-linear Estimation of &&typmod: for Maximum NEGATIVE Temperature (Deg-F).";
300     run ;
301     %mend GEVfit ;
302
303
304
305
306
307
308
309 /*****
310 *****/
311
312 proc means data=MxTData ;
313     var MxT_1 - MxT_12 MxTYr ;
314     output out=VarStat
315         mean=mean1-mean12 meanYr
316         std=stdev1-stdev12 stdevYr;
317     title3 "Calc. Means and Standard Deviantions to use as Starting Values in Non-Linear Estimations." ;
318     run ;

```

NOTE: The data set WORK.VARSTAT has 1 observations and 28 variables.
 NOTE: The PROCEDURE MEANS used 0.04 seconds.

```

319
320
321 proc print data=VarStat ;
322 run ;

```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

323

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

```
324
325 data _null_ ;
326     set VarStat ;
327
328     call symput('gamma_Yr',meanYr) ;
329     call symput('theta_Yr',stdevYr) ;
330
331     call symput('gamma_12',mean12) ;
332     call symput('theta_12',stdev12) ;
333
334     call symput('gamma_11',mean11) ;
335     call symput('theta_11',stdev11) ;
336
337     call symput('gamma_10',mean10) ;
338     call symput('theta_10',stdev10) ;
339
340     call symput('gamma_9',mean9) ;
341     call symput('theta_9',stdev9) ;
342
343     call symput('gamma_8',mean8) ;
344     call symput('theta_8',stdev8) ;
345
346     call symput('gamma_7',mean7) ;
347     call symput('theta_7',stdev7) ;
348
349     call symput('gamma_6',mean6) ;
350     call symput('theta_6',stdev6) ;
351
352     call symput('gamma_5',mean5) ;
353     call symput('theta_5',stdev5) ;
354
355     call symput('gamma_4',mean4) ;
356     call symput('theta_4',stdev4) ;
357
358     call symput('gamma_3',mean3) ;
359     call symput('theta_3',stdev3) ;
360
361     call symput('gamma_2',mean2) ;
362     call symput('theta_2',stdev2) ;
363
364     call symput('gamma_1',mean1) ;
365     call symput('theta_1',stdev1) ;
366
367 run ;
```

NOTE: Numeric values have been converted to character values at the places given by: (Line):(Column).
328:26 329:26 331:26 332:26 334:26 335:26 337:26 338:26 340:25 341:25 343:25 344:25
346:25 347:25 349:25 350:25 352:25 353:25 355:25 356:25 358:25 359:25
361:25 362:25 364:25 365:25

NOTE: The DATA statement used 0.11 seconds.

```
368
369
370
371
372
373
374 *****<<< Analysis for "Annual" Data (i.e., SUFFIX "mm" = "_Yr" >>>*****;
375
376
377
MPRINT(RANKIT):  ***<< UPDATE "NOBSER" VALUE AS NECESSARY! >>*** ;
378
379
380 %RankIt(file=MxTData,var=MxTYr,rank=RankYr,prob=PrMxTYr,Nobser=42,PltValue=0.375) ;
MPRINT(RANKIT):  PROC SORT DATA=MXTDATA ;
MPRINT(RANKIT):  BY MXTYR ;
MPRINT(RANKIT):  RUN ;
```

NOTE: The data set WORK.MXTDATA has 42 observations and 15 variables.
NOTE: The PROCEDURE SORT used 0.03 seconds.

```
MPRINT(RANKIT):  DATA MXTDATA ;
MPRINT(RANKIT):  SET MXTDATA ;
MPRINT(RANKIT):  RETAIN RANKYR 0 ALPHA 0.375 ;
```

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

```
MPRINT(RANKIT): RANKYR = RANKYR + 1 ;  
MPRINT(RANKIT): PRMXTYR = (RANKYR - ALPHA) / (42 +(1 - 2*ALPHA)) ;  
MPRINT(RANKIT): RUN ;
```

NOTE: The data set WORK.MXTDATA has 42 observations and 18 variables.
NOTE: The DATA statement used 0.04 seconds.

```
MPRINT(RANKIT): PROC PRINT DATA=MXTDATA ;  
MPRINT(RANKIT): VAR MXTYR RANKYR PRMXTYR ALPHA YEAR ;  
MPRINT(RANKIT): RUN ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
381  
382           **<< Update "Nobser" value as necessary! >>** ;  
383  
384 *** << Do estimation for the 2-Parameter, T-Dist using "suffix" value of "0" for "typeGEV" macro variable. >> ***  
;   
385  
386  
387 %GEVfit(file=MxTData,ofile=MxTnl1,outfit=fit1,outest=est1,depvar=PrMxTYr,var=MxTYr,typeGEV=0,  
MPRINT(GEVFIT):   **<< UPDATE "YRHI" VALUE AS NECESSARY! >>** ;  
388           KappaI=0.25,GammaI=&gamma_Yr,ThetaI=&theta_Yr,YrLo=1972,YrHi=2013) ;  
MPRINT(GEVFIT):  PROC SORT DATA=MXTDATA ;  
MPRINT(GEVFIT):  BY YEAR ;  
MPRINT(GEVFIT):  RUN ;
```

NOTE: The data set WORK.MXTDATA has 42 observations and 18 variables.
NOTE: The PROCEDURE SORT used 0.01 seconds.

```
MPRINT(GEVFIT):  PROC MODEL DATA=MXTDATA CONVERGE=0.001 MAXIT=500 DW ;  
MPRINT(GEVFIT):  OUTMODEL%MXTNL1 ;  
MPRINT(GEVFIT):  RANGE YEAR = 1972 TO 2013 ;  
MPRINT(GEVFIT):  **<< DROPPED MONTHLY DATA BEYOND 2013 DATA. >>** ;  
MPRINT(GEVFIT):  Y % (MXTYR - GAMMA) / THETA ;  
MPRINT(GEVFIT):  **<< 2-PARAMETER "T-DIST" MODEL. >>** ;  
MPRINT(GEVFIT):  DFT%(2013 - 1972) +1 -2 ;  
MPRINT(GEVFIT):  PRMXTYR % PROBT(Y,DFT) ;  
MPRINT(GEVFIT):  PARS GAMMA -47.4354144 THETA 2.5658597588 ;  
  
MPRINT(GEVFIT):  FIT PRMXTYR /OUT=FIT1 OUTALL OUTEST=EST1 CORRB CORRS OUTCOV ;  
MPRINT(GEVFIT):  TITLE3 "Non-linear Estimation of 2-parameter T-Dist Model.: for Maximum NEGATIVE Temperature (Deg-  
F).";  
MPRINT(GEVFIT):  RUN ;
```

NOTE: At OLS Iteration 3 CONVERGE=0.001 Criteria Met.
NOTE: The data set WORK.FIT1 has 126 observations and 6 variables.
NOTE: The data set WORK.EST1 has 3 observations and 5 variables.

```
389  
390           **<< Update "YrHi" value as necessary! >>** ;  
391  
392
```

NOTE: The PROCEDURE MODEL used 0.43 seconds.

```
393 proc print data=fit1 ;  
394 run ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
395  
396  
397  
398  
399 proc transpose data=fit1 out=pred1 prefix=probP ;  
400   where (_type_ = "PREDICT" ) ;  
401   by year ;  
402   var prmxtyr ;  
403 run ;
```

NOTE: The data set WORK.PRED1 has 42 observations and 3 variables.
NOTE: The PROCEDURE TRANSPOSE used 0.02 seconds.

```
404
405 data comb1 ;
406     merge MxTData pred1 ;
407     by year ;
408     ProbP = ProbP1 ;
409     keep year MxTYr PrMxTYr ProbP ;
410 run ;
```

NOTE: The data set WORK.COMB1 has 42 observations and 4 variables.
NOTE: The DATA statement used 0.02 seconds.

```
411
412
413 proc print data=comb1 ;
414 run ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
415
416
417 proc plot data=comb1 ;
418     plot prmxtyr*MxTYr='*'
419         probp*MxTYr='-.' / overlay ;
420 run ;
```

```
421
422
```

NOTE: The PROCEDURE PLOT used 0.07 seconds.

```
423 proc print data=est1 ;
424 run ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
425
426
427 /*****
428 data estout2.est0_Yr ;   ***<<< Save a copy of the "2-parameter T-Dist Model" estimation results! >>>*** ;
429 set est1 ;
430 run ;
431 *****/
432
433
434
435
436
437
438 data comb ;
439     merge MxTData pred1(rename=(ProbP1=ProbP1)) ;
440     by year ;
441
442     ***<<< "Log(PrMxTYr) - Log(ProbP)" to calc. RMSE of Proportional Errors Models! >>>*** ;
443     LgPrRat1 = Log(PrMxTYr/ProbP1) ;
444
445     label LgPrRat1 = "Log(PrMxTYr/ProbP1)- T-Dist" ;
446
447     if (PrMxTYr <= (1/3)) then Quantile=1 ;   ***<< "Lower Third" >>>*** ;
448     if (PrMxTYr > (1/3) AND (PrMxTYr <= (2/3))) then Quantile=2 ;   ***<< "Middle Third" >>>*** ;
449     if (PrMxTYr > (2/3)) then Quantile=3 ;   ***<< "Upper Third" >>>*** ;
450
451     keep year MxTYr Quantile PrMxTYr ProbP1 LgPrRat1 ;
452 run ;
```

NOTE: The data set WORK.COMB has 42 observations and 6 variables.
NOTE: The DATA statement used 0.05 seconds.

```
453
454
455 proc print data=comb ;
```

SAN DIEGO GAS & ELECTRIC COMPANY
2014 CALIFORNIA GAS REPORT-REDACTED WORKPAPERS

```
456 var year MxTYr Quantile PrMxTYr ProbP1 LgPrRat1 ;
457 title3 "Est'd CDFs and Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models." ;
458 run ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
459
460
461
462 proc means data=comb n mean std min max var uss ;
463 var LgPrRat1 ;
464 title3 "Stats for Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models to calc. RMSE of Prop. Model
Spec" ;
465 run ;
```

NOTE: The PROCEDURE MEANS used 0.01 seconds.

```
466
467
468 proc sort data=comb ;
469 by Quantile ;
470 run ;
```

NOTE: The data set WORK.COMB has 42 observations and 6 variables.
NOTE: The PROCEDURE SORT used 0.02 seconds.

```
471
472
473 proc means data=comb n mean std min max var uss ;
474 by Quantile ;
475 var LgPrRat1 ;
476 title3 "Stats By Quantile for Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models to calc. RMSE of
Prop. Model Spec" ;
477 run ;
```

NOTE: The PROCEDURE MEANS used 0.01 seconds.

```
478
479
480
481 proc means data=comb n mean std min max var uss ;
482 by Quantile ;
483 var LgPrRat1 ;
484 title3 "Stats By Quantile for Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models to calc. RMSE of
Prop. Model Spec" ;
485 run ;
```

NOTE: The PROCEDURE MEANS used 0.01 seconds.

```
486
487
488
489 quit ;
```


IX. Attachment 2: SAS Program Output

CONTENTS PROCEDURE

Data Set Name: OUT2.SAVGSDGE	Observations: 15372
Member Type: DATA	Variables: 6
Engine: V612	Indexes: 0
Created: 11:43 Saturday, February 22, 2014	Observation Length: 48
Last Modified: 11:43 Saturday, February 22, 2014	Deleted Observations: 0
Protection:	Compressed: NO
Data Set Type:	Sorted: NO
Label:	

-----Engine/Host Dependent Information-----

Data Set Page Size:	8192
Number of Data Set Pages:	92
File Format:	607
First Data Page:	1
Max Obs per Page:	169
Obs in First Data Page:	147

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Informat	Label
2	AVG	Num	8	8			Syst-Avg. Avg
6	CDD	Num	8	40			Syst-Avg. Cdd
1	DATE	Num	8	0	DATE9.	MMDDYY10.	
5	HDD	Num	8	32			Syst-Avg. Hdd
3	MAX	Num	8	16			Syst-Avg. Max
4	MIN	Num	8	24			Syst-Avg. Min

YEAR	MXTYR	MXT_1	MXT_2	MXT_3	MXT_4	MXT_5	MXT_6	MXT_7	MXT_8	MXT_9	MXT_10	MXT_11	MXT_12
1972	-46.8593	-47.1651	-50.5535	-54.7492	-56.8043	-59.3884	-63.6942	-69.5841	-67.6942	-66.0000	-55.7492	-54.1101	-46.8593
1973	-46.1101	-46.1101	-54.1101	-53.0550	-56.1101	-57.6942	-63.7492	-67.6942	-69.2783	-66.0000	-61.8043	-52.1101	-52.1101
1974	-44.2202	-48.2202	-51.3884	-52.7492	-57.8043	-60.0550	-64.3058	-67.2783	-69.2783	-66.9450	-57.8043	-54.8593	-44.2202
1975	-44.1101	-44.1101	-49.1651	-48.2202	-51.3884	-57.4434	-60.3609	-66.3058	-68.0000	-66.0000	-60.1101	-50.1101	-50.1651
1976	-45.1651	-45.1651	-54.1101	-49.8043	-55.3884	-60.0000	-63.0550	-69.5841	-68.7492	-68.1101	-61.8043	-49.8593	-52.5810
1977	-50.7492	-51.8593	-52.1101	-50.7492	-54.1101	-58.6391	-65.6391	-68.9450	-71.6942	-68.1101	-63.4434	-56.1651	-56.5535
1978	-42.8043	-52.2202	-53.4985	-55.8043	-55.1651	-60.1101	-66.3609	-68.0000	-68.7492	-66.4159	-65.3884	-54.5260	-42.8043
1979	-45.4985	-45.4985	-50.1101	-51.1651	-58.1101	-60.3609	-63.6942	-67.6942	-70.9450	-71.6391	-61.0550	-52.1101	-52.4709
1980	-53.8043	-53.8043	-56.1101	-54.1101	-55.7492	-58.8043	-64.0000	-69.5841	-69.9450	-67.7492	-60.1101	-55.8593	-54.9144
1981	-49.8593	-49.8593	-53.0826	-53.2783	-56.1651	-61.7217	-66.6391	-71.6391	-72.2508	-68.3884	-58.4985	-54.5260	-53.4434
1982	-48.8318	-49.4434	-54.3333	-53.7492	-53.1101	-60.4159	-62.0550	-67.0000	-70.9725	-64.0826	-61.4985	-55.4434	-48.8318
1983	-51.4985	-51.4985	-53.2202	-55.7768	-54.1376	-60.1651	-62.1927	-67.9450	-70.0550	-67.8593	-66.7492	-51.8868	-52.5535
1984	-48.4709	-51.5535	-51.8318	-58.7492	-57.6942	-59.4434	-65.3884	-72.6116	-73.6667	-72.1101	-61.0275	-53.1651	-48.4709
1985	-46.1101	-48.8318	-46.8318	-49.4434	-49.4434	-60.3609	-62.6667	-71.6942	-68.6116	-65.3884	-63.0550	-50.8318	-46.1101
1986	-50.1101	-56.3609	-50.1101	-53.4159	-57.3333	-58.7768	-65.9725	-67.5841	-70.2508	-60.1101	-60.7217	-58.1101	-53.1376
1987	-41.4985	-42.4159	-49.1376	-53.0826	-56.0550	-60.3609	-63.8899	-64.6116	-64.3333	-66.9725	-63.4985	-54.4434	-41.4985
1988	-45.4434	-49.1376	-52.4159	-55.1927	-55.6667	-57.0550	-59.6942	-68.5566	-68.5566	-63.3333	-62.3058	-53.3884	-45.4434
1989	-45.1651	-45.1651	-45.8043	-51.7217	-56.7217	-58.4159	-62.0000	-68.0000	-69.0275	-62.7217	-61.0275	-56.7768	-51.4985
1990	-43.7768	-48.1101	-43.7768	-50.1101	-58.7217	-58.1101	-63.0275	-68.8073	-68.9725	-68.0000	-65.0275	-55.1376	-43.7768
1991	-48.7768	-51.6942	-54.6667	-48.7768	-57.9450	-58.0000	-61.3058	-66.5015	-67.8899	-65.0000	-58.0000	-51.1376	-50.4985
1992	-47.1651	-52.0550	-56.3884	-56.0000	-63.0826	-64.2783	-65.3333	-68.1407	-68.3884	-69.9450	-64.4159	-55.1376	-47.1651
1993	-46.7768	-46.7768	-52.3884	-54.4159	-58.6667	-59.8043	-61.3609	-67.9450	-67.6942	-64.3884	-62.4159	-55.6942	-52.0550
1994	-48.0550	-51.7492	-52.1651	-53.7217	-55.3333	-59.2783	-64.6116	-67.8899	-70.2508	-66.6667	-61.3884	-48.0550	-50.4709
1995	-51.1651	-52.4159	-56.0826	-52.4434	-53.3884	-56.0826	-60.9725	-66.6116	-70.0000	-66.7217	-62.6116	-60.1101	-51.1651
1996	-48.7768	-50.3884	-48.7768	-54.9725	-58.3609	-61.6391	-64.6116	-68.1957	-69.2232	-67.0275	-55.0826	-53.3884	-52.1101
1997	-49.0826	-51.0000	-50.8868	-52.3609	-53.0826	-64.6667	-63.9450	-67.6116	-70.5566	-69.5841	-62.0550	-57.6942	-49.0826
1998	-46.7768	-51.4434	-52.7768	-50.0550	-51.0826	-57.4434	-62.0550	-66.5015	-71.2232	-64.0000	-61.2783	-56.3333	-46.7768
1999	-48.8043	-48.8043	-49.7492	-50.1101	-49.2477	-56.9725	-58.3609	-64.1957	-67.1682	-63.6116	-64.2508	-54.3884	-51.0550
2000	-50.3609	-50.3609	-52.6667	-50.3884	-57.7217	-62.3333	-64.3058	-66.9725	-67.6667	-67.2783	-59.0275	-50.8043	-52.3884
2001	-47.6942	-47.6942	-49.0826	-52.3884	-51.4434	-60.2232	-62.4159	-66.9725	-66.8624	-67.9450	-64.2508	-50.8868	-50.3884
2002	-45.7492	-45.7492	-47.7768	-52.7217	-57.2783	-57.6391	-61.6667	-66.5841	-67.2232	-64.4159	-59.6391	-57.3333	-50.1101
2003	-49.0550	-54.6942	-52.7768	-52.8318	-53.4709	-57.4434	-61.3333	-67.8899	-70.8899	-68.2232	-61.3884	-54.7768	-49.0550
2004	-47.7492	-51.0275	-53.0826	-54.8318	-58.3609	-63.3609	-64.9725	-67.3884	-69.5841	-66.0000	-57.3333	-47.7492	-49.4159
2005	-47.8043	-47.8043	-53.9419	-55.8043	-58.0000	-60.7217	-64.0000	-67.8899	-69.4465	-64.6667	-60.7492	-55.0826	-52.6667
2006	-48.3609	-51.0000	-49.1101	-48.8043	-55.6942	-61.0826	-66.2783	-73.6942	-70.3333	-66.8624	-59.8043	-51.9450	-48.3609
2007	-43.3609	-43.3609	-51.3333	-50.6667	-54.9725	-60.0000	-61.9450	-68.6116	-70.6116	-63.6942	-61.2232	-57.0275	-48.4434
2008	-48.7217	-49.6667	-49.7492	-50.7217	-53.6667	-57.0550	-60.9174	-68.5015	-69.2783	-67.3333	-59.6942	-59.0826	-48.7217
2009	-48.4159	-49.0826	-48.4159	-53.3884	-54.4709	-60.9725	-63.0275	-67.7798	-68.2783	-67.6391	-57.0826	-55.1376	-49.4985
2010	-48.1927	-51.3884	-51.1376	-50.8318	-53.0000	-57.6667	-62.0000	-63.2232	-65.3333	-64.9174	-59.1376	-51.1376	-48.1927
2011	-49.0826	-49.4709	-49.0826	-54.1651	-51.4434	-59.0826	-61.4159	-67.9725	-67.2232	-66.2232	-61.3333	-54.4709	-49.1376
2012	-48.1376	-50.0550	-50.4434	-50.4434	-54.4159	-60.7217	-62.3058	-65.9174	-69.8899	-70.6667	-62.3884	-55.3333	-48.1376
2013	-44.1376	-44.1376	-48.1651	-52.4434	-55.7492	-62.0550	-64.8073	-67.9174	-66.6667	-66.7217	-59.7217	-56.8318	-49.8043

Variable	N	Mean	Std Dev	Minimum	Maximum
MXT_1	42	-49.2463946	3.1265064	-56.3608560	-42.4159012
MXT_2	42	-51.2463217	2.7806172	-56.3883786	-43.7767571
MXT_3	42	-52.5765244	2.3478912	-58.7492345	-48.2201810
MXT_4	42	-55.5840243	2.6697271	-63.0825679	-49.2477036
MXT_5	42	-59.6629528	1.9784466	-64.6666667	-56.0825679
MXT_6	42	-63.1507937	1.9077957	-66.6391440	-58.3608560
MXT_7	42	-67.9530371	1.9728180	-73.6941893	-63.2232429
MXT_8	42	-69.1122038	1.8045074	-73.6666667	-64.3333333
MXT_9	42	-66.5587592	2.3796986	-72.1100905	-60.1100905
MXT_10	42	-61.0702630	2.5257256	-66.7492345	-55.0825679
MXT_11	42	-54.1180270	2.8253020	-60.1100905	-47.7492345
MXT_12	42	-49.5748492	3.1718322	-56.5535143	-41.4984691
MXTYR	42	-47.4354144	2.5658598	-53.8042798	-41.4984691

OBS	_TYPE_	_FREQ_	MEAN1	MEAN2	MEAN3	MEAN4	MEAN5	MEAN6	MEAN7	MEAN8	MEAN9	MEAN10	MEAN11	MEAN12
1	0	42	-49.2464	-51.2463	-52.5765	-55.5840	-59.6630	-63.1508	-67.9530	-69.1122	-66.5588	-61.0703	-54.1180	-49.5748
OBS	MEANYR	STDEV1	STDEV2	STDEV3	STDEV4	STDEV5	STDEV6	STDEV7	STDEV8	STDEV9	STDEV10	STDEV11	STDEV12	STDEVYR
1	-47.4354	3.12651	2.78062	2.34789	2.66973	1.97845	1.90780	1.97282	1.80451	2.37970	2.52573	2.82530	3.17183	2.56586

OBS	MXTYR	RANKYR	PRMXTYR	ALPHA	YEAR
1	-53.8043	1	0.01479	0.375	1980
2	-51.4985	2	0.03846	0.375	1983
3	-51.1651	3	0.06213	0.375	1995
4	-50.7492	4	0.08580	0.375	1977
5	-50.3609	5	0.10947	0.375	2000
6	-50.1101	6	0.13314	0.375	1986
7	-49.8593	7	0.15680	0.375	1981
8	-49.0826	8	0.18047	0.375	1997
9	-49.0826	9	0.20414	0.375	2011
10	-49.0550	10	0.22781	0.375	2003
11	-48.8318	11	0.25148	0.375	1982
12	-48.8043	12	0.27515	0.375	1999
13	-48.7768	13	0.29882	0.375	1991
14	-48.7768	14	0.32249	0.375	1996
15	-48.7217	15	0.34615	0.375	2008
16	-48.4709	16	0.36982	0.375	1984
17	-48.4159	17	0.39349	0.375	2009
18	-48.3609	18	0.41716	0.375	2006
19	-48.1927	19	0.44083	0.375	2010
20	-48.1376	20	0.46450	0.375	2012
21	-48.0550	21	0.48817	0.375	1994
22	-47.8043	22	0.51183	0.375	2005
23	-47.7492	23	0.53550	0.375	2004
24	-47.6942	24	0.55917	0.375	2001
25	-47.1651	25	0.58284	0.375	1992
26	-46.8593	26	0.60651	0.375	1972
27	-46.7768	27	0.63018	0.375	1993
28	-46.7768	28	0.65385	0.375	1998
29	-46.1101	29	0.67751	0.375	1973
30	-46.1101	30	0.70118	0.375	1985
31	-45.7492	31	0.72485	0.375	2002
32	-45.4985	32	0.74852	0.375	1979
33	-45.4434	33	0.77219	0.375	1988
34	-45.1651	34	0.79586	0.375	1976
35	-45.1651	35	0.81953	0.375	1989
36	-44.2202	36	0.84320	0.375	1974
37	-44.1376	37	0.86686	0.375	2013
38	-44.1101	38	0.89053	0.375	1975
39	-43.7768	39	0.91420	0.375	1990
40	-43.3609	40	0.93787	0.375	2007
41	-42.8043	41	0.96154	0.375	1978
42	-41.4985	42	0.98521	0.375	1987

MODEL Procedure

Model Summary

Model Variables	1
Parameters	3
RANGE Variable	YEAR
Equations	1

Number of Statements 4

Model Variables: PRMXYR

Parameters: GAMMA: -47.44 THETA: 2.566 MXTNL1

Equations: PRMXYR

MODEL Procedure

NOTE: A finite difference approximation is used for the derivative of the PROBT function at line 388 column 101.

MODEL Procedure

The Equation to Estimate is:

$$\text{PRMXTYR} = F(\text{GAMMA}, \text{THETA})$$

MODEL Procedure
OLS Estimation

OLS Estimation Summary

Dataset Option	Dataset
DATA=	MXTDATA
OUT=	FIT1
OUTEST=	EST1

Parameters Estimated 2

RANGE Processed	YEAR
First	1972
Last	2013

Minimization Summary

Method	GAUSS
Iterations	3

Final Convergence Criteria	
R	0.00010525
PPC(THETA)	0.000023
RPC(THETA)	0.000121
Object	2.45159E-6
Trace(S)	0.00159541
Objective Value	0.00151944

Observations Processed

Read	42
Solved	42

MODEL Procedure
 OLS Estimation

Nonlinear OLS Summary of Residual Errors

Equation	DF Model	DF Error	SSE	MSE	Root MSE	R-Square	Adj R-Sq	Durbin Watson
PRMXYR	2	40	0.06382	0.0015954	0.03994	0.9815	0.9811	2.184

Nonlinear OLS Parameter Estimates

Parameter	Estimate	Approx. Std Err	'T' Ratio	Approx. Prob> T
GAMMA	-47.546481	0.05239	-907.51	0.0001
THETA	2.543151	0.09170	27.73	0.0001

Number of Observations		Statistics for System	
Used	42	Objective	0.001519
Missing	0	Objective*N	0.0638

RANGE of Fit: YEAR = 1972 TO 2013

Correlations of Estimates

CorrB	GAMMA	THETA
GAMMA	1.0000	0.1300
THETA	0.1300	1.0000

MODEL Procedure

Model Summary

Model Variables	1
Parameters	3
RANGE Variable	YEAR
Equations	1

Number of Statements 5

Model Variables: PRMXYR

Parameters: MXTNL1 GAMMA: -47.55(-908) THETA: 2.543(28)

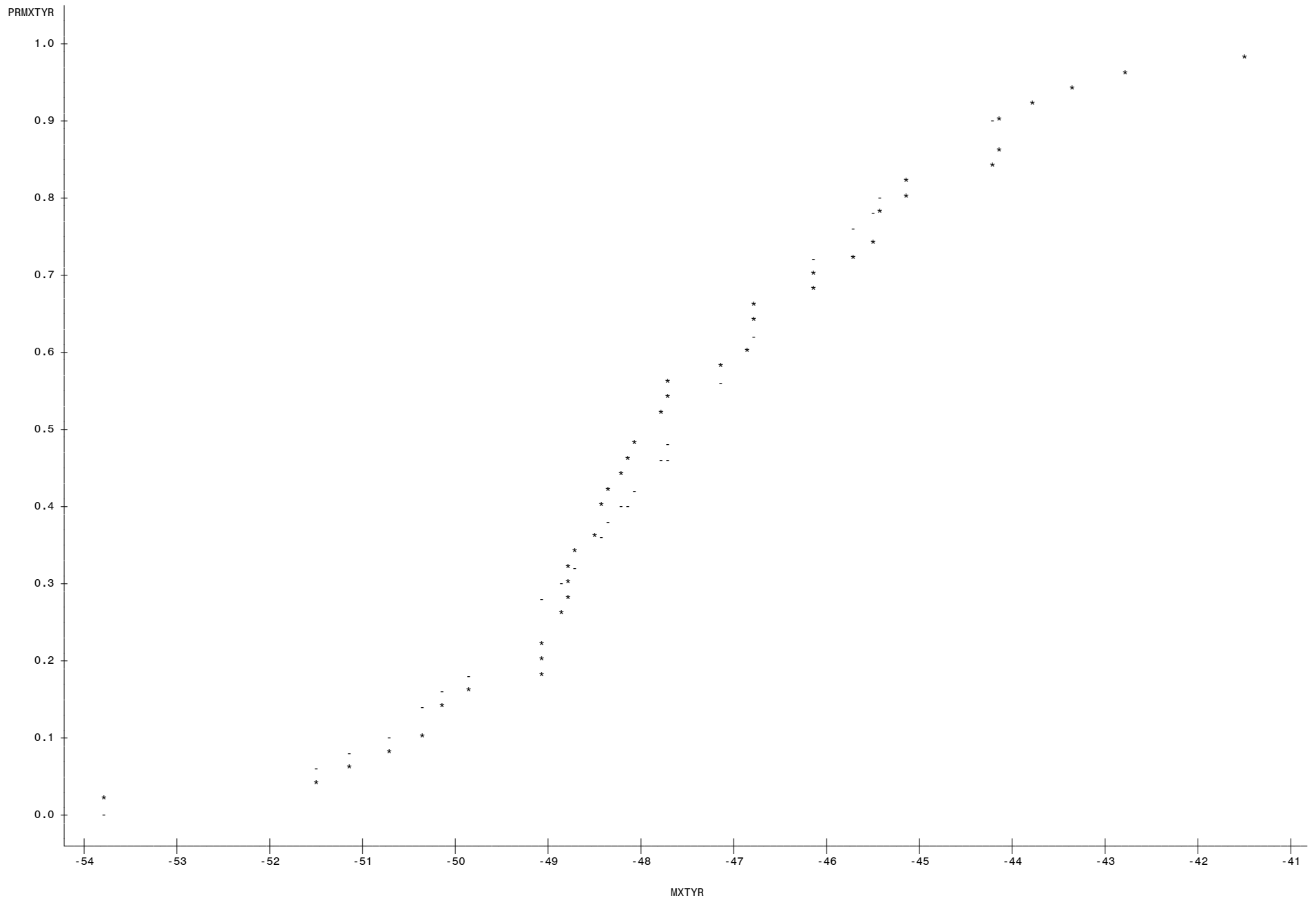
Equations: PRMXYR

OBS	YEAR	_ESTYPE_	_TYPE_	_WEIGHT_	PRMXYR	MXYR
1	1972	OLS	ACTUAL	1	0.60651	-46.8593
2	1972	OLS	PREDICT	1	0.60580	-46.8593
3	1972	OLS	RESIDUAL	1	0.00071	-46.8593
4	1973	OLS	ACTUAL	1	0.67751	-46.1101
5	1973	OLS	PREDICT	1	0.71232	-46.1101
6	1973	OLS	RESIDUAL	1	-0.03481	-46.1101
7	1974	OLS	ACTUAL	1	0.84320	-44.2202
8	1974	OLS	PREDICT	1	0.90082	-44.2202
9	1974	OLS	RESIDUAL	1	-0.05763	-44.2202
10	1975	OLS	ACTUAL	1	0.89053	-44.1101
11	1975	OLS	PREDICT	1	0.90789	-44.1101
12	1975	OLS	RESIDUAL	1	-0.01736	-44.1101
13	1976	OLS	ACTUAL	1	0.79586	-45.1651
14	1976	OLS	PREDICT	1	0.82265	-45.1651
15	1976	OLS	RESIDUAL	1	-0.02679	-45.1651
16	1977	OLS	ACTUAL	1	0.08580	-50.7492
17	1977	OLS	PREDICT	1	0.10760	-50.7492
18	1977	OLS	RESIDUAL	1	-0.02180	-50.7492
19	1978	OLS	ACTUAL	1	0.96154	-42.8043
20	1978	OLS	PREDICT	1	0.96521	-42.8043
21	1978	OLS	RESIDUAL	1	-0.00367	-42.8043
22	1979	OLS	ACTUAL	1	0.74852	-45.4985
23	1979	OLS	PREDICT	1	0.78730	-45.4985
24	1979	OLS	RESIDUAL	1	-0.03878	-45.4985
25	1980	OLS	ACTUAL	1	0.01479	-53.8043
26	1980	OLS	PREDICT	1	0.00914	-53.8043
27	1980	OLS	RESIDUAL	1	0.00565	-53.8043
28	1981	OLS	ACTUAL	1	0.15680	-49.8593
29	1981	OLS	PREDICT	1	0.18428	-49.8593
30	1981	OLS	RESIDUAL	1	-0.02748	-49.8593
31	1982	OLS	ACTUAL	1	0.25148	-48.8318
32	1982	OLS	PREDICT	1	0.30802	-48.8318
33	1982	OLS	RESIDUAL	1	-0.05654	-48.8318
34	1983	OLS	ACTUAL	1	0.03846	-51.4985
35	1983	OLS	PREDICT	1	0.06403	-51.4985
36	1983	OLS	RESIDUAL	1	-0.02557	-51.4985
37	1984	OLS	ACTUAL	1	0.36982	-48.4709
38	1984	OLS	PREDICT	1	0.35907	-48.4709
39	1984	OLS	RESIDUAL	1	0.01075	-48.4709
40	1985	OLS	ACTUAL	1	0.70118	-46.1101
41	1985	OLS	PREDICT	1	0.71232	-46.1101
42	1985	OLS	RESIDUAL	1	-0.01114	-46.1101
43	1986	OLS	ACTUAL	1	0.13314	-50.1101
44	1986	OLS	PREDICT	1	0.15975	-50.1101
45	1986	OLS	RESIDUAL	1	-0.02661	-50.1101
46	1987	OLS	ACTUAL	1	0.98521	-41.4985
47	1987	OLS	PREDICT	1	0.98887	-41.4985
48	1987	OLS	RESIDUAL	1	-0.00366	-41.4985
49	1988	OLS	ACTUAL	1	0.77219	-45.4434
50	1988	OLS	PREDICT	1	0.79341	-45.4434
51	1988	OLS	RESIDUAL	1	-0.02122	-45.4434
52	1989	OLS	ACTUAL	1	0.81953	-45.1651
53	1989	OLS	PREDICT	1	0.82265	-45.1651
54	1989	OLS	RESIDUAL	1	-0.00312	-45.1651
55	1990	OLS	ACTUAL	1	0.91420	-43.7768
56	1990	OLS	PREDICT	1	0.92695	-43.7768
57	1990	OLS	RESIDUAL	1	-0.01275	-43.7768
58	1991	OLS	ACTUAL	1	0.29882	-48.7768
59	1991	OLS	PREDICT	1	0.31560	-48.7768
60	1991	OLS	RESIDUAL	1	-0.01678	-48.7768
61	1992	OLS	ACTUAL	1	0.58284	-47.1651
62	1992	OLS	PREDICT	1	0.55922	-47.1651
63	1992	OLS	RESIDUAL	1	0.02362	-47.1651

OBS	YEAR	_ESTYPE_	_TYPE_	_WEIGHT_	PRMXYR	MXYR
64	1993	OLS	ACTUAL	1	0.63018	-46.7768
65	1993	OLS	PREDICT	1	0.61814	-46.7768
66	1993	OLS	RESIDUAL	1	0.01203	-46.7768
67	1994	OLS	ACTUAL	1	0.48817	-48.0550
68	1994	OLS	PREDICT	1	0.42126	-48.0550
69	1994	OLS	RESIDUAL	1	0.06691	-48.0550
70	1995	OLS	ACTUAL	1	0.06213	-51.1651
71	1995	OLS	PREDICT	1	0.08126	-51.1651
72	1995	OLS	RESIDUAL	1	-0.01913	-51.1651
73	1996	OLS	ACTUAL	1	0.32249	-48.7768
74	1996	OLS	PREDICT	1	0.31560	-48.7768
75	1996	OLS	RESIDUAL	1	0.00689	-48.7768
76	1997	OLS	ACTUAL	1	0.18047	-49.0826
77	1997	OLS	PREDICT	1	0.27462	-49.0826
78	1997	OLS	RESIDUAL	1	-0.09415	-49.0826
79	1998	OLS	ACTUAL	1	0.65385	-46.7768
80	1998	OLS	PREDICT	1	0.61814	-46.7768
81	1998	OLS	RESIDUAL	1	0.03570	-46.7768
82	1999	OLS	ACTUAL	1	0.27515	-48.8043
83	1999	OLS	PREDICT	1	0.31180	-48.8043
84	1999	OLS	RESIDUAL	1	-0.03665	-48.8043
85	2000	OLS	ACTUAL	1	0.10947	-50.3609
86	2000	OLS	PREDICT	1	0.13753	-50.3609
87	2000	OLS	RESIDUAL	1	-0.02806	-50.3609
88	2001	OLS	ACTUAL	1	0.55917	-47.6942
89	2001	OLS	PREDICT	1	0.47699	-47.6942
90	2001	OLS	RESIDUAL	1	0.08218	-47.6942
91	2002	OLS	ACTUAL	1	0.72485	-45.7492
92	2002	OLS	PREDICT	1	0.75808	-45.7492
93	2002	OLS	RESIDUAL	1	-0.03322	-45.7492
94	2003	OLS	ACTUAL	1	0.22781	-49.0550
95	2003	OLS	PREDICT	1	0.27820	-49.0550
96	2003	OLS	RESIDUAL	1	-0.05039	-49.0550
97	2004	OLS	ACTUAL	1	0.53550	-47.7492
98	2004	OLS	PREDICT	1	0.46843	-47.7492
99	2004	OLS	RESIDUAL	1	0.06708	-47.7492
100	2005	OLS	ACTUAL	1	0.51183	-47.8043
101	2005	OLS	PREDICT	1	0.45988	-47.8043
102	2005	OLS	RESIDUAL	1	0.05195	-47.8043
103	2006	OLS	ACTUAL	1	0.41716	-48.3609
104	2006	OLS	PREDICT	1	0.37523	-48.3609
105	2006	OLS	RESIDUAL	1	0.04193	-48.3609
106	2007	OLS	ACTUAL	1	0.93787	-43.3609
107	2007	OLS	PREDICT	1	0.94618	-43.3609
108	2007	OLS	RESIDUAL	1	-0.00831	-43.3609
109	2008	OLS	ACTUAL	1	0.34615	-48.7217
110	2008	OLS	PREDICT	1	0.32325	-48.7217
111	2008	OLS	RESIDUAL	1	0.02290	-48.7217
112	2009	OLS	ACTUAL	1	0.39349	-48.4159
113	2009	OLS	PREDICT	1	0.36712	-48.4159
114	2009	OLS	RESIDUAL	1	0.02637	-48.4159
115	2010	OLS	ACTUAL	1	0.44083	-48.1927
116	2010	OLS	PREDICT	1	0.40037	-48.1927
117	2010	OLS	RESIDUAL	1	0.04046	-48.1927
118	2011	OLS	ACTUAL	1	0.20414	-49.0826
119	2011	OLS	PREDICT	1	0.27462	-49.0826
120	2011	OLS	RESIDUAL	1	-0.07048	-49.0826
121	2012	OLS	ACTUAL	1	0.46450	-48.1376
122	2012	OLS	PREDICT	1	0.40869	-48.1376
123	2012	OLS	RESIDUAL	1	0.05581	-48.1376
124	2013	OLS	ACTUAL	1	0.86686	-44.1376
125	2013	OLS	PREDICT	1	0.90616	-44.1376
126	2013	OLS	RESIDUAL	1	-0.03930	-44.1376

OBS	YEAR	MXTYR	PRMXTYR	PROBP
1	1972	-46.8593	0.60651	0.60580
2	1973	-46.1101	0.67751	0.71232
3	1974	-44.2202	0.84320	0.90082
4	1975	-44.1101	0.89053	0.90789
5	1976	-45.1651	0.79586	0.82265
6	1977	-50.7492	0.08580	0.10760
7	1978	-42.8043	0.96154	0.96521
8	1979	-45.4985	0.74852	0.78730
9	1980	-53.8043	0.01479	0.00914
10	1981	-49.8593	0.15680	0.18428
11	1982	-48.8318	0.25148	0.30802
12	1983	-51.4985	0.03846	0.06403
13	1984	-48.4709	0.36982	0.35907
14	1985	-46.1101	0.70118	0.71232
15	1986	-50.1101	0.13314	0.15975
16	1987	-41.4985	0.98521	0.98887
17	1988	-45.4434	0.77219	0.79341
18	1989	-45.1651	0.81953	0.82265
19	1990	-43.7768	0.91420	0.92695
20	1991	-48.7768	0.29882	0.31560
21	1992	-47.1651	0.58284	0.55922
22	1993	-46.7768	0.63018	0.61814
23	1994	-48.0550	0.48817	0.42126
24	1995	-51.1651	0.06213	0.08126
25	1996	-48.7768	0.32249	0.31560
26	1997	-49.0826	0.18047	0.27462
27	1998	-46.7768	0.65385	0.61814
28	1999	-48.8043	0.27515	0.31180
29	2000	-50.3609	0.10947	0.13753
30	2001	-47.6942	0.55917	0.47699
31	2002	-45.7492	0.72485	0.75808
32	2003	-49.0550	0.22781	0.27820
33	2004	-47.7492	0.53550	0.46843
34	2005	-47.8043	0.51183	0.45988
35	2006	-48.3609	0.41716	0.37523
36	2007	-43.3609	0.93787	0.94618
37	2008	-48.7217	0.34615	0.32325
38	2009	-48.4159	0.39349	0.36712
39	2010	-48.1927	0.44083	0.40037
40	2011	-49.0826	0.20414	0.27462
41	2012	-48.1376	0.46450	0.40869
42	2013	-44.1376	0.86686	0.90616

Plot of PRMXYR*MXYR. Symbol used is '*'.
Plot of PROBP*MXYR. Symbol used is '-'.



NOTE: 17 obs hidden.

OBS	_NAME_	_TYPE_	_NUSED_	GAMMA	THETA
1		OLS	42	-47.5465	2.54315
2	GAMMA	OLS	42	0.0027	0.00062
3	THETA	OLS	42	0.0006	0.00841

OBS	YEAR	MXTYR	QUANTILE	PRMXTYR	PROBP1	LGPRRT1
1	1972	-46.8593	2	0.60651	0.60580	0.00117
2	1973	-46.1101	3	0.67751	0.71232	-0.05010
3	1974	-44.2202	3	0.84320	0.90082	-0.06611
4	1975	-44.1101	3	0.89053	0.90789	-0.01931
5	1976	-45.1651	3	0.79586	0.82265	-0.03311
6	1977	-50.7492	1	0.08580	0.10760	-0.22641
7	1978	-42.8043	3	0.96154	0.96521	-0.00381
8	1979	-45.4985	3	0.74852	0.78730	-0.05051
9	1980	-53.8043	1	0.01479	0.00914	0.48136
10	1981	-49.8593	1	0.15680	0.18428	-0.16147
11	1982	-48.8318	1	0.25148	0.30802	-0.20282
12	1983	-51.4985	1	0.03846	0.06403	-0.50976
13	1984	-48.4709	2	0.36982	0.35907	0.02951
14	1985	-46.1101	3	0.70118	0.71232	-0.01576
15	1986	-50.1101	1	0.13314	0.15975	-0.18221
16	1987	-41.4985	3	0.98521	0.98887	-0.00371
17	1988	-45.4434	3	0.77219	0.79341	-0.02712
18	1989	-45.1651	3	0.81953	0.82265	-0.00380
19	1990	-43.7768	3	0.91420	0.92695	-0.01385
20	1991	-48.7768	1	0.29882	0.31560	-0.05464
21	1992	-47.1651	2	0.58284	0.55922	0.04137
22	1993	-46.7768	2	0.63018	0.61814	0.01928
23	1994	-48.0550	2	0.48817	0.42126	0.14741
24	1995	-51.1651	1	0.06213	0.08126	-0.26841
25	1996	-48.7768	1	0.32249	0.31560	0.02159
26	1997	-49.0826	1	0.18047	0.27462	-0.41982
27	1998	-46.7768	2	0.65385	0.61814	0.05615
28	1999	-48.8043	1	0.27515	0.31180	-0.12505
29	2000	-50.3609	1	0.10947	0.13753	-0.22820
30	2001	-47.6942	2	0.55917	0.47699	0.15897
31	2002	-45.7492	3	0.72485	0.75808	-0.04482
32	2003	-49.0550	1	0.22781	0.27820	-0.19982
33	2004	-47.7492	2	0.53550	0.46843	0.13383
34	2005	-47.8043	2	0.51183	0.45988	0.10703
35	2006	-48.3609	2	0.41716	0.37523	0.10592
36	2007	-43.3609	3	0.93787	0.94618	-0.00883
37	2008	-48.7217	2	0.34615	0.32325	0.06845
38	2009	-48.4159	2	0.39349	0.36712	0.06937
39	2010	-48.1927	2	0.44083	0.40037	0.09628
40	2011	-49.0826	1	0.20414	0.27462	-0.29659
41	2012	-48.1376	2	0.46450	0.40869	0.12800
42	2013	-44.1376	3	0.86686	0.90616	-0.04434

Analysis Variable : LGPRRAT1 Log(PrMxTYr/ProbP1)- T-Dist

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
42	-0.0379680	0.1692914	-0.5097569	0.4813575	0.0286596	1.2355880

Analysis Variable : LGPRRAT1 Log(PrMxTYr/ProbP1)- T-Dist

----- QUANTILE=1 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	-0.1694454	0.2301519	-0.5097569	0.4813575	0.0529699	1.0905727

----- QUANTILE=2 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	0.0830527	0.0498279	0.0011668	0.1589679	0.0024828	0.1288452

----- QUANTILE=3 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	-0.0275113	0.0207065	-0.0661072	-0.0037082	0.000428761	0.0161701

Analysis Variable : LGPRRAT1 Log(PrMxTYr/ProbP1)- T-Dist

----- QUANTILE=1 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	-0.1694454	0.2301519	-0.5097569	0.4813575	0.0529699	1.0905727

----- QUANTILE=2 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	0.0830527	0.0498279	0.0011668	0.1589679	0.0024828	0.1288452

----- QUANTILE=3 -----

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
14	-0.0275113	0.0207065	-0.0661072	-0.0037082	0.000428761	0.0161701

2016 CALIFORNIA GAS REPORT

Service Area Economic Forecast
JULY 2016



SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST

(based on Global Insight's February 2014 Regional Forecast)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
EMPLOYMENT (1000's)													
Total	1,233.0	1,243.2	1,268.6	1,291.7	1,320.0	1,353.1	1,386.7	1,417.1	1,439.9	1,456.7	1,471.3	1,480.7	1,490.9
I: Industrial (all manufacturing + mining)	93.3	93.6	93.8	92.8	93.7	94.7	95.4	96.0	96.9	97.4	97.5	97.4	97.2
C1: Office (Financial+Bus. & Professional Svcs)	274.9	277.4	285.0	290.9	295.8	308.8	318.1	325.3	330.7	336.4	342.1	347.2	352.8
C2: Restaurants	101.3	103.2	107.8	112.4	115.9	118.5	120.6	122.6	124.1	124.9	125.2	125.4	125.4
C3: Retail Trade	130.7	133.4	135.6	137.5	140.6	141.9	143.0	144.1	144.4	144.1	143.4	142.4	141.5
C4: Laundry & other Personal Services	15.0	15.5	16.3	16.7	16.7	16.7	16.7	16.8	16.9	16.9	16.8	16.8	16.8
C5: Wholesale Trade & Warehouses	41.9	43.0	45.1	45.4	46.2	47.1	48.3	49.4	50.3	50.9	51.3	51.6	51.8
C6: Primary & Secondary Schools	90.2	91.2	90.2	90.8	93.1	94.8	97.3	100.1	102.8	104.7	106.0	106.9	107.8
C7: Colleges (including other adult education)	40.4	41.1	41.9	44.2	45.3	46.1	47.3	48.7	50.0	51.0	51.6	52.0	52.4
C8: Health Services	120.2	123.2	126.1	129.9	133.1	135.6	139.2	143.2	147.0	149.8	151.5	152.9	154.1
C9: Accommodation	29.2	28.3	28.6	28.7	29.6	30.3	30.8	31.4	31.7	31.9	32.0	32.1	32.1
C10: Misc. (all other commercial employment)	55.1	56.1	57.6	58.2	58.5	58.3	58.3	58.7	58.9	58.9	58.8	58.8	58.8
C11: Government (non-education)	125.3	123.7	123.9	124.1	124.4	124.8	125.6	126.8	128.2	129.6	132.4	132.8	134.2
C12: Transportation, Information, and Utilities	49.8	48.6	50.6	51.9	52.8	53.8	55.7	57.4	58.8	59.7	60.5	61.2	61.9
C13: Construction	55.4	55.2	56.3	58.6	64.6	72.0	80.5	86.6	89.2	90.6	92.0	93.0	93.9
C14: Agriculture	10.5	9.8	9.8	9.7	9.8	9.8	9.9	9.9	10.0	10.0	10.1	10.1	10.2
OTHER INDICATORS													
Southern California Consumer Inflation*	1.2%	2.7%	1.6%	2.0%	1.9%	2.0%	2.0%	1.9%	1.9%	1.8%	1.7%	2.1%	2.2%
Inflation--US Gross Domestic Product**	1.2%	2.0%	1.7%	1.4%	1.5%	1.7%	1.6%	1.6%	1.7%	1.6%	1.7%	1.8%	1.7%

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

** Chained Price Index--US GDP, through 2024 from Global Insight's Feb 2014 US forecast, starting 2025 using growth rates from Dec 2013 30-Year US forecast..

SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST

(based on Global Insight's February 2014 Regional Forecast)

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
EMPLOYMENT (1000's)													
Total	1,501.7	1,513.2	1,526.4	1,541.0	1,556.4	1,572.0	1,587.5	1,604.1	1,617.3	1,631.5	1,646.3	1,661.2	1,676.1
I: Industrial (all manufacturing + mining)	97.1	97.1	96.8	96.5	96.0	95.5	94.8	94.3	93.8	93.3	93.0	92.7	92.5
C1: Office (Financial+Bus. & Professional Svcs)	359.3	365.8	372.4	378.8	385.1	390.9	396.5	402.5	408.4	414.7	421.3	427.4	433.4
C2: Restaurants	125.3	125.2	125.2	125.5	126.3	127.4	128.6	129.8	131.0	132.2	133.4	134.6	135.8
C3: Retail Trade	140.7	140.1	140.1	140.5	141.2	142.2	143.0	143.6	144.2	144.9	145.6	146.4	147.2
C4: Laundry & other Personal Services	16.8	16.8	16.9	16.9	17.1	17.2	17.3	17.5	17.5	17.6	17.7	17.8	17.9
C5: Wholesale Trade & Warehouses	52.0	52.3	52.7	53.1	53.5	53.5	53.6	53.5	53.5	53.4	53.3	53.2	53.1
C6: Primary & Secondary Schools	108.5	109.1	110.0	111.3	112.6	114.1	115.6	116.9	118.1	119.5	121.0	122.5	123.8
C7: Colleges (including other adult education)	52.8	53.1	53.5	54.1	54.8	55.5	56.2	56.8	57.5	58.1	58.9	59.6	60.2
C8: Health Services	155.1	156.0	157.3	159.1	161.1	163.2	165.2	167.1	168.9	170.9	173.1	175.2	177.1
C9: Accommodation	32.0	32.0	32.0	32.1	32.3	32.6	32.9	33.2	33.5	33.8	34.1	34.4	34.7
C10: Misc. (all other commercial employment)	58.7	58.7	58.9	59.2	59.6	60.1	60.5	61.0	61.2	61.5	61.8	62.2	62.5
C11: Government (non-education)	135.5	136.9	138.0	138.8	139.5	140.2	140.9	142.7	142.1	142.5	143.0	143.5	143.9
C12: Transportation, Information, and Utilities	62.5	63.1	63.6	64.0	64.4	64.8	65.3	65.8	66.4	66.9	67.3	67.8	68.1
C13: Construction	95.2	96.7	98.5	100.6	102.6	104.5	106.4	108.7	110.6	111.4	112.0	113.1	115.0
C14: Agriculture	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.6	10.6	10.7	10.8	10.8	10.9
OTHER INDICATORS													
Southern California Consumer Inflation*	2.0%	2.1%	2.1%	2.2%	2.2%	2.2%	2.1%	2.1%	2.2%	2.2%	2.2%	2.2%	2.2%
Inflation--US Gross Domestic Product**	1.7%	1.7%	1.7%	1.8%	1.8%	1.8%	1.8%	1.8%	1.9%	1.9%	1.9%	1.9%	1.9%

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

** Chained Price Index--US GDP, through 2024 from Global Insight's Feb 2014 US forecast, starting 2025 using growth rates from Dec 2013 30-Year US forecast..