
**SDG&E & SoCALGAS 2009 BCAP APPLICATION
A.08-02-001**

**WORKPAPERS OF HERB EMMRICH – SDG&E DEMAND FORECAST
FEBRUARY 2008**

Workpapers of Herb Emmrich Demand Forecasting

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**SDG&E AVERAGE 2009-2011 DIRECT SERVED AND CUMULATIVE LOADS
FEBRUARY 2008**

Marginal Demand Measures (MDM)

Marginal Demand Measures (MDMs) are used for rate design and cost allocation calculations. Figure 1, below, shows the relationships among the various MDMs that are provided in the accompanying tables.

Figure 1

LENART Diagram Depicting the Relationships
 Among “Direct” and “Cumulative” MDMs

D i r e c t s	D_T	T (Trans.)		
	D_H	H (High Press.)	H (High Press.)	
	D_M	M (Medium Press.)	M (Medium Press.)	M (Medium Press.)
		$C_T = D_T + D_H + D_M$	$C_H = D_H + D_M$	$C_M = D_M$
		C u m u l a t i v e B a s i s		

For example, the MDM data in the tables below for Noncore C&I, Avearge Year throughput gas demand have *direct* values for various segments of pressure service:

$$D_T = 3,193 \text{ MTh}, \quad D_H = 14,148 \text{ MTh}, \quad \text{and} \quad D_M = 23,122 \text{ MTh}.$$

The corresponding *cumulative* totals are:

$$C_T = 40,463 \text{ MTh}, \quad C_H = 37,270 \text{ MTh}, \quad \text{and} \quad C_M = 23,122 \text{ MTh},$$

using the formulas indicated in the Figure 1, above.

	A	B	F	G	H	I	J	N
1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast							
3	Unaccounted		Btu Factor:		1.0175			
4	Fcst (% * Demand)				Co-Use-Fuel		UAF	
5	0.880%				0.263%		0.870%	
6	MDM #Yrs Av (2- or				0.266%		0.880%	
7	3-yr)							
8	3							
9	Forecast Summary		Nonresidential Core			Total	Noncore - C&I	
10		Residentia	GN-3	G-NGV	Core	C&I		
11	<< TCAP Period >> January 2009 - December 201							
12	DIRECT (%'s Load or Cust/Mtrs Sum to 100%)							
13	Transmission	0.00%	0.00%	0.00%				
14		0	0	0	0	0	3,193	
15		0	0	0	0	0	3,193	
16		0	0	0	0	0	272	
17		-	-	-	0	0	9	
18		0.0000%	0.0000%	0.0000%				
19		-	-	-	0	0	1	
20	High Pressure	0.10%	2.62%	2.62%				
21		324	4,164	400	4,888		14,148	
22		367	4,403	400	5,170		14,148	
23		55	482	34	570		1,205	
24		3	22	1	26		39	
25		0.0001%	0.0215%	20.0000%				
26		1	6	8	16		12	
27	Medium Pressure	99.90%	97.38%	97.38%				
28		325,679	154,561	14,839	495,079		23,122	
29		369,431	163,405	14,839	547,674		23,122	
30		55,235	17,878	1,253	74,366		1,970	
31		3,084	829	40	3,953		64	
32		99.9999%	99.9785%	80.0000%				
33		832,049	29,825	32	861,907		48	
34	CUMULATIVE (Calc'd from DIRECT %'s)							
35	Transmission	100.0000%	100.0000%	100.0000%				
36		326,003	158,725	15,238	499,967		40,463	
37		369,798	167,807	15,238	552,844		40,463	
38		55,290	18,360	1,287	74,937		3,447	
39		3,087	851	42	3,980		111	
40		100.0000%	100.0000%	100.0000%				
41		832,050	29,831	40	861,922		61	
42	High Pressure	0.0993%	2.6237%	2.6237%				
43		326,003	158,725	15,238	499,967		37,270	
44		369,798	167,807	15,238	552,844		37,270	
45		55,290	18,360	1,287	74,937		3,175	
46		3,087	851	42	3,980		102	
47		0.0001%	0.0215%	20.0000%				
48		832,050	29,831	40	861,922		60	
49	Medium Pressure	99.9007%	97.3763%	97.3763%				
50		325,679	154,561	14,839	495,079		23,122	
51		369,431	163,405	14,839	547,674		23,122	
52		55,235	17,878	1,253	74,366		1,970	
53		3,084	829	40	3,953		64	
54		99.9999%	99.9785%	80.0000%				
55		832,049	29,825	32	861,907		48	

	A	B	S	T	U	V	W					
1	Forecast Summary (Mtherms)											
3	<table border="1"> <tr> <td>Unaccounted</td> </tr> <tr> <td>Fcst (% * Demand)</td> </tr> <tr> <td>0.880%</td> </tr> <tr> <td>MDM #Yrs Av (2- or 3-yr)</td> </tr> <tr> <td>3</td> </tr> </table>							Unaccounted	Fcst (% * Demand)	0.880%	MDM #Yrs Av (2- or 3-yr)	3
Unaccounted												
Fcst (% * Demand)												
0.880%												
MDM #Yrs Av (2- or 3-yr)												
3												
4												
5												
6												
7												
8												
9	Forecast Summary	Noncore - Electric Generation			Noncore	System-Wide						
10		EG (<3MMThms)	EG (>=3MMThms)	EG (Total)	Total	Total						
11	<< TCAP Period >> January 2009 -											
12	DIRECT (%'s Load or Cust/Mtrs S											
13	Transmission											
14		6,651	489,742	496,393	499,587	499,587						
15		6,651	489,742	496,393	499,587	499,587						
16		1,167	45,355	46,521	46,793	46,793						
17		41	1,858	1,900	1,908	1,908						
18												
19		12	4	16	17	17						
20	High Pressure											
21		12,806	152,425	165,231	179,379	184,267						
22		12,806	152,425	165,231	179,379	184,549						
23		1,137	12,473	13,610	14,816	15,386						
24		31	402	434	473	499						
25												
26		14	8	22	34	50						
27	Medium Pressure											
28		14,291	0	14,291	37,413	532,492						
29		14,291	0	14,291	37,413	585,087						
30		1,214	0	1,214	3,184	77,550						
31		39	0	39	103	4,056						
32												
33		43	0	43	91	861,998						
34	CUMULATIVE (Calc'd from DIREC											
35	Transmission											
36		33,749	642,167	675,916	716,379	1,216,345						
37		33,749	642,167	675,916	716,379	1,269,223						
38		3,517	57,828	61,345	64,793	139,729						
39		112	2,261	2,372	2,484	6,463						
40												
41		69	12	81	142	862,064						
42	High Pressure											
43		27,097	152,425	179,522	216,792	716,759						
44		27,097	152,425	179,522	216,792	769,636						
45		2,351	12,473	14,824	17,999	92,936						
46		71	402	473	575	4,555						
47												
48		57	8	65	125	862,048						
49	Medium Pressure											
50		14,291	0	14,291	37,413	532,492						
51		14,291	0	14,291	37,413	585,087						
52		1,214	0	1,214	3,184	77,550						
53		39	0	39	103	4,056						
54												
55		43	0	43	91	861,998						

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**SDG&E CONSOLIDATED ANNUAL DEMAND FORECAST
FEBRUARY 2008**

	A	C	D	E	F	G	H	I	I	K	L	M	N		
1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast Summary (Mtherms)														
2															
59	<u>ANNUAL FORECAST DATA</u>				<u>Nonresidential Core</u>				Total	<u>Noncore - C&I</u>					
60					<u>Residential</u>	<u>GN-3</u>	<u>G-NGV</u>	Core					<u>C&I (Dist.)</u>	<u>C&I (Trans.)</u>	C&I (Total)
61	Average Year Throughput (Mth)														
62	2006				319,877	166,291	10,298	496,466					47,975	3,327	51,303
63	2007				319,136	164,662	10,534	494,332					39,041	3,345	42,387
64	2008				318,960	162,034	11,894	492,888					38,549	3,303	41,852
65	2009				323,515	160,743	13,430	497,688					37,973	3,254	41,226
66	2010				326,121	158,955	15,164	500,240					37,302	3,196	40,498
67	2011				328,373	156,478	17,121	501,972					36,535	3,130	39,665
68	2012				330,006	153,526	17,505	501,038					35,671	3,056	38,727
69															
70															
71					<u>Nonresidential Core</u>				Total	<u>Noncore - C&I</u>					
72					<u>Residential</u>	<u>GN-3</u>	<u>G-NGV</u>	Core					<u>C&I (Dist.)</u>	<u>C&I (Trans.)</u>	C&I (Total)
73	Average Year														
74	2006	365			319,791	155,621	10,298	485,710					0	0	0
75	2007	365			319,050	154,096	10,534	483,681					0	0	0
76	2008	366			318,874	151,637	11,894	482,406					0	0	0
77	2009	365			323,428	150,429	13,430	487,286					0	0	0
78	2010	365			326,033	148,756	15,164	489,953					0	0	0
79	2011	365			328,284	146,437	17,121	491,843					0	0	0
80	2012	366			329,917	143,675	17,505	491,098					0	0	0
81															
82															
83					<u>Nonresidential Core</u>				Total	<u>Noncore - C&I</u>					
84					<u>Residential</u>	<u>GN-3</u>	<u>G-NGV</u>	Core					<u>C&I (Dist.)</u>	<u>C&I (Trans.)</u>	C&I (Total)
85	Cold Year Throughput (Mth)														
86	2006				362,849	175,806	10,298	548,953					47,975	3,327	51,303
87	2007				362,008	174,085	10,534	546,628					39,041	3,345	42,387
88	2008				361,809	171,308	11,894	545,011					38,549	3,303	41,852
89	2009				366,976	169,942	13,430	550,347					37,973	3,254	41,226
90	2010				369,932	168,050	15,164	553,146					37,302	3,196	40,498
91	2011				372,486	165,430	17,121	555,038					36,535	3,130	39,665
92	2012				374,339	162,309	17,505	554,153					35,671	3,056	38,727
93															
94															
95					<u>Nonresidential Core</u>				Total	<u>Noncore - C&I</u>					
96	Peak Day Throughput (Mth/Day)				<u>Residential</u>	<u>GN-3</u>	<u>G-NGV</u>	Core					<u>C&I (Dist.)</u>	<u>C&I (Trans.)</u>	C&I (Total)
97	2,006				3,032	892	28.1	3,952					96	8	104
98	2,007				3,025	883	28.7	3,937					107	9	116
99	2,008				3,022	869	32.4	3,924					106	9	115
100	2,009				3,067	862	36.6	3,966					104	9	113
101	2,010				3,087	852	41.3	3,981					103	9	111
102	2,011				3,107	839	46.6	3,992					100	9	109
103	2,012				3,120	823	47.7	3,991					98	8	107
104															
105															
106					<u>Nonresidential Core</u>				Total	<u>Noncore - C&I</u>					
107					<u>Residential</u>	<u>GN-3</u>	<u>G-NGV</u>	Core					<u>C&I (Dist.)</u>	<u>C&I (Trans.)</u>	C&I (Total)
108	Forecast Number of Customers														
109	2006				799,494	29,610	32	829,135					60	1	61
110	2007				805,344	29,785	34	835,162					60	1	61
111	2008				812,616	29,857	36	842,509					60	1	61
112	2009				821,356	29,864	38	851,258					60	1	61
113	2010				831,675	29,833	40	861,548					60	1	61
114	2011				843,121	29,797	43	872,961					60	1	61
115	2012				854,920	29,790	43	884,753					60	1	61

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	A	C	D	E	O	P	Q	R	S	T	U
1											
2											
59	ANNUAL FORECAST DATA										
	Noncore - Electric Generation										
60		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG		EG		EG (Total)	
61	Average Year Throughput (Mth)										
62	2006	26,343	7,742	229,030	368,058	34,085	597,088			631,173	
63	2007	28,619	13,897	208,627	331,914	42,517	540,540			583,057	
64	2008	26,112	8,073	220,501	362,305	34,185	582,806			616,991	
65	2009	27,118	8,435	160,253	504,305	35,554	664,558			700,112	
66	2010	27,013	6,634	147,820	535,189	33,646	683,009			716,655	
67	2011	27,161	4,886	149,202	429,732	32,046	578,934			610,981	
68	2012	28,105	5,600	150,610	432,597	33,706	583,207			616,913	
69											
70											
71											
	Noncore - Electric Generation										
72		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG		EG		EG (Total)	
73	Average Year										
74	2006	365	0	0	0	0	0			0	
75	2007	365	0	0	0	0	0			0	
76	2008	366	0	0	0	0	0			0	
77	2009	365	0	0	0	0	0			0	
78	2010	365	0	0	0	0	0			0	
79	2011	365	0	0	0	0	0			0	
80	2012	366	0	0	0	0	0			0	
81											
82											
83											
	Noncore - Electric Generation										
84		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG		EG		EG (Total)	
85	Cold Year Throughput (Mth)										
86	2006	26,343	7,742	229,030	368,058	34,085	597,088			631,173	
87	2007	28,619	13,897	208,627	331,914	42,517	540,540			583,057	
88	2008	26,112	8,073	220,501	362,305	34,185	582,806			616,991	
89	2009	27,118	8,435	160,253	504,305	35,554	664,558			700,112	
90	2010	27,013	6,634	147,820	535,189	33,646	683,009			716,655	
91	2011	27,161	4,886	149,202	429,732	32,046	578,934			610,981	
92	2012	28,105	5,600	150,610	432,597	33,706	583,207			616,913	
93											
94											
95											
	Noncore - Electric Generation										
96		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG		EG		EG (Total)	
97	Peak Day Throughput (Mth/Day)										
98	2,006	66	0	839	1,622	66	2,461			2,527	
99	2,007	91	131	585	1,134	222	1,719			1,941	
100	2,008	105	122	574	1,215	228	1,789			2,016	
101	2,009	71	54	400	2,074	126	2,474			2,599	
102	2,010	70	61	402	1,939	131	2,342			2,472	
103	2,011	71	9	405	1,561	79	1,966			2,045	
104	2,012	71	36	408	1,654	107	2,062			2,169	
105											
106											
	Noncore - Electric Generation										
107		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG		EG		EG (Total)	
108	Forecast Number of Customers										
109	2006	56	11	9	3	67	12			79	
110	2007	56	11	9	3	67	12			79	
111	2008	57	12	9	3	68	12			80	
112	2009	57	12	9	4	69	13			82	
113	2010	57	12	8	4	69	12			81	
114	2011	57	12	8	4	69	12			81	
115	2012	57	12	8	4	69	12			81	

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	A	C	D	E	V	W	Z	AA	AB	AC
1										
2										
59	<u>ANNUAL FORECAST DATA</u>				Noncore	System-Wide				Total
60					Total	Total End-Use Dmd	Co-Use-Fuel	"Un-Acnt'd-For" (UAF)		System Throughput
61	Average Year Throughput (Mth)									
62	2006				682,476	1,178,942	3,137	10,374		1,192,453
63	2007				625,444	1,119,776	2,979	9,854		1,132,609
64	2008				658,843	1,151,732	3,064	10,135		1,164,931
65	2009				741,338	1,239,026	3,296	10,903		1,253,225
66	2010				757,153	1,257,393	3,345	11,065		1,271,803
67	2011				650,646	1,152,618	3,067	10,143		1,165,827
68	2012				655,640	1,156,678	3,077	10,178		1,169,933
69										
70										
71					Noncore	System-Wide				
72					Total	Total End-Use Dmd				
73	Average Year									
74	2006	365			0	485,710				
75	2007	365			0	483,681				
76	2008	366			0	482,406				
77	2009	365			0	487,286				
78	2010	365			0	489,953				
79	2011	365			0	491,843				
80	2012	366			0	491,098				
81										
82										
83					Noncore	System-Wide				
84					Total	Total End-Use Dmd	Co-Use-Fuel	"Un-Acnt'd-For" (UAF)		System Throughput
85	Cold Year Throughput (Mth)									
86	2006				682,476	1,231,429	3,276	10,836		1,245,542
87	2007				625,444	1,172,072	3,118	10,314		1,185,504
88	2008				658,843	1,203,854	3,203	10,594		1,217,651
89	2009				741,338	1,291,685	3,437	11,366		1,306,488
90	2010				757,153	1,310,299	3,486	11,530		1,325,316
91	2011				650,646	1,205,684	3,208	10,610		1,219,501
92	2012				655,640	1,209,793	3,219	10,646		1,223,657
93										
94										
95					Noncore	System-Wide				
96					Total	Total End-Use Dmd				
97	2,006				2,631	6,583				
98	2,007				2,058	5,995				
99	2,008				2,131	6,055				
100	2,009				2,713	6,678				
101	2,010				2,584	6,565				
102	2,011				2,154	6,147				
103	2,012				2,276	6,267				
104										
105										
106					Noncore	System-Wide				
107					Total	Total				
108	Forecast Number of Customers									
109	2006				140	829,275				
110	2007				140	835,302				
111	2008				141	842,650				
112	2009				143	851,400				
113	2010				142	861,690				
114	2011				142	873,103				
115	2012				142	884,895				

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**SDG&E CONSOLIDATED MONTHLY DEMAND FORECAST
FEBRUARY 2008**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast Summary (Mtherms)													
58														
59	MONTHLY FORECAST DATA													
60														
61	Average Year Throughput (Mth)													
62														
63														
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast Summary (Mtherms)													
58														
59	<u>MONTHLY FORECAST DATA</u>													
60														
61	Average Year Throughput (Mth)													
113														
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SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	A	B	C	D	E	O	P	Q	R	S	T	U
1												
58												
59	MONTHLY FORECAST DATA											
						Noncore - Electric Generation						
60						EG-Dist.	EG-Trans.	EG-Dist.	EG-Trans.			
61	Average Year Throughput (Mth)					(<3MMThms)	(<3MMThms)	(>=3MMThms)	(>=3MMThms)	EG (<3MMThms)	EG (>=3MMThms)	EG (Total)
62	2006	Jan				1,791	825	18,140	19,427	2,617	37,567	40,184
63		Feb				1,944	790	16,920	34,905	2,733	51,826	54,559
64		Mar				1,951	504	16,023	31,462	2,454	47,485	49,940
65		Apr				1,964	349	20,403	20,943	2,313	41,346	43,659
66		May				1,911	495	17,142	32,608	2,406	49,750	52,156
67		Jun				2,155	566	15,513	24,475	2,721	39,988	42,709
68		Jul				2,258	631	21,370	25,672	2,889	47,043	49,932
69		Aug				2,485	2,180	27,163	49,397	4,664	76,559	81,224
70		Sep				2,247	166	21,139	36,640	2,412	57,779	60,192
71		Oct				3,171	508	19,242	31,016	3,679	50,258	53,937
72		Nov				2,412	176	18,641	27,077	2,588	45,718	48,306
73		Dec				2,056	552	17,334	34,435	2,608	51,769	54,377
74												
75	2007	Jan				2,138	343	15,420	25,400	2,480	40,820	43,300
76		Feb				1,909	58	12,895	21,676	1,966	34,571	36,538
77		Mar				2,143	296	13,674	22,615	2,439	36,289	38,729
78		Apr				2,062	141	11,838	22,786	2,203	34,624	36,827
79		May				2,267	464	13,972	26,453	2,731	40,426	43,156
80		Jun				2,322	614	15,067	23,604	2,937	38,671	41,607
81		Jul				2,829	1,955	18,513	28,150	4,783	46,663	51,447
82		Aug				2,950	2,502	22,081	38,275	5,452	60,357	65,808
83		Sep				2,439	1,294	18,298	28,517	3,734	46,815	50,549
84		Oct				2,824	3,351	28,728	38,258	6,175	66,987	73,162
85		Nov				2,220	895	21,776	24,880	3,115	46,657	49,772
86		Dec				2,517	1,984	16,364	31,298	4,501	47,661	52,162
87												
88	2008	Jan				2,189	1,837	16,393	21,107	4,027	37,500	41,527
89		Feb				1,961	1,107	14,957	18,091	3,068	33,049	36,116
90		Mar				2,128	0	16,331	20,114	2,128	36,445	38,573
91		Apr				2,059	0	11,907	16,344	2,059	28,251	30,310
92		May				2,128	0	16,644	18,069	2,128	34,714	36,842
93		Jun				2,059	0	16,417	28,235	2,059	44,652	46,711
94		Jul				2,290	842	23,063	48,943	3,131	72,006	75,137
95		Aug				2,288	1,483	28,681	52,666	3,771	81,347	85,118
96		Sep				2,149	797	26,205	50,246	2,946	76,451	79,397
97		Oct				2,128	0	17,237	36,015	2,128	53,252	55,380
98		Nov				2,059	0	15,966	21,858	2,059	37,824	39,883
99		Dec				2,674	2,008	16,700	30,617	4,682	47,316	51,998
100												
101	2009	Jan				2,528	1,786	16,568	30,940	4,314	47,509	51,823
102		Feb				2,479	1,208	15,104	18,406	3,687	33,510	37,197
103		Mar				2,147	0	16,699	18,928	2,147	35,627	37,775
104		Apr				2,078	0	12,071	15,414	2,078	27,485	29,563
105		May				2,147	0	12,388	33,952	2,147	46,339	48,487
106		Jun				2,078	0	11,988	45,380	2,078	57,368	59,447
107		Jul				2,381	1,357	13,093	63,980	3,738	77,073	80,812
108		Aug				2,291	1,912	13,248	67,994	4,203	81,242	85,445
109		Sep				2,443	762	12,331	63,714	3,205	76,045	79,250
110		Oct				2,147	0	12,388	48,701	2,147	61,089	63,236
111		Nov				2,078	0	11,988	47,158	2,078	59,146	61,225
112		Dec				2,319	1,409	12,388	49,737	3,728	62,125	65,853

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	A	B	C	D	E	O	P	Q	R	S	T	U
1												
58												
59	MONTHLY FORECAST DATA											
60	Noncore - Electric Generation											
61	Average Year Throughput (Mth)											
113												
114	2010	Jan	2,267	1,486	12,473	41,126	3,752	53,599	57,351			
115		Feb	2,353	920	11,266	31,210	3,273	42,476	45,749			
116		Mar	2,167	0	12,473	32,810	2,167	45,283	47,450			
117		Apr	2,097	0	12,070	22,401	2,097	34,471	36,569			
118		May	2,167	0	12,473	26,035	2,167	38,508	40,675			
119		Jun	2,097	0	12,070	39,364	2,097	51,435	53,532			
120		Jul	2,371	1,033	12,982	68,031	3,404	81,013	84,417			
121		Aug	2,485	1,423	12,683	70,471	3,908	83,154	87,062			
122		Sep	2,366	665	12,313	64,110	3,032	76,423	79,455			
123		Oct	2,167	0	12,473	45,692	2,167	58,165	60,332			
124		Nov	2,097	0	12,070	45,288	2,097	57,358	59,455			
125		Dec	2,376	1,106	12,473	48,650	3,483	61,123	64,606			
126												
127	2011	Jan	2,609	468	12,560	37,940	3,076	50,500	53,576			
128		Feb	2,071	614	11,344	30,667	2,685	42,011	44,696			
129		Mar	2,188	0	12,560	34,581	2,188	47,141	49,328			
130		Apr	2,117	0	12,155	20,726	2,117	32,881	34,998			
131		May	2,188	0	12,560	24,220	2,188	36,780	38,967			
132		Jun	2,117	0	12,155	30,857	2,117	43,012	45,129			
133		Jul	2,386	838	12,918	46,332	3,224	59,249	62,473			
134		Aug	2,551	1,235	13,228	46,686	3,786	59,914	63,701			
135		Sep	2,275	746	12,448	44,710	3,021	57,158	60,179			
136		Oct	2,188	0	12,560	38,823	2,188	51,383	53,570			
137		Nov	2,117	0	12,155	36,513	2,117	48,668	50,785			
138		Dec	2,356	985	12,560	37,677	3,341	50,237	53,578			
139												
140	2012	Jan	2,439	496	12,648	35,353	2,935	48,002	50,937			
141		Feb	2,271	791	11,424	30,925	3,062	42,350	45,411			
142		Mar	2,208	0	12,648	33,046	2,208	45,694	47,903			
143		Apr	2,137	0	12,240	22,598	2,137	34,838	36,975			
144		May	2,208	0	12,648	25,607	2,208	38,256	40,464			
145		Jun	2,137	0	12,240	32,550	2,137	44,791	46,928			
146		Jul	2,529	1,192	13,454	46,914	3,720	60,368	64,088			
147		Aug	2,865	1,373	13,493	46,922	4,239	60,415	64,653			
148		Sep	2,492	1,164	12,275	44,733	3,656	57,008	60,665			
149		Oct	2,208	0	12,648	38,034	2,208	50,683	52,891			
150		Nov	2,137	0	12,240	37,289	2,137	49,530	51,667			
151		Dec	2,474	585	12,648	38,624	3,059	51,273	54,331			

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	A	B	C	D	E	V	W	X	AA	AB	AC
1											
58											
59	MONTHLY FORECAST DATA					Noncore	System-Wide				Total
60						Total	Total End-Use Dmd		Co-Use-Fuel	"Un-Acct'd- For" (UAF)	System Throughput
61	Average Year Throughput (Mth)										
62	2006	Jan				45,917	109,050		290	960	110,299
63		Feb				60,339	115,897		308	1,020	117,225
64		Mar				55,115	108,475		289	955	109,718
65		Apr				49,713	91,493		243	805	92,542
66		May				57,015	91,638		244	806	92,688
67		Jun				46,422	74,999		200	660	75,858
68		Jul				53,588	81,291		216	715	82,223
69		Aug				84,276	111,109		296	978	112,383
70		Sep				63,592	90,615		241	797	91,654
71		Oct				57,066	86,880		231	765	87,875
72		Nov				51,844	95,714		255	842	96,811
73		Dec				57,588	121,782		324	1,072	123,177
74											
75	2007	Jan				46,905	109,782		292	966	111,040
76		Feb				39,769	95,089		253	837	96,179
77		Mar				42,333	95,467		254	840	96,561
78		Apr				40,307	81,908		218	721	82,847
79		May				46,761	81,228		216	715	82,159
80		Jun				45,088	73,533		196	647	74,375
81		Jul				55,052	82,626		220	727	83,573
82		Aug				69,413	96,124		256	846	97,226
83		Sep				54,029	80,928		215	712	81,855
84		Oct				76,767	106,449		283	937	107,669
85		Nov				53,252	96,939		258	853	98,050
86		Dec				55,767	119,705		318	1,053	121,077
87											
88	2008	Jan				45,088	107,775		287	948	109,010
89		Feb				39,300	94,431		251	831	95,513
90		Mar				42,134	95,100		253	837	96,190
91		Apr				33,746	75,224		200	662	76,086
92		May				40,403	74,767		199	658	75,624
93		Jun				50,146	78,515		209	691	79,415
94		Jul				78,698	106,191		283	934	107,408
95		Aug				88,679	115,324		307	1,015	116,645
96		Sep				82,832	109,658		292	965	110,915
97		Oct				58,941	88,552		236	779	89,567
98		Nov				43,318	86,883		231	765	87,879
99		Dec				55,559	119,312		317	1,050	120,679
100											
101	2009	Jan				55,333	118,643		316	1,044	120,003
102		Feb				40,325	95,975		255	845	97,075
103		Mar				41,285	94,763		252	834	95,849
104		Apr				32,945	74,829		199	658	75,687
105		May				51,997	86,687		231	763	87,680
106		Jun				62,829	91,468		243	805	92,516
107		Jul				84,322	112,065		298	986	113,350
108		Aug				88,955	115,859		308	1,020	117,187
109		Sep				82,632	109,711		292	965	110,968
110		Oct				66,746	96,656		257	851	97,763
111		Nov				64,607	108,610		289	956	109,854
112		Dec				69,363	133,760		356	1,177	135,293

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	A	B	C	D	E	V	W	X	AA	AB	AC
1											
58											
59	MONTHLY FORECAST DATA					Noncore	System-Wide				
60						Total	Total End-Use Dmd		Co-Use-Fuel	"Un-Acnt'd- For" (UAF)	Total System Throughput
61	Average Year Throughput (Mth)										
113											
114	2010	Jan				60,801	124,427		331	1,095	125,853
115		Feb				48,813	104,716		279	921	105,916
116		Mar				50,901	104,640		278	921	105,840
117		Apr				39,890	81,989		218	721	82,929
118		May				44,125	78,992		210	695	79,897
119		Jun				56,853	85,648		228	754	86,629
120		Jul				87,867	115,751		308	1,019	117,077
121		Aug				90,512	117,567		313	1,035	118,914
122		Sep				82,776	110,000		293	968	111,261
123		Oct				63,782	93,865		250	826	94,941
124		Nov				62,777	107,013		285	942	108,239
125		Dec				68,056	132,784		353	1,168	134,306
126											
127	2011	Jan				56,958	120,795		321	1,063	122,180
128		Feb				47,686	103,747		276	913	104,936
129		Mar				52,710	106,621		284	938	107,843
130		Apr				38,249	80,495		214	708	81,418
131		May				42,349	77,334		206	681	78,220
132		Jun				48,380	77,283		206	680	78,169
133		Jul				65,855	93,831		250	826	94,906
134		Aug				67,082	94,245		251	829	95,325
135		Sep				63,430	90,754		241	799	91,794
136		Oct				56,952	87,163		232	767	88,161
137		Nov				54,036	98,435		262	866	99,563
138		Dec				56,959	121,913		324	1,073	123,311
139											
140	2012	Jan				54,241	118,020		314	1,039	119,372
141		Feb				48,319	104,295		277	918	105,491
142		Mar				51,207	105,040		279	924	106,244
143		Apr				40,147	82,320		219	724	83,263
144		May				43,768	78,664		209	692	79,566
145		Jun				50,100	78,911		210	694	79,816
146		Jul				67,392	95,269		253	838	96,361
147		Aug				67,958	95,037		253	836	96,126
148		Sep				63,837	91,067		242	801	92,111
149		Oct				56,195	86,333		230	760	87,322
150		Nov				54,839	99,177		264	873	100,314
151		Dec				57,636	122,544		326	1,078	123,949

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	A	B	C	F	G	H	I	J	L	M	N	
153												
154				Nonresidential Core				Total	Noncore - C&I			
155				Residential	GN-3		G-NGV	Core	C&I (Dist.)	C&I (Trans.)	C&I (Total)	
156	Average Year Sales (Mth)											
157	2006	Jan	31	44,407	16,694		875	61,976	0	0	0	
158		Feb	28	37,519	16,131		791	54,441	0	0	0	
159		Mar	31	35,913	15,505		868	52,287	0	0	0	
160		Apr	30	27,150	12,898		840	40,889	0	0	0	
161		May	31	20,851	12,078		859	33,789	0	0	0	
162		Jun	30	15,993	10,938		892	27,822	0	0	0	
163		Jul	31	15,131	10,967		850	26,948	0	0	0	
164		Aug	31	15,099	10,172		861	26,131	0	0	0	
165		Sep	30	14,764	10,650		875	26,290	0	0	0	
166		Oct	31	17,752	10,460		880	29,092	0	0	0	
167		Nov	30	29,380	12,770		836	42,986	0	0	0	
168		Dec	31	45,832	16,358		870	63,059	0	0	0	
169												
170	2007	Jan	31	44,304	16,532		895	61,731	0	0	0	
171		Feb	28	37,432	15,973		809	54,215	0	0	0	
172		Mar	31	35,830	15,353		888	52,071	0	0	0	
173		Apr	30	27,088	12,771		860	40,718	0	0	0	
174		May	31	20,803	11,959		879	33,641	0	0	0	
175		Jun	30	15,956	10,830		912	27,698	0	0	0	
176		Jul	31	15,096	10,860		869	26,825	0	0	0	
177		Aug	31	15,064	10,072		881	26,016	0	0	0	
178		Sep	30	14,730	10,546		896	26,171	0	0	0	
179		Oct	31	17,711	10,356		901	28,967	0	0	0	
180		Nov	30	29,312	12,645		855	42,812	0	0	0	
181		Dec	31	45,725	16,200		890	62,815	0	0	0	
182												
183	2008	Jan	31	44,280	16,269		1,011	61,559	0	0	0	
184		Feb	29	37,412	15,718		914	54,044	0	0	0	
185		Mar	31	35,810	15,107		1,003	51,921	0	0	0	
186		Apr	30	27,073	12,566		971	40,610	0	0	0	
187		May	31	20,792	11,767		993	33,552	0	0	0	
188		Jun	30	15,947	10,657		1,030	27,634	0	0	0	
189		Jul	31	15,088	10,687		981	26,756	0	0	0	
190		Aug	31	15,055	9,912		994	25,961	0	0	0	
191		Sep	30	14,721	10,378		1,011	26,111	0	0	0	
192		Oct	31	17,701	10,190		1,017	28,908	0	0	0	
193		Nov	30	29,296	12,443		966	42,704	0	0	0	
194		Dec	31	45,700	15,942		1,004	62,647	0	0	0	
195												
196	2009	Jan	31	44,912	16,138		1,141	62,191	0	0	0	
197		Feb	28	37,946	15,593		1,032	54,570	0	0	0	
198		Mar	31	36,322	14,987		1,132	52,441	0	0	0	
199		Apr	30	27,459	12,467		1,096	41,022	0	0	0	
200		May	31	21,089	11,674		1,121	33,884	0	0	0	
201		Jun	30	16,174	10,572		1,163	27,910	0	0	0	
202		Jul	31	15,303	10,602		1,108	27,013	0	0	0	

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	A	B	C	F	G	H	I	J	L	M	N	
153												
154				Nonresidential Core				Total	Noncore - C&I			
155				Residential	GN-3	G-NGV		Core	C&I (Dist.)	C&I (Trans.)	C&I (Total)	
156	Average Year Sales (Mth)											
203	Aug		31	15,270	9,833		1,123	26,225	0	0	0	
204	Sep		30	14,932	10,295		1,142	26,369	0	0	0	
205	Oct		31	17,954	10,109		1,148	29,211	0	0	0	
206	Nov		30	29,714	12,344		1,090	43,148	0	0	0	
207	Dec		31	46,353	15,814		1,134	63,301	0	0	0	
208												
209	2010 Jan		31	45,274	15,957		1,289	62,520	0	0	0	
210	Feb		28	38,251	15,419		1,165	54,836	0	0	0	
211	Mar		31	36,615	14,821		1,278	52,714	0	0	0	
212	Apr		30	27,680	12,329		1,237	41,247	0	0	0	
213	May		31	21,258	11,545		1,266	34,069	0	0	0	
214	Jun		30	16,305	10,455		1,313	28,073	0	0	0	
215	Jul		31	15,427	10,483		1,251	27,161	0	0	0	
216	Aug		31	15,393	9,723		1,267	26,384	0	0	0	
217	Sep		30	15,052	10,181		1,289	26,522	0	0	0	
218	Oct		31	18,099	9,998		1,296	29,393	0	0	0	
219	Nov		30	29,953	12,207		1,231	43,391	0	0	0	
220	Dec		31	46,726	15,637		1,280	63,644	0	0	0	
221												
222	2011 Jan		31	45,586	15,707		1,455	62,748	0	0	0	
223	Feb		28	38,516	15,179		1,315	55,010	0	0	0	
224	Mar		31	36,867	14,590		1,443	52,901	0	0	0	
225	Apr		30	27,872	12,138		1,397	41,406	0	0	0	
226	May		31	21,405	11,366		1,429	34,200	0	0	0	
227	Jun		30	16,417	10,293		1,483	28,193	0	0	0	
228	Jul		31	15,533	10,319		1,413	27,264	0	0	0	
229	Aug		31	15,500	9,572		1,431	26,502	0	0	0	
230	Sep		30	15,156	10,022		1,456	26,633	0	0	0	
231	Oct		31	18,224	9,844		1,464	29,531	0	0	0	
232	Nov		30	30,160	12,017		1,390	43,567	0	0	0	
233	Dec		31	47,049	15,391		1,446	63,886	0	0	0	
234												
235	2012 Jan		31	45,813	15,409		1,488	62,710	0	0	0	
236	Feb		29	38,707	14,892		1,345	54,944	0	0	0	
237	Mar		31	37,051	14,316		1,476	52,842	0	0	0	
238	Apr		30	28,010	11,910		1,429	41,348	0	0	0	
239	May		31	21,512	11,153		1,461	34,125	0	0	0	
240	Jun		30	16,499	10,099		1,516	28,114	0	0	0	
241	Jul		31	15,610	10,124		1,444	27,178	0	0	0	
242	Aug		31	15,577	9,391		1,463	26,431	0	0	0	
243	Sep		30	15,231	9,832		1,488	26,552	0	0	0	
244	Oct		31	18,314	9,659		1,497	29,470	0	0	0	
245	Nov		30	30,310	11,791		1,421	43,522	0	0	0	
246	Dec		31	47,283	15,099		1,478	63,861	0	0	0	

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	A	B	O	P	Q	R	S	T	U	V	W
153											
154			Noncore - Electric Generation							Noncore	System-Wide
155			EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG (<3MMThms)	EG (>=3MMThms)	EG (Total)	Total	Total End-Use Dmd
156	Average Year Sales (Mth)										
157	2006	Jan	0	0	0	0	0	0	0	0	61,976
158		Feb	0	0	0	0	0	0	0	0	54,441
159		Mar	0	0	0	0	0	0	0	0	52,287
160		Apr	0	0	0	0	0	0	0	0	40,889
161		May	0	0	0	0	0	0	0	0	33,789
162		Jun	0	0	0	0	0	0	0	0	27,822
163		Jul	0	0	0	0	0	0	0	0	26,948
164		Aug	0	0	0	0	0	0	0	0	26,131
165		Sep	0	0	0	0	0	0	0	0	26,290
166		Oct	0	0	0	0	0	0	0	0	29,092
167		Nov	0	0	0	0	0	0	0	0	42,986
168		Dec	0	0	0	0	0	0	0	0	63,059
169											
170	2007	Jan	0	0	0	0	0	0	0	0	61,731
171		Feb	0	0	0	0	0	0	0	0	54,215
172		Mar	0	0	0	0	0	0	0	0	52,071
173		Apr	0	0	0	0	0	0	0	0	40,718
174		May	0	0	0	0	0	0	0	0	33,641
175		Jun	0	0	0	0	0	0	0	0	27,698
176		Jul	0	0	0	0	0	0	0	0	26,825
177		Aug	0	0	0	0	0	0	0	0	26,016
178		Sep	0	0	0	0	0	0	0	0	26,171
179		Oct	0	0	0	0	0	0	0	0	28,967
180		Nov	0	0	0	0	0	0	0	0	42,812
181		Dec	0	0	0	0	0	0	0	0	62,815
182											
183	2008	Jan	0	0	0	0	0	0	0	0	61,559
184		Feb	0	0	0	0	0	0	0	0	54,044
185		Mar	0	0	0	0	0	0	0	0	51,921
186		Apr	0	0	0	0	0	0	0	0	40,610
187		May	0	0	0	0	0	0	0	0	33,552
188		Jun	0	0	0	0	0	0	0	0	27,634
189		Jul	0	0	0	0	0	0	0	0	26,756
190		Aug	0	0	0	0	0	0	0	0	25,961
191		Sep	0	0	0	0	0	0	0	0	26,111
192		Oct	0	0	0	0	0	0	0	0	28,908
193		Nov	0	0	0	0	0	0	0	0	42,704
194		Dec	0	0	0	0	0	0	0	0	62,647
195											
196	2009	Jan	0	0	0	0	0	0	0	0	62,191
197		Feb	0	0	0	0	0	0	0	0	54,570
198		Mar	0	0	0	0	0	0	0	0	52,441
199		Apr	0	0	0	0	0	0	0	0	41,022
200		May	0	0	0	0	0	0	0	0	33,884
201		Jun	0	0	0	0	0	0	0	0	27,910
202		Jul	0	0	0	0	0	0	0	0	27,013

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	A	B	O	P	Q	R	S	T	U	V	W
153											
154		Noncore - Electric Generation							Noncore	System-Wide	
155		EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG (<3MMThms)	EG (>=3MMThms)	EG (Total)	Total	Total End-Use Dmd	
156	Average Year Sales (Mth)										
203	Aug	0	0	0	0	0	0	0	0	0	26,225
204	Sep	0	0	0	0	0	0	0	0	0	26,369
205	Oct	0	0	0	0	0	0	0	0	0	29,211
206	Nov	0	0	0	0	0	0	0	0	0	43,148
207	Dec	0	0	0	0	0	0	0	0	0	63,301
208											
209	2010 Jan	0	0	0	0	0	0	0	0	0	62,520
210	Feb	0	0	0	0	0	0	0	0	0	54,836
211	Mar	0	0	0	0	0	0	0	0	0	52,714
212	Apr	0	0	0	0	0	0	0	0	0	41,247
213	May	0	0	0	0	0	0	0	0	0	34,069
214	Jun	0	0	0	0	0	0	0	0	0	28,073
215	Jul	0	0	0	0	0	0	0	0	0	27,161
216	Aug	0	0	0	0	0	0	0	0	0	26,384
217	Sep	0	0	0	0	0	0	0	0	0	26,522
218	Oct	0	0	0	0	0	0	0	0	0	29,393
219	Nov	0	0	0	0	0	0	0	0	0	43,391
220	Dec	0	0	0	0	0	0	0	0	0	63,644
221											
222	2011 Jan	0	0	0	0	0	0	0	0	0	62,748
223	Feb	0	0	0	0	0	0	0	0	0	55,010
224	Mar	0	0	0	0	0	0	0	0	0	52,901
225	Apr	0	0	0	0	0	0	0	0	0	41,406
226	May	0	0	0	0	0	0	0	0	0	34,200
227	Jun	0	0	0	0	0	0	0	0	0	28,193
228	Jul	0	0	0	0	0	0	0	0	0	27,264
229	Aug	0	0	0	0	0	0	0	0	0	26,502
230	Sep	0	0	0	0	0	0	0	0	0	26,633
231	Oct	0	0	0	0	0	0	0	0	0	29,531
232	Nov	0	0	0	0	0	0	0	0	0	43,567
233	Dec	0	0	0	0	0	0	0	0	0	63,886
234											
235	2012 Jan	0	0	0	0	0	0	0	0	0	62,710
236	Feb	0	0	0	0	0	0	0	0	0	54,944
237	Mar	0	0	0	0	0	0	0	0	0	52,842
238	Apr	0	0	0	0	0	0	0	0	0	41,348
239	May	0	0	0	0	0	0	0	0	0	34,125
240	Jun	0	0	0	0	0	0	0	0	0	28,114
241	Jul	0	0	0	0	0	0	0	0	0	27,178
242	Aug	0	0	0	0	0	0	0	0	0	26,431
243	Sep	0	0	0	0	0	0	0	0	0	26,552
244	Oct	0	0	0	0	0	0	0	0	0	29,470
245	Nov	0	0	0	0	0	0	0	0	0	43,522
246	Dec	0	0	0	0	0	0	0	0	0	63,861

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1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast Summary (Mtherms)													
58														
59	MONTHLY FORECAST DATA													
60														
251	Cold Year Throughput (Mth)													
252			Nonresidential Core			Total		Noncore - C&I						
253			Residential	GN-3	G-NGV	Core		C&I (Dist.)	C&I (Trans.)	C&I (Total)				
254	2006	Jan	52,218	19,686	875	72,779		5,561	173	5,734				
255		Feb	44,116	18,925	791	63,832		5,465	316	5,781				
256		Mar	41,500	18,078	868	60,446		4,873	303	5,176				
257		Apr	30,163	14,549	840	45,553		5,673	381	6,054				
258		May	22,349	13,437	859	36,646		4,596	263	4,859				
259		Jun	16,299	11,898	892	29,089		3,494	219	3,713				
260		Jul	19,820	11,991	850	32,661		3,417	239	3,656				
261		Aug	15,147	10,861	861	26,869		2,865	188	3,053				
262		Sep	14,948	11,517	875	27,341		3,075	325	3,400				
263		Oct	18,157	11,250	880	30,288		2,819	310	3,129				
264		Nov	33,881	14,377	836	49,095		3,219	319	5,338				
265		Dec	54,251	19,235	870	74,356		2,919	293	77,568				
266	2007	Jan	52,097	19,496	895	72,488		3,320	284	76,102				
267		Feb	44,014	18,740	809	63,563		2,976	255	66,794				
268		Mar	41,404	17,900	888	60,193		3,320	284	63,797				
269		Apr	30,093	14,406	860	45,358		3,206	275	48,839				
270		May	22,297	13,304	879	36,481		3,320	284	39,085				
271		Jun	16,261	11,781	912	28,954		3,206	275	32,435				
272		Jul	19,774	11,875	869	32,518		3,320	284	36,122				
273		Aug	15,112	10,755	881	26,747		3,320	284	30,351				
274		Sep	14,913	11,405	896	27,214		3,206	275	30,705				
275		Oct	18,115	11,138	901	30,154		3,320	284	33,758				
276		Nov	33,803	14,236	855	48,894		3,206	275	52,375				
277		Dec	54,125	19,049	890	74,064		3,320	284	77,668				
278	2008	Jan	52,068	19,186	1,011	72,265		3,280	281	75,726				
279		Feb	43,989	18,441	914	63,344		2,932	251	66,527				
280		Mar	41,381	17,614	1,003	59,998		3,280	281	63,559				
281		Apr	30,076	14,175	971	45,222		3,164	271	48,657				
282		May	22,285	13,091	993	36,369		3,280	281	39,930				
283		Jun	16,252	11,592	1,030	28,875		3,164	271	32,260				
284		Jul	19,763	11,686	981	32,431		3,280	281	35,992				
285		Aug	15,103	10,583	994	26,681		3,280	281	30,242				
286		Sep	14,905	11,223	1,011	27,140		3,164	271	30,575				
287		Oct	18,105	10,959	1,017	30,081		3,280	281	33,642				
288		Nov	33,784	14,009	966	48,759		3,164	271	52,194				
289		Dec	54,096	18,747	1,004	73,847		3,280	281	77,408				
290	2009	Jan	52,811	19,032	1,141	72,984		3,233	277	76,494				
291		Feb	44,617	18,294	1,032	63,943		2,881	247	67,071				
292		Mar	41,972	17,474	1,132	60,579		3,233	277	63,889				
293		Apr	30,506	14,063	1,096	45,665		3,116	267	48,048				
294		May	22,603	12,988	1,121	36,712		3,233	277	39,222				
295		Jun	16,484	11,501	1,163	29,148		3,116	267	32,531				
296		Jul	20,045	11,592	1,108	32,746		3,233	277	36,256				
297		Aug	15,319	10,499	1,123	26,940		3,233	277	30,450				
298		Sep	15,118	11,134	1,142	27,393		3,116	267	30,776				
299		Oct	18,364	10,873	1,148	30,385		3,233	277	33,895				
300		Nov	34,267	13,897	1,090	49,254		3,116	267	52,637				
301		Dec	54,868	18,595	1,134	74,598		3,233	277	78,108				
302	2010	Jan	53,237	18,818	1,289	73,344		3,178	272	76,804				
303		Feb	44,977	18,090	1,165	64,232		2,821	242	67,305				
304		Mar	42,310	17,280	1,278	60,869		3,178	272	64,269				
305		Apr	30,752	13,907	1,237	45,896		3,059	262	49,157				
306		May	22,785	12,844	1,266	36,895		3,178	272	40,345				
307		Jun	16,617	11,373	1,313	29,303		3,059	262	32,624				
308		Jul	20,207	11,462	1,251	32,920		3,178	272	36,370				
309		Aug	15,442	10,382	1,267	27,092		3,178	272	30,542				
310		Sep	15,240	11,009	1,289	27,538		3,059	262	30,859				
311		Oct	18,512	10,754	1,296	30,562		3,178	272	33,912				
312		Nov	34,543	13,743	1,231	49,517		3,059	262	52,838				
313		Dec	55,310	18,387	1,280	74,977		3,178	272	78,427				

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	2009 BCAP: SDG&E Consolidated Gas Demand Forecast Summary (Mtherms)													
58														
59	<u>MONTHLY FORECAST DATA</u>													
60														
251														
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	A	B	C	D	E	O	P	Q	R	S	T	U
1												
58												
59	MONTHLY FORECAST DATA											
60	Noncore - Electric Generation											
251	Cold Year Throughput (Mth)											
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	A	B	C	D	E	O	P	Q	R	S	T	U
1												
58												
59	MONTHLY FORECAST DATA											
60	Noncore - Electric Generation											
251	Cold Year Throughput (Mth)											
316												
317	2011	Jan	2,609	468	12,560	37,940	3,076	50,500	53,576			
318		Feb	2,071	614	11,344	30,667	2,685	42,011	44,696			
319		Mar	2,188	0	12,560	34,581	2,188	47,141	49,328			
320		Apr	2,117	0	12,155	20,726	2,117	32,881	34,998			
321		May	2,188	0	12,560	24,220	2,188	36,780	38,967			
322		Jun	2,117	0	12,155	30,857	2,117	43,012	45,129			
323		Jul	2,386	838	12,918	46,332	3,224	59,249	62,473			
324		Aug	2,551	1,235	13,228	46,686	3,786	59,914	63,701			
325		Sep	2,275	746	12,448	44,710	3,021	57,158	60,179			
326		Oct	2,188	0	12,560	38,823	2,188	51,383	53,570			
327		Nov	2,117	0	12,155	36,513	2,117	48,668	50,785			
328		Dec	2,356	985	12,560	37,677	3,341	50,237	53,578			
329												
330	2012	Jan	2,439	496	12,648	35,353	2,935	48,002	50,937			
331		Feb	2,271	791	11,424	30,925	3,062	42,350	45,411			
332		Mar	2,208	0	12,648	33,046	2,208	45,694	47,903			
333		Apr	2,137	0	12,240	22,598	2,137	34,838	36,975			
334		May	2,208	0	12,648	25,607	2,208	38,256	40,464			
335		Jun	2,137	0	12,240	32,550	2,137	44,791	46,928			
336		Jul	2,529	1,192	13,454	46,914	3,720	60,368	64,088			
337		Aug	2,865	1,373	13,493	46,922	4,239	60,415	64,653			
338		Sep	2,492	1,164	12,275	44,733	3,656	57,008	60,665			
339		Oct	2,208	0	12,648	38,034	2,208	50,683	52,891			
340		Nov	2,137	0	12,240	37,289	2,137	49,530	51,667			
341		Dec	2,474	585	12,648	38,624	3,059	51,273	54,331			
342												
343												
344	Noncore - Electric Generation											
345	Peak Day Throughput (Mth/Day)											
346	2,006	66	0	839	1,622	66	2,461	2,527				
347	2,007	91	131	585	1,134	222	1,719	1,941				
348	2,008	105	122	574	1,215	228	1,789	2,016				
349	2,009	71	54	400	2,074	126	2,474	2,599				
350	2,010	70	61	402	1,939	131	2,342	2,472				
351	2,011	71	9	405	1,561	79	1,966	2,045				
352	2,012	71	36	408	1,654	107	2,062	2,169				

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	A	B	C	D	E	V	W	X	AA	AB	AC
1											
58											
59	MONTHLY FORECAST DATA					Noncore	System-Wide				
60						Total	Total End-Use Dmd	Co-Use-Fuel	"Un-Acct'd-For" (UAF)	Total System Throughput	
251	Cold Year Throughput (Mth)										
252	2006	Jan				45,917	118,697	316	1,044	120,057	
253		Feb				60,339	124,171	330	1,093	125,594	
254		Mar				55,115	115,562	307	1,017	116,886	
255		Apr				49,713	95,265	253	838	96,357	
256		May				57,015	93,661	249	824	94,734	
257		Jun				46,422	75,511	201	664	76,376	
258		Jul				53,588	86,248	229	759	87,237	
259		Aug				84,276	111,145	296	978	112,419	
260		Sep				63,592	90,933	242	800	91,975	
261		Oct				57,066	87,354	232	769	88,355	
262		Nov				51,844	100,939	269	888	102,096	
263		Dec				57,588	131,944	351	1,161	133,456	
264											
265	2007	Jan				46,905	119,393	318	1,051	120,761	
266		Feb				39,769	103,332	275	909	104,516	
267		Mar				42,333	102,526	273	902	103,701	
268		Apr				40,307	85,666	228	754	86,647	
269		May				46,761	83,242	221	733	84,196	
270		Jun				45,088	74,042	197	652	74,891	
271		Jul				55,052	87,570	233	771	88,573	
272		Aug				69,413	96,160	256	846	97,262	
273		Sep				54,029	81,243	216	715	82,174	
274		Oct				76,767	106,921	284	941	108,146	
275		Nov				53,252	102,146	272	899	103,317	
276		Dec				55,767	129,831	345	1,142	131,319	
277											
278	2008	Jan				45,088	117,353	312	1,033	118,698	
279		Feb				39,300	102,644	273	903	103,820	
280		Mar				42,134	102,132	272	899	103,303	
281		Apr				33,746	78,968	210	695	79,873	
282		May				40,403	76,772	204	676	77,652	
283		Jun				50,146	79,021	210	695	79,926	
284		Jul				78,698	111,129	296	978	112,402	
285		Aug				88,679	115,359	307	1,015	116,682	
286		Sep				82,832	109,972	293	968	111,232	
287		Oct				58,941	89,022	237	783	90,043	
288		Nov				43,318	92,077	245	810	93,132	
289		Dec				55,559	129,406	344	1,139	130,889	
290											
291	2009	Jan				55,333	128,317	341	1,129	129,788	
292		Feb				40,325	104,268	277	918	105,463	
293		Mar				41,285	101,863	271	896	103,031	
294		Apr				32,945	78,610	209	692	79,511	
295		May				51,997	88,709	236	781	89,725	
296		Jun				62,829	91,977	245	809	93,031	
297		Jul				84,322	117,067	311	1,030	118,409	
298		Aug				88,955	115,896	308	1,020	117,224	
299		Sep				82,632	110,026	293	968	111,286	
300		Oct				66,746	97,132	258	855	98,245	
301		Nov				64,607	113,861	303	1,002	115,166	
302		Dec				69,363	143,960	383	1,267	145,610	
303											
304	2010	Jan				60,801	134,145	357	1,180	135,682	
305		Feb				48,813	113,045	301	995	114,340	
306		Mar				50,901	111,770	297	984	113,051	
307		Apr				39,890	85,786	228	755	86,769	
308		May				44,125	81,021	216	713	81,949	
309		Jun				56,853	86,157	229	758	87,144	
310		Jul				87,867	120,788	321	1,063	122,172	
311		Aug				90,512	117,604	313	1,035	118,951	
312		Sep				82,776	110,315	293	971	111,579	
313		Oct				63,782	94,344	251	830	95,425	
314		Nov				62,777	112,293	299	988	113,580	
315		Dec				68,056	143,033	381	1,259	144,672	

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
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 Attachment 5

	A	B	C	D	E	V	W	X	AA	AB	AC												
1																							
58																							
59	MONTHLY FORECAST DATA					<table border="1"> <tr> <td>Noncore</td> <td>System-Wide</td> </tr> <tr> <td>Total</td> <td>Total End-Use Dmd</td> </tr> </table>		Noncore	System-Wide	Total	Total End-Use Dmd			<table border="1"> <tr> <td>Co-Use-Fuel</td> <td>"Un-Acnt'd-For" (UAF)</td> </tr> <tr> <td></td> <td></td> </tr> </table>		Co-Use-Fuel	"Un-Acnt'd-For" (UAF)			<table border="1"> <tr> <td>Total System Throughput</td> </tr> <tr> <td></td> </tr> </table>		Total System Throughput	
Noncore	System-Wide																						
Total	Total End-Use Dmd																						
Co-Use-Fuel	"Un-Acnt'd-For" (UAF)																						
Total System Throughput																							
60																							
251	Cold Year Throughput (Mth)																						
316																							
317	2011	Jan				56,958	130,540		347	1,149	132,036												
318		Feb				47,686	112,097		298	986	113,382												
319		Mar				52,710	113,767		303	1,001	115,071												
320		Apr				38,249	84,302		224	742	85,268												
321		May				42,349	79,366		211	698	80,275												
322		Jun				48,380	77,791		207	685	78,683												
323		Jul				65,855	98,896		263	870	100,030												
324		Aug				67,082	94,282		251	830	95,363												
325		Sep				63,430	91,068		242	801	92,112												
326		Oct				56,952	87,643		233	771	88,647												
327		Nov				54,036	103,736		276	913	104,925												
328		Dec				56,959	132,195		352	1,163	133,710												
329																							
330	2012	Jan				54,241	127,770		340	1,124	129,235												
331		Feb				48,319	112,648		300	991	113,939												
332		Mar				51,207	112,188		298	987	113,474												
333		Apr				40,147	86,128		229	758	87,115												
334		May				43,768	80,694		215	710	81,619												
335		Jun				50,100	79,417		211	699	80,327												
336		Jul				67,392	100,353		267	883	101,503												
337		Aug				67,958	95,074		253	837	96,164												
338		Sep				63,837	91,379		243	804	92,426												
339		Oct				56,195	86,814		231	764	87,809												
340		Nov				54,839	104,489		278	919	105,686												
341		Dec				57,636	132,837		353	1,169	134,359												
342																							
343																							
344																							
345	Peak Day Throughput (Mth/Day)					<table border="1"> <tr> <td>Noncore</td> <td>System-Wide</td> </tr> <tr> <td>Total</td> <td>Total End-Use Dmd</td> </tr> </table>		Noncore	System-Wide	Total	Total End-Use Dmd												
Noncore	System-Wide																						
Total	Total End-Use Dmd																						
346	2,006					2,631	6,583																
347	2,007					2,058	5,995																
348	2,008					2,131	6,055																
349	2,009					2,713	6,678																
350	2,010					2,584	6,565																
351	2,011					2,154	6,147																
352	2,012					2,276	6,267																

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	A	B	C	F	G	H	I	J	L	M	N
354											
355				Nonresidential Core			Total	Noncore - C&I			
356				Residential	GN-3	G-NGV	Core	C&I (Dist.)	C&I (Trans.)	C&I (Total)	
357	Forecast Number of Customers										
358	2006	Jan		794,644	29,562	32	824,238	60	1	61	
359		Feb		795,576	29,573	32	825,181	60	1	61	
360		Mar		796,349	29,610	32	825,991	60	1	61	
361		Apr		797,051	29,606	32	826,689	60	1	61	
362		May		797,754	29,601	32	827,387	60	1	61	
363		Jun		798,456	29,597	32	828,084	60	1	61	
364		Jul		799,507	29,590	32	829,130	60	1	61	
365		Aug		800,559	29,582	32	830,172	60	1	61	
366		Sep		801,610	29,590	32	831,232	60	1	61	
367		Oct		802,875	29,629	32	832,536	60	1	61	
368		Nov		804,139	29,668	32	833,840	60	1	61	
369		Dec		805,404	29,707	32	835,143	60	1	61	
370											
371	2007	Jan		803,012	29,696	34	832,742	60	1	61	
372		Feb		803,440	29,769	34	833,243	60	1	61	
373		Mar		803,802	29,801	34	833,637	60	1	61	
374		Apr		804,197	29,833	34	834,064	60	1	61	
375		May		804,397	29,846	34	834,277	60	1	61	
376		Jun		804,582	29,863	34	834,479	60	1	61	
377		Jul		804,969	29,864	34	834,867	60	1	61	
378		Aug		805,753	29,784	34	835,570	60	1	61	
379		Sep		806,536	29,703	34	836,273	60	1	61	
380		Oct		807,174	29,728	34	836,936	60	1	61	
381		Nov		807,812	29,752	34	837,598	60	1	61	
382		Dec		808,450	29,777	34	838,261	60	1	61	
383											
384	2008	Jan		809,160	29,836	36	839,031	60	1	61	
385		Feb		809,870	29,894	36	839,800	60	1	61	
386		Mar		810,579	29,953	36	840,568	60	1	61	
387		Apr		810,998	29,938	36	840,972	60	1	61	
388		May		811,417	29,923	36	841,376	60	1	61	
389		Jun		811,836	29,908	36	841,780	60	1	61	
390		Jul		812,659	29,859	36	842,554	60	1	61	
391		Aug		813,482	29,810	36	843,327	60	1	61	
392		Sep		814,305	29,761	36	844,101	60	1	61	
393		Oct		815,001	29,781	36	844,818	60	1	61	
394		Nov		815,696	29,802	36	845,534	60	1	61	
395		Dec		816,392	29,823	36	846,251	60	1	61	
396											
397	2009	Jan		817,217	29,876	38	847,131	60	1	61	
398		Feb		818,042	29,928	38	848,009	60	1	61	
399		Mar		818,867	29,981	38	848,886	60	1	61	
400		Apr		819,408	29,960	38	849,406	60	1	61	
401		May		819,949	29,939	38	849,926	60	1	61	
402		Jun		820,490	29,919	38	850,447	60	1	61	
403		Jul		821,446	29,862	38	851,347	60	1	61	

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	A	B	C	F	G	H	I	J	L	M	N
354											
355				Nonresidential Core			Total	Noncore - C&I			
356				Residential	GN-3	G-NGV	Core	C&I (Dist.)	C&I (Trans.)	C&I (Total)	
357	Forecast Number of Customers										
404	Aug			822,403	29,805	38	852,247	60	1	61	
405	Sep			823,360	29,749	38	853,147	60	1	61	
406	Oct			824,194	29,766	38	853,998	60	1	61	
407	Nov			825,028	29,783	38	854,849	60	1	61	
408	Dec			825,862	29,800	38	855,700	60	1	61	
409											
410	2010 Jan			826,824	29,852	40	856,716	60	1	61	
411	Feb			827,786	29,903	40	857,729	60	1	61	
412	Mar			828,747	29,955	40	858,743	60	1	61	
413	Apr			829,418	29,933	40	859,391	60	1	61	
414	May			830,088	29,911	40	860,039	60	1	61	
415	Jun			830,758	29,889	40	860,687	60	1	61	
416	Jul			831,843	29,830	40	861,713	60	1	61	
417	Aug			832,927	29,772	40	862,740	60	1	61	
418	Sep			834,012	29,714	40	863,766	60	1	61	
419	Oct			834,956	29,729	40	864,726	60	1	61	
420	Nov			835,899	29,745	40	865,685	60	1	61	
421	Dec			836,843	29,760	40	866,644	60	1	61	
422											
423	2011 Jan			837,898	29,812	43	867,752	60	1	61	
424	Feb			838,953	29,863	43	868,858	60	1	61	
425	Mar			840,008	29,914	43	869,965	60	1	61	
426	Apr			840,746	29,893	43	870,682	60	1	61	
427	May			841,485	29,871	43	871,399	60	1	61	
428	Jun			842,223	29,849	43	872,115	60	1	61	
429	Jul			843,356	29,793	43	873,192	60	1	61	
430	Aug			844,489	29,737	43	874,269	60	1	61	
431	Sep			845,622	29,681	43	875,346	60	1	61	
432	Oct			846,590	29,699	43	876,331	60	1	61	
433	Nov			847,557	29,717	43	877,316	60	1	61	
434	Dec			848,524	29,734	43	878,301	60	1	61	
435											
436	2012 Jan			849,596	29,788	43	879,427	60	1	61	
437	Feb			850,667	29,842	43	880,552	60	1	61	
438	Mar			851,738	29,897	43	881,678	60	1	61	
439	Apr			852,493	29,878	43	882,414	60	1	61	
440	May			853,248	29,859	43	883,150	60	1	61	
441	Jun			854,003	29,841	43	883,886	60	1	61	
442	Jul			855,159	29,787	43	884,989	60	1	61	
443	Aug			856,315	29,734	43	886,092	60	1	61	
444	Sep			857,471	29,681	43	887,195	60	1	61	
445	Oct			858,461	29,702	43	888,206	60	1	61	
446	Nov			859,452	29,723	43	889,217	60	1	61	
447	Dec			860,443	29,743	43	890,229	60	1	61	

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
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 Attachment 5

	A	B	O	P	Q	R	S	T	U	V	W
354											
355			Noncore - Electric Generation							Noncore	System-Wide
356			EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG (<3MMThms)	EG (>=3MMThms)	EG (Total)	Total	Total
357	Forecast Number of Customers										
358	2006	Jan	56	11	9	3	67	12	79	140	824,378
359		Feb	56	11	9	3	67	12	79	140	825,321
360		Mar	56	11	9	3	67	12	79	140	826,131
361		Apr	56	11	9	3	67	12	79	140	826,829
362		May	56	11	9	3	67	12	79	140	827,527
363		Jun	56	11	9	3	67	12	79	140	828,224
364		Jul	56	11	9	3	67	12	79	140	829,270
365		Aug	56	11	9	3	67	12	79	140	830,312
366		Sep	56	11	9	3	67	12	79	140	831,372
367		Oct	56	11	9	3	67	12	79	140	832,676
368		Nov	56	11	9	3	67	12	79	140	833,980
369		Dec	56	11	9	3	67	12	79	140	835,283
370											
371	2007	Jan	56	11	9	3	67	12	79	140	832,882
372		Feb	56	11	9	3	67	12	79	140	833,383
373		Mar	56	11	9	3	67	12	79	140	833,777
374		Apr	56	11	9	3	67	12	79	140	834,204
375		May	56	11	9	3	67	12	79	140	834,417
376		Jun	56	11	9	3	67	12	79	140	834,619
377		Jul	56	11	9	3	67	12	79	140	835,007
378		Aug	56	11	9	3	67	12	79	140	835,710
379		Sep	56	11	9	3	67	12	79	140	836,413
380		Oct	56	11	9	3	67	12	79	140	837,076
381		Nov	56	11	9	3	67	12	79	140	837,738
382		Dec	56	11	9	3	67	12	79	140	838,401
383											
384	2008	Jan	56	11	9	3	67	12	79	140	839,171
385		Feb	56	11	9	3	67	12	79	140	839,940
386		Mar	56	11	9	3	67	12	79	140	840,708
387		Apr	56	11	9	3	67	12	79	140	841,112
388		May	56	11	9	3	67	12	79	140	841,516
389		Jun	56	11	9	3	67	12	79	140	841,920
390		Jul	57	12	9	3	69	12	81	142	842,696
391		Aug	57	12	9	3	69	12	81	142	843,469
392		Sep	57	12	9	3	69	12	81	142	844,243
393		Oct	57	12	9	3	69	12	81	142	844,960
394		Nov	57	12	9	3	69	12	81	142	845,676
395		Dec	57	12	9	3	69	12	81	142	846,393
396											
397	2009	Jan	57	12	9	3	69	12	81	142	847,273
398		Feb	57	12	9	3	69	12	81	142	848,151
399		Mar	57	12	9	3	69	12	81	142	849,028
400		Apr	57	12	9	3	69	12	81	142	849,548
401		May	57	12	9	4	69	13	82	143	850,069
402		Jun	57	12	9	4	69	13	82	143	850,590
403		Jul	57	12	9	4	69	13	82	143	851,490

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	A	B	O	P	Q	R	S	T	U	V	W
354											
355			Noncore - Electric Generation							Noncore	System-Wide
356			EG-Dist. (<3MMThms)	EG-Trans. (<3MMThms)	EG-Dist. (>=3MMThms)	EG-Trans. (>=3MMThms)	EG (<3MMThms)	EG (>=3MMThms)	EG (Total)	Total	Total
357	Forecast Number of Customers										
404	Aug		57	12	9	4	69	13	82	143	852,390
405	Sep		57	12	9	4	69	13	82	143	853,290
406	Oct		57	12	9	4	69	13	82	143	854,141
407	Nov		57	12	9	4	69	13	82	143	854,992
408	Dec		57	12	9	4	69	13	82	143	855,843
409											
410	2010 Jan		57	12	8	4	69	12	81	142	856,858
411	Feb		57	12	8	4	69	12	81	142	857,871
412	Mar		57	12	8	4	69	12	81	142	858,885
413	Apr		57	12	8	4	69	12	81	142	859,533
414	May		57	12	8	4	69	12	81	142	860,181
415	Jun		57	12	8	4	69	12	81	142	860,829
416	Jul		57	12	8	4	69	12	81	142	861,855
417	Aug		57	12	8	4	69	12	81	142	862,882
418	Sep		57	12	8	4	69	12	81	142	863,908
419	Oct		57	12	8	4	69	12	81	142	864,868
420	Nov		57	12	8	4	69	12	81	142	865,827
421	Dec		57	12	8	4	69	12	81	142	866,786
422											
423	2011 Jan		57	12	8	4	69	12	81	142	867,894
424	Feb		57	12	8	4	69	12	81	142	869,000
425	Mar		57	12	8	4	69	12	81	142	870,107
426	Apr		57	12	8	4	69	12	81	142	870,824
427	May		57	12	8	4	69	12	81	142	871,541
428	Jun		57	12	8	4	69	12	81	142	872,257
429	Jul		57	12	8	4	69	12	81	142	873,334
430	Aug		57	12	8	4	69	12	81	142	874,411
431	Sep		57	12	8	4	69	12	81	142	875,488
432	Oct		57	12	8	4	69	12	81	142	876,473
433	Nov		57	12	8	4	69	12	81	142	877,458
434	Dec		57	12	8	4	69	12	81	142	878,443
435											
436	2012 Jan		57	12	8	4	69	12	81	142	879,569
437	Feb		57	12	8	4	69	12	81	142	880,694
438	Mar		57	12	8	4	69	12	81	142	881,820
439	Apr		57	12	8	4	69	12	81	142	882,556
440	May		57	12	8	4	69	12	81	142	883,292
441	Jun		57	12	8	4	69	12	81	142	884,028
442	Jul		57	12	8	4	69	12	81	142	885,131
443	Aug		57	12	8	4	69	12	81	142	886,234
444	Sep		57	12	8	4	69	12	81	142	887,337
445	Oct		57	12	8	4	69	12	81	142	888,348
446	Nov		57	12	8	4	69	12	81	142	889,359
447	Dec		57	12	8	4	69	12	81	142	890,371

2 0 0 9 B C A P

**SDG&E DEMAND FORECAST FOR THE GAS RESOURCE PLAN
FEBRUARY 2008**

SDG&E coincident_1-in-10
 All Units are in MMcf/D

<u>12Mo Operating Year (Apr-Mar)</u>	<u>2006/7</u>	<u>2007/8</u>	<u>2008/9</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025/26?</u>
core	364	362	361	365	366	367	361	360	360	362	363	364	365	367	369	371	373	376	378	393
noncore-nonEG a/	10	11	11	11	11	11	10	10	10	10	10	11	11	11	11	11	11	11	11	12
noncore-CoGenEG a/	52	52	52	53	53	54	54	54	55	55	56	56	57	57	57	58	58	59	59	60
EG Power-Plant a/	197	139	146	203	190	147	159	157	155	153	159	166	172	179	186	190	195	199	203	208
wholesale ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	622.12	564	570	631	620	579	585	582	579	580	588	596	605	614	623	630	637	645	652	672
Noncore	259	202	209	267	254	212	224	222	220	218	225	232	240	247	254	259	264	269	274	279
<u>12Mo Operating Year (Apr-Mar)</u>	<u>2006/7</u>	<u>2007/8</u>	<u>2008/9</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025/26?</u>
core	364	362	361	365	366	367	361	360	360	362	363	364	365	367	369	371	373	376	378	393
noncore c&i *	62	64	64	64	64	64	64	65	65	65	66	67	67	68	68	69	69	70	71	71
eg **	197	139	146	203	190	147	159	157	155	153	159	166	172	179	186	190	195	199	203	208
wholesale ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	622	564	570	631	620	579	585	582	579	580	588	596	605	614	623	630	637	645	652	672

* includes CoGenEG

** Only Power-Plant Load (i.e., excludes cogeneration from above)

*** SDG&E does not provide wholesale gas service.

a/ Gas demand forecasts for noncore commercial & industrial (C&I)

and electric generation (EG) customer classes do not distinguish between firm and interruptible noncore service.

Thus, for the purposes of this assessment, SDG&E assumed that all future peak loads elected firm noncore service,

until SDG&E has a mechanism to identify specific customer firm service requests beyond the current two-year firm noncore service election.

SDG&E coincident_1-in-35
 All Units are in MMcf/D

<u>12Mo Operating Year (Apr-Mar)</u>	<u>2006/7</u>	<u>2007/8</u>	<u>2008/9</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025/26?</u>
core	388	387	386	390	391	392	386	385	385	387	388	389	390	392	394	397	399	402	404	421
noncore-nonEG a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
noncore-CoGenEG a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EG Power-Plant a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
wholesale ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	388.43	387	386	390	391	392	385.9	385.2	385	387	388	389	390	392	394	397	399	402	404	421
Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>12Mo Operating Year (Apr-Mar)</u>	<u>2006/7</u>	<u>2007/8</u>	<u>2008/9</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025/26?</u>
core	388	387	386	390	391	392	386	385	385	387	388	389	390	392	394	397	399	402	404	421
noncore c&i *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
eg **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
wholesale ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	388	387	386	390	391	392	386	385	385	387	388	389	390	392	394	397	399	402	404	421

* includes CoGenEG

** Only Power-Plant Load (i.e., excludes cogeneration from above)

*** SDG&E does not provide wholesale gas service.

a/ Gas demand forecasts for noncore commercial & industrial (C&I)

and electric generation (EG) customer classes do not distinguish between firm and interruptible noncore service.

Thus, for the purposes of this assessment, SDG&E assumed that all future peak loads elected firm noncore service,

until SDG&E has a mechanism to identify specific customer firm service requests beyond the current two-year firm noncore service election.

Sdge_Ann-Col (1-in-10)_EgDRY

	Total System (MDth/d)	Total System (MDth/Yr)	Total Core (MDth/Yr)	Total Noncore-Retail (MDth/Yr)	Total Noncore-Whsle Dom. (MDth/Yr)	Total Noncore-Whsle Intern'l (MDth/Yr)
2009	362	131,969	53,348	78,621	0	0
2010	371	135,586	53,632	81,954	0	0
2011	342	124,759	53,821	70,938	0	0
2012	342	125,169	53,737	71,432	0	0
2013	343	125,240	53,570	71,670	0	0
2014	340	123,977	53,418	70,559	0	0
2015	338	123,201	53,645	69,556	0	0
2016	338	123,659	53,780	69,879	0	0
2017	340	124,277	53,845	70,431	0	0
2018	342	124,821	54,032	70,789	0	0
2019	344	125,465	54,303	71,162	0	0
2020	345	126,123	54,572	71,551	0	0
2021	352	128,568	54,885	73,683	0	0
2022	359	131,046	55,215	75,830	0	0
2023	366	133,575	55,581	77,994	0	0
2024	372	136,106	55,944	80,162	0	0
2025	384	139,988	57,652	82,335	0	0

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**SDG&E RESIDENTIAL DEMAND FORECAST
FEBRUARY 2008**

Core Residential End-Use Model

2009 BCAP

Introduction:

SDG&E used the End Use Forecaster model to generate annual gas demand forecasts for the residential market from 2007 through 2025. 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.

A set of post-model adjustments were applied to the model's annual demand forecast. The first adjustment calibrates to the recorded 2006 weather adjusted demand. Next, the annual forecast was parceled out to a series of monthly forecasts by a process which involves two steps. The 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 year. A final adjustment to the forecast offsets the throughput by the energy efficiency savings. See Figure 2 for the annual demand forecast. 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 2006 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 were extracted from the billing tables housed within the Customer Information System (CIS). See Figure 7 for the 2006 historical data.

Meter Counts, Growth and Decay:

Regression equations were developed for each of the 4 building types. The meter count forecast is a company-specific forecast based on actual meter counts within the SDG&E service territory. Data on meter decay rates were obtained from the Energy Information Administration (EIA). See Figure 8 for the meter count 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.

¹ SDGE Monthly Use Per Customer = (0.61) * Calendar Days + (0.14) * Heating Degree Days.

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 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:

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 CEC's July 2007 Report, CEC-200-2007-013-SD, Appendix B: Utility-Specific Retail Price Forecast Tables on Page 4 for SDG&E. Forecasts for the SDG&E residential customer class were developed by SDG&E's electricity rate analysis group through 2025

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

The marginal prices for each residential housing type were calculated by multiplying each year's respective average price by a ratio. These ratios were 1.513 for the SF and MF housing types; 1.032 for the MM housing type; and 1.125 for the SM housing type. These various ratios were the same as those used to construct the marginal electricity prices for the SoCalGas residential end use model. The electricity price forecasts are shown in figure 11.

Price elasticities for each building type were based on the SDG&E 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 SDG&E

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 SDG&E 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 SDG&E company data files and the most recent 2004 RASS Update. Please see Figures 16-19 for saturations, fuel, and efficiency shares.

**San Diego Gas & Electric
 2009 BCAP**

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 & Electric
 2009 BCAP**

Figure 2: Annual Demand Forecast (Mdth)

Year	Total	Single Family	Multi-Family	Master Meter	Sub Meter
2006	31,988	22,927	4,245	3,660	1,155
2007	31,997	22,891	4,239	3,733	1,133
2008	32,075	22,917	4,245	3,801	1,112
2009	32,636	23,325	4,300	3,901	1,110
2010	33,013	23,594	4,338	3,980	1,101
2011	33,365	23,848	4,375	4,052	1,091
2012	33,665	24,064	4,406	4,115	1,080
2013	33,945	24,268	4,437	4,172	1,068
2014	34,235	24,485	4,470	4,224	1,056
2015	34,538	24,715	4,506	4,271	1,045
2016	34,846	24,954	4,543	43,149	1,034
2017	35,090	25,144	4,575	4,349	1,022
2018	35,363	25,361	4,610	4,382	1,010
2019	35,668	25,606	4,649	4,413	1,000
2020	35,933	25,822	4,684	4,438	989
2021	36,214	26,053	4,721	4,462	978
2022	36,469	26,266	4,756	4,480	967
2023	36,717	26,475	4,790	4,495	956
2024	36,964	26,686	4,824	4,508	946
2025	37,230	26,913	4,861	4,520	936

**San Diego Gas & Electric
 2009 BCAP**

Figure 3: Average-Temperature Year Demand Forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2006	4,442	3,753	3,592	2,716	2,086	1,600	1,514	1,510	1,477	1,776	2,939	4,584	31,988
2007	4,432	3,744	3,584	2,709	2,081	1,596	1,510	1,507	1,473	1,772	2,932	4,574	31,914
2008	4,429	3,742	3,582	2,708	2,080	1,595	1,509	1,506	1,473	1,771	2,930	4,571	31,896
2009	4,492	3,796	3,633	2,747	2,109	1,618	1,531	1,527	1,494	1,796	2,972	4,637	32,351
2010	4,529	3,826	3,662	2,769	2,126	1,631	1,543	1,540	1,506	1,810	2,996	4,674	32,612
2011	4,560	3,853	3,688	2,788	2,141	1,642	1,554	1,550	1,516	1,823	3,017	4,706	32,837
2012	4,583	3,872	3,706	2,802	2,152	1,650	1,561	1,558	1,524	1,832	3,032	4,730	33,001
2013	4,601	3,887	3,721	2,813	2,160	1,657	1,568	1,564	1,530	1,839	3,044	4,749	33,133
2014	4,621	3,904	3,737	2,825	2,170	1,664	1,574	1,571	1,536	1,847	3,057	4,769	33,276
2015	4,667	3,944	3,775	2,854	2,192	1,681	1,590	1,587	1,552	1,866	3,088	4,817	33,612
2016	4,696	3,967	3,797	2,871	2,205	1,691	1,600	1,596	1,561	1,877	3,107	4,846	33,814
2017	4,720	3,988	3,818	2,886	2,217	1,700	1,608	1,605	1,569	1,887	3,123	4,872	33,994
2018	4,751	4,014	3,842	2,905	2,231	1,711	1,619	1,615	1,580	1,899	3,143	4,904	34,215
2019	4,788	4,045	3,872	2,927	2,248	1,724	1,631	1,628	1,592	1,914	3,168	4,941	34,479
2020	4,820	4,073	3,898	2,947	2,263	1,736	1,642	1,639	1,603	1,927	3,189	4,975	34,714
2021	4,856	4,103	3,928	2,969	2,280	1,749	1,655	1,651	1,615	1,941	3,213	5,012	34,973
2022	4,891	4,132	3,955	2,990	2,296	1,761	1,666	1,663	1,626	1,955	3,236	5,047	35,218
2023	4,925	4,161	3,983	3,011	2,313	1,774	1,678	1,674	1,637	1,969	3,258	5,083	35,466
2024	4,959	4,190	4,011	3,032	2,329	1,786	1,690	1,686	1,649	1,982	3,281	5,118	35,713
2025	5,170	4,368	4,181	3,161	2,428	1,862	1,762	1,758	1,719	2,067	3,420	5,336	37,230

**San Diego Gas & Electric
 2009 BCAP**

Figure 4: Cold-Temperature Year Demand Forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2006	5,222	4,412	4,150	3,016	2,235	1,630	1,982	1,515	1,495	1,816	3,388	5,425	36,285
2007	5,210	4,401	4,140	3,009	2,230	1,626	1,977	1,511	1,491	1,812	3,380	5,413	36,201
2008	5,207	4,399	4,138	3,008	2,229	1,625	1,976	1,510	1,491	1,811	3,378	5,410	36,181
2009	5,281	4,462	4,197	3,051	2,260	1,648	2,005	1,532	1,512	1,836	3,427	5,487	36,698
2010	5,324	4,498	4,231	3,075	2,279	1,662	2,021	1,544	1,524	1,851	3,454	5,531	36,993
2011	5,360	4,529	4,260	3,096	2,294	1,673	2,035	1,555	1,535	1,864	3,478	5,569	37,249
2012	5,387	4,551	4,281	3,112	2,306	1,681	2,045	1,563	1,542	1,873	3,495	5,597	37,434
2013	5,409	4,570	4,299	3,124	2,315	1,688	2,053	1,569	1,548	1,881	3,509	5,619	37,584
2014	5,432	4,589	4,317	3,138	2,325	1,696	2,062	1,576	1,555	1,889	3,525	5,644	37,746
2015	5,487	4,636	4,361	3,169	2,348	1,713	2,083	1,592	1,571	1,908	3,560	5,701	38,128
2016	5,520	4,663	4,387	3,189	2,363	1,723	2,095	1,601	1,580	1,919	3,582	5,735	38,357
2017	5,549	4,688	4,410	3,205	2,375	1,732	2,106	1,610	1,589	1,930	3,601	5,765	38,561
2018	5,585	4,719	4,439	3,226	2,391	1,743	2,120	1,620	1,599	1,942	3,624	5,803	38,812
2019	5,628	4,755	4,473	3,251	2,409	1,757	2,136	1,633	1,611	1,957	3,652	5,848	39,111
2020	5,667	4,788	4,504	3,273	2,425	1,769	2,151	1,644	1,622	1,970	3,677	5,887	39,377
2021	5,709	4,823	4,537	3,298	2,443	1,782	2,167	1,656	1,634	1,985	3,704	5,931	39,671
2022	5,749	4,857	4,569	3,321	2,461	1,795	2,182	1,668	1,646	1,999	3,730	5,973	39,950
2023	5,790	4,891	4,601	3,344	2,478	1,807	2,198	1,679	1,657	2,013	3,757	6,015	40,231
2024	5,830	4,925	4,633	3,368	2,495	1,820	2,213	1,691	1,669	2,027	3,783	6,057	40,511
2025	6,078	5,135	4,830	3,511	2,601	1,897	2,307	1,763	1,740	2,113	3,943	6,314	42,231

**San Diego Gas & Electric
 2009 BCAP**

Figure 5: Hot-Temperature Year Demand Forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2006	3,648	3,122	3,029	2,346	1,917	1,557	1,518	1,515	1,486	1,674	2,578	3,767	28,154
2007	3,639	3,114	3,022	2,340	1,913	1,553	1,514	1,511	1,482	1,670	2,572	3,758	28,089
2008	3,637	3,113	3,020	2,339	1,912	1,552	1,513	1,510	1,482	1,669	2,570	3,756	28,073
2009	3,689	3,157	3,063	2,373	1,939	1,574	1,535	1,532	1,503	1,693	2,607	3,810	28,474
2010	3,719	3,182	3,088	2,392	1,955	1,587	1,547	1,544	1,515	1,706	2,628	3,841	28,703
2011	3,745	3,204	3,109	2,408	1,968	1,598	1,558	1,555	1,525	1,718	2,646	3,867	28,902
2012	3,763	3,220	3,125	2,420	1,978	1,606	1,566	1,563	1,533	1,727	2,659	3,886	29,045
2013	3,778	3,233	3,137	2,430	1,986	1,612	1,572	1,569	1,539	1,733	2,670	3,902	29,162
2014	3,795	3,247	3,151	2,440	1,994	1,619	1,579	1,576	1,546	1,741	2,682	3,919	29,288
2015	3,833	3,280	3,182	2,465	2,014	1,636	1,595	1,592	1,561	1,759	2,709	3,958	29,584
2016	3,856	3,300	3,202	2,480	2,027	1,645	1,604	1,601	1,571	1,769	2,725	3,982	29,761
2017	3,876	3,317	3,219	2,493	2,037	1,654	1,613	1,610	1,579	1,778	2,739	4,003	29,920
2018	3,902	3,339	3,240	2,509	2,051	1,665	1,623	1,620	1,589	1,790	2,757	4,029	30,115
2019	3,932	3,365	3,265	2,529	2,066	1,678	1,636	1,633	1,602	1,804	2,779	4,060	30,347
2020	3,959	3,388	3,287	2,546	2,080	1,689	1,647	1,644	1,612	1,816	2,797	4,088	30,553
2021	3,988	3,413	3,311	2,565	2,096	1,702	1,659	1,656	1,624	1,830	2,818	4,119	30,781
2022	4,016	3,437	3,335	2,583	2,111	1,714	1,671	1,668	1,636	1,843	2,838	4,147	30,997
2023	4,044	3,461	3,358	2,601	2,126	1,726	1,683	1,679	1,647	1,856	2,858	4,177	31,215
2024	4,073	3,485	3,381	2,619	2,140	1,738	1,694	1,691	1,659	1,868	2,878	4,206	31,433
2025	4,245	3,633	3,525	2,730	2,231	1,812	1,766	1,763	1,729	1,948	3,000	4,384	32,768

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Figure 6: Base-Temperature Year Demand Forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2006	1,481	1,345	1,485	1,425	1,478	1,456	1,514	1,515	1,474	1,478	1,463	1,486	17,601
2007	1,477	1,342	1,482	1,422	1,475	1,453	1,511	1,511	1,471	1,474	1,460	1,483	17,560
2008	1,480	1,345	1,485	1,424	1,478	1,456	1,514	1,514	1,474	1,477	1,463	1,486	17,596
2009	1,497	1,360	1,502	1,441	1,495	1,473	1,531	1,532	1,491	1,494	1,480	1,503	17,801
2010	1,523	1,383	1,527	1,465	1,520	1,498	1,557	1,558	1,516	1,520	1,505	1,528	18,101
2011	1,538	1,398	1,543	1,481	1,536	1,513	1,573	1,574	1,532	1,535	1,520	1,544	18,289
2012	1,552	1,410	1,557	1,493	1,550	1,526	1,587	1,588	1,546	1,549	1,533	1,558	18,448
2013	1,564	1,421	1,569	1,505	1,562	1,539	1,600	1,600	1,558	1,561	1,546	1,570	18,596
2014	1,578	1,434	1,583	1,518	1,575	1,552	1,614	1,614	1,571	1,575	1,559	1,584	18,756
2015	1,600	1,454	1,605	1,540	1,598	1,574	1,637	1,637	1,594	1,597	1,581	1,606	19,022
2016	1,608	1,461	1,613	1,547	1,605	1,582	1,645	1,645	1,601	1,605	1,589	1,614	19,115
2017	1,621	1,473	1,626	1,560	1,619	1,595	1,658	1,659	1,615	1,618	1,602	1,627	19,272
2018	1,634	1,485	1,639	1,573	1,632	1,608	1,672	1,672	1,628	1,631	1,615	1,641	19,429
2019	1,649	1,498	1,654	1,587	1,646	1,622	1,686	1,687	1,642	1,646	1,629	1,655	19,603
2020	1,662	1,510	1,667	1,599	1,659	1,635	1,700	1,700	1,655	1,659	1,642	1,668	19,754
2021	1,675	1,522	1,680	1,612	1,673	1,648	1,713	1,714	1,668	1,672	1,655	1,682	19,914
2022	1,688	1,533	1,693	1,624	1,685	1,660	1,726	1,726	1,681	1,684	1,668	1,694	20,061
2023	1,699	1,544	1,705	1,635	1,697	1,672	1,738	1,739	1,693	1,696	1,679	1,706	20,203
2024	1,711	1,554	1,716	1,646	1,708	1,683	1,750	1,750	1,704	1,708	1,691	1,717	20,339
2025	1,723	1,566	1,728	1,658	1,721	1,695	1,762	1,763	1,716	1,720	1,703	1,730	20,485

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 Figure 7: 2006 Historical Data**

	Single Family	Multi-Family	Master Meter	Sub Meter
Total Therm Sales	229,270,808	42,450,723	36,600,699	11,554,800
Meter Count				
Pre-1979 Customers	549,206	140,486	11,568	478
1979 - 2001 Customers	68,140	22,754	145	1
2004-2005 Customers	3,216	1,828	1	-
TOTAL	620,562	165,068	11,725	478
Use Per Customer (UPC, therms)				
Pre-1979 Customers	367	269	3,008	23,073
1979 - 2001 Customers	407	225	4,935	1
2004-2005 Customers	315	165	10,889	1
Price Elasticity	-0.105	-0.071	-0.069	-0.105

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 Figure 8: Meter Count Forecast**

Year	Total	Single Family	Multi-Family	Master Meter	Sub Meter
2006	804,272	631,938	160,465	11,419	450
2007	817,190	642,240	163,081	11,419	450
2008	830,503	652,857	165,777	11,419	450
2009	844,177	663,762	168,546	11,419	450
2010	857,818	674,641	171,308	11,419	450
2011	871,128	685,256	174,003	11,419	450
2012	884,512	695,930	176,713	11,419	450
2013	898,382	706,991	179,522	11,419	450
2014	912,807	718,495	182,443	11,419	450
2015	927,415	730,145	185,401	11,419	450
2016	942,170	741,912	188,389	11,419	450
2017	956,976	753,720	191,387	11,419	450
2018	971,895	765,618	194,408	11,419	450
2019	986,848	777,543	197,436	11,419	450
2020	1,001,827	789,489	200,469	11,419	450
2021	1,016,758	801,396	203,493	11,419	450
2022	1,031,630	813,256	206,505	11,419	450
2023	1,046,487	825,104	209,514	11,419	450
2024	1,061,340	836,949	212,522	11,419	450
2025	1,076,287	848,869	215,549	11,419	450

Note: The master meter and sub meter groups are expected to decline.
 A decay rate was built into the model specification.

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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	-

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Figure 10: Average and Marginal Gas Price Forecast (Nominal \$ / therm)

Year	Price Deflator	Average Price				Marginal Price			
		Single Family	Multi-Family	Master Meter	Sub Meter	Single Family	Multi-Family	Master Meter	Sub Meter
2006	100.00	1.3050	1.2870	1.2703	1.2706	1.4655	1.4655	1.4655	1.4655
2007	102.13	1.4107	1.3918	1.3743	1.3746	1.5789	1.5789	1.5789	1.5789
2008	104.19	1.5098	1.4909	1.4734	1.4737	1.6781	1.6781	1.6781	1.6781
2009	106.41	1.3822	1.3637	1.3465	1.3468	1.5473	1.5473	1.5473	1.5473
2010	108.52	1.3429	1.3243	1.3072	1.3075	1.5080	1.5080	1.5080	1.5080
2011	110.74	1.3158	1.2972	1.2801	1.2804	1.4809	1.4809	1.4809	1.4809
2012	113.37	1.3107	1.2917	1.2742	1.2745	1.4796	1.4796	1.4796	1.4796
2013	116.23	1.3185	1.2990	1.2810	1.2814	1.4916	1.4916	1.4916	1.4916
2014	119.10	1.3268	1.3068	1.2884	1.2888	1.5040	1.5040	1.5040	1.5040
2015	122.01	1.3352	1.3148	1.2960	1.2963	1.5168	1.5168	1.5168	1.5168
2016	125.15	1.3448	1.3239	1.3046	1.3049	1.5309	1.5309	1.5309	1.5309
2017	128.51	1.3932	1.3718	1.3520	1.3523	1.5842	1.5842	1.5842	1.5842
2018	131.98	1.4274	1.4054	1.3850	1.3854	1.6233	1.6233	1.6233	1.6233
2019	135.56	1.4457	1.4231	1.4022	1.4026	1.6468	1.6468	1.6468	1.6468
2020	139.20	1.4867	1.4635	1.4421	1.4425	1.6931	1.6931	1.6931	1.6931
2021	142.93	1.5199	1.4961	1.4741	1.4745	1.7317	1.7317	1.7317	1.7317
2022	146.76	1.5672	1.5428	1.5202	1.5207	1.7845	1.7845	1.7845	1.7845
2023	150.69	1.6190	1.5939	1.5708	1.5712	1.8420	1.8420	1.8420	1.8420
2024	154.73	1.6720	1.6463	1.6226	1.6230	1.9008	1.9008	1.9008	1.9008
2025	158.85	1.7139	1.6875	1.6631	1.6636	1.9486	1.9486	1.9486	1.9486

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Figure 11: Average and Marginal Electric Price Forecast (Nominal cents / Kwh)

Year	Price Deflator	Average Price				Marginal Price			
		Single Family	Multi-Family	Master Meter	Sub Meter	Single Family	Multi-Family	Master Meter	Sub Meter
2006	100.00	16.26	16.04	15.83	15.83	24.61	24.27	16.37	17.82
2007	102.13	15.49	15.28	15.09	15.09	23.44	23.12	15.60	16.98
2008	104.19	19.04	18.81	18.59	18.59	28.82	28.46	19.22	20.92
2009	106.41	19.45	19.19	18.95	18.95	29.43	29.03	19.59	21.33
2010	108.52	18.80	18.54	18.30	18.31	28.45	28.06	18.92	20.60
2011	110.74	19.10	18.83	18.59	18.59	28.91	28.50	19.22	20.92
2012	113.37	18.65	18.38	18.13	18.13	28.21	27.81	18.74	20.40
2013	116.23	18.77	18.49	18.24	18.24	28.40	27.99	18.86	20.53
2014	119.10	18.90	18.61	18.35	18.36	28.60	28.17	18.98	20.66
2015	122.01	19.10	18.81	18.54	18.55	28.91	28.47	19.17	20.87
2016	125.15	19.48	19.18	18.90	18.90	29.47	29.02	19.54	21.27
2017	128.51	19.81	19.51	19.23	19.23	29.98	29.52	19.88	21.64
2018	131.98	20.24	19.93	19.64	19.64	30.63	30.15	20.31	22.11
2019	135.56	20.78	20.46	20.16	20.16	31.44	30.95	20.84	22.69
2020	139.20	21.33	20.99	20.69	20.69	32.27	31.77	21.39	23.28
2021	142.93	21.89	21.54	21.23	21.23	33.12	32.60	21.95	23.89
2022	146.76	22.46	22.11	21.78	21.79	33.98	33.45	22.53	24.52
2023	150.69	23.04	22.69	22.36	22.36	34.87	34.33	23.12	25.16
2024	154.73	23.64	23.28	22.94	22.95	35.78	35.23	23.72	25.83
2025	158.85	24.26	23.88	23.54	23.55	36.71	36.14	24.34	26.50

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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

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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

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Figure 14: Building Lives and Decay Rate

Building Type	Building Decay Rate
Single-Family	0.003
Multi-Family > 4 Units	0.006
Master Meter	0.008
Sub Meter	0.008

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Figure 15: Gas Appliance Equipment Age (Years)

End-Use	Vintage	Single Family		Multi-Family		Master Meter		Sub Meter		
		Max	Average	Max	Average	Max	Average	Max	Average	Max
Space Heat	Pre-1979	17	17	17	15	15	16	16	16	16
	1979 - 2003	17	10	17	11	15	11	16	11	16
	2005-2006	17	3	17	4	15	4	16	4	16
Water Heat	Pre-1979	7	7	7	6	8	6	8	6	8
	1979 - 2003	7	7	7	8	8	8	8	8	8
	2005-2006	7	3	7	4	8	4	8	4	8
Cooking	Pre-1979	12	12	12	10	11	14	14	14	14
	1979 - 2003	12	10	12	11	11	11	14	11	14
	2005-2006	12	2	12	4	11	3	14	3	14
Drying	Pre-1979	8	8	8	6	8	8	8	8	8
	1979 - 2003	8	8	8	8	8	8	8	8	8
	2005-2006	8	6	8	3	8	4	8	4	8
Pool	Pre-1979	13	13	13	13	13	13	13	13	13
	1979 - 2003	13	9	13	9	13	9	13	9	13
	2005-2006	13	3	13	3	13	3	13	3	13
Spa	Pre-1979	11	11	11	11	11	11	11	11	11
	1979 - 2003	11	8	11	8	11	8	11	8	11
	2005-2006	11	3	11	3	11	3	11	3	11
Fireplace	Pre-1979	15	15	15	15	15	15	15	15	15
	1979 - 2003	15	15	15	15	15	15	15	15	15
	2005-2006	15	15	15	15	15	15	15	15	15
BBQ	Pre-1979	7	7	7	5	5	5	9	5	9
	1979 - 2003	7	7	7	5	5	9	9	9	9
	2005-2006	7	5	7	5	5	2	9	2	9
Other	Pre-1979	15	15	15	15	15	15	15	15	15
	1979 - 2003	15	15	15	15	15	15	15	15	15
	2005-2006	15	15	15	15	15	15	15	15	15

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 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 - 2003	0.9969	1.0000	0.9183	1.0000
	2005-2006	0.9917	1.0000	1.0000	1.0000
Water Heat	Pre-1979	1.0000	0.9915	0.9561	1.0000
	1979 - 2003	1.0000	1.0000	0.9800	1.0000
	2005-2006	1.0000	1.0000	1.0000	1.0000
Cooking	Pre-1979	0.9892	0.9890	0.9745	0.6000
	1979 - 2003	0.9895	0.9788	0.9622	0.6000
	2005-2006	1.0000	1.0000	1.0000	1.0000
Drying	Pre-1979	0.8714	0.7781	0.9067	0.8000
	1979 - 2003	0.9301	0.8422	0.8679	0.8000
	2005-2006	0.9733	0.8672	0.5000	0.5000
Pool	Pre-1979	0.0711	0.1045	0.1179	0.1179
	1979 - 2003	0.1686	0.1941	0.0053	0.0053
	2005-2006	0.2414	0.1941	0.0053	0.0053
Spa	Pre-1979	0.1299	0.0668	0.1329	0.1329
	1979 - 2003	0.2802	0.2896	0.2012	0.2012
	2005-2006	0.2750	0.2896	0.2012	0.2012
Fireplace	Pre-1979	0.5493	0.1519	0.1894	0.1894
	1979 - 2003	0.7149	0.4775	0.4156	0.4156
	2005-2006	0.7149	0.4775	0.4156	0.4156
Barbecue	Pre-1979	0.5240	0.2706	0.1875	0.4000
	1979 - 2003	0.6040	0.3838	0.3600	0.0000
	2005-2006	0.6497	0.4576	0.0000	0.0000

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 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

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 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

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 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

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**SDG&E CORE COMMERCIAL & INDUSTRIAL
FEBRUARY 2008**

Core Commercial and Industrial End Use Model

2006 California Gas Report

Introduction

The core commercial and Industrial GN-3 gas demand forecast used the EUForecaster model to generate annual gas demand forecasts for the years 2007 through 2025.

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 1306 for an Average Year. The gas demand forecasts under Cold, Hot and Base temperature were then constructed based on Cold Year (Hdd = 1654), Hot Year (Hdd=958) 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 2006 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 2005 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 1306 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's Spring 2007 Regional forecast released in June 2007 and based on Global Insight's May 2007 US Economic Forecast. The historical 2006 data comes from the California Employment Development Department.

C. Incremental Meter Data:

A regression equation was developed for the total GN-3 customers, using its employment as the main driver of its customer growth. Then, the total GN-3 customer forecast was split into 95% and 5% for core commercial and core industrial, respectively.

The customer forecasts for each of the 14 commercial and 11 industrial customer types were derived by applying the employment growth in each type to its base year (2005) customer counts in each type.

The 14 commercial customer forecasts were then scaled equally "across the board" year-by-year, so that their aggregated total each year would match the core commercial portion of the already-forecasted single-series forecast of active GN-3 meters in SDG&E' econometric Customer Forecast model. Likewise, the 11 industrial sector forecasts were scaled equally so their aggregate for each year would match the customer model's single-series forecast of active industrial meters.

For each commercial and industrial market and segment listed above we populated EUForecaster with the number of SDG&E customer accounts as of December 2006. The forecast of new construction was developed in a manner to achieve consistency with our Commercial econometric models. The number of new customers is based entirely on employment growth forecasts and on employment elasticities derived from our econometric demand forecast. The employment elasticities essentially show how changes in employment affect sales growth. The end-use models preserved this relationship by the development of growth indices that were derived by multiplying the employment elasticities. This growth index was then multiplied by the stock of existing customers to provide an estimate of sale growth for EUForecaster.

D. 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. (The most recent 12-month period, July 2003 through June 2004 of this detailed consumption data was used.)

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

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

E. 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 CEC's July 2007 report CEC-200-2007-013-SD, Appendix B: Utility-Specific Retail Price Forecast Tables at page #4 for SDG&E. Forecasts for the SDG&E medium commercial customer class were developed by SDG&E's electricity rate analysis group through 2025. These were the average electricity prices for the GN-3 core industrial market, overall.

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 industrial business type, we simply calculated the ratio of the average (or marginal) gas price to the overall core industrial gas price for each business type, then multiplied by the overall average (or marginal) electricity price.

F. 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 1% 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 (non-core) customers. In both the commercial and industrial non-core models the existing building decay rate was set equal to zero.

Similarly, all new construction decay rates were assumed to be zero over the forecast horizon. This 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

G. 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 other 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%.

H. 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.

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SDG&E CORE COMMERCIAL TABLES
FEBRUARY 2008

**San Diego Gas and Electric Company
 2009 BCAP - 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	.	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

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Incremental Meter Forecast by Business Types**

<u>Year</u>	<u>Office</u>	<u>Restaurant</u>	<u>Retail</u>	<u>Laundry</u>	<u>Warehouse</u>	<u>School</u>	<u>College</u>	<u>Health</u>	<u>Lodging</u>	<u>Misc</u>	<u>Government</u>	<u>TCU</u>	<u>Construc-tion</u>	<u>Agriculture</u>
2006	41	-40	-32	3	-1	-3	-1	5	10	67	-6	17	26	5
2007	44	49	39	3	8	9	2	2	-3	68	8	-1	-15	-1
2008	43	29	23	3	3	1	0	3	3	82	3	11	-1	0
2009	72	33	27	0	1	12	3	2	5	13	14	11	0	1
2010	2	23	18	4	4	3	1	1	3	98	12	12	4	1
2011	45	21	17	3	1	6	2	4	3	67	-11	10	6	1
2012	31	24	19	2	2	2	1	3	3	52	13	5	6	1
2013	53	24	19	1	4	7	2	2	3	32	6	1	5	1
2014	54	18	14	2	4	5	1	3	3	46	5	4	6	1
2015	29	19	15	3	3	3	1	3	4	71	4	7	5	1
2016	30	13	11	3	4	3	1	5	4	81	4	8	5	1
2017	20	18	15	3	4	4	1	5	4	84	5	7	3	1
2018	43	25	20	2	4	3	1	4	4	53	4	8	4	1
2019	48	27	22	1	5	6	2	4	5	34	8	12	5	1
2020	25	26	21	2	3	8	2	3	4	58	15	6	4	1
2021	39	22	18	3	4	4	1	4	3	80	-10	10	3	1
2022	32	24	19	2	5	5	1	3	3	59	14	7	4	1
2023	44	22	18	2	4	5	1	3	4	60	6	9	4	1
2024	39	25	20	2	4	6	1	3	4	61	7	8	5	1
2025	41	24	19	2	4	6	2	3	4	61	7	9	5	1

San Diego Gas and Electric Company
2009 BCAP - Commercial GN3
Electric Price Forecast (cents per Kilowatt Hour)

(a) Average Price Forecast

Year	Agriculture	College	Construction	Government	Health	Laundry	Lodging	Misc	Office	Restaurant	Retail	School	TCU	Warehouse
2006	16.73	18.33	17.24	17.77	16.77	17.75	15.82	16.64	16.45	18.35	15.72	16.06	15.81	15.86
2007	15.59	16.96	16.03	16.49	15.63	16.46	14.82	15.52	15.35	16.98	14.73	15.02	14.81	14.85
2008	19.41	20.97	19.91	20.43	19.45	20.40	18.53	19.32	19.14	20.99	18.43	18.76	18.51	18.57
2009	19.82	21.37	20.41	20.76	19.89	20.82	18.82	19.61	19.40	21.68	18.78	19.25	19.02	18.83
2010	19.18	20.75	19.78	20.13	19.26	20.19	18.18	18.97	18.76	21.05	18.14	18.61	18.38	18.19
2011	19.65	21.30	20.28	20.65	19.73	20.72	18.60	19.44	19.21	21.62	18.56	19.06	18.81	18.61
2012	19.25	20.92	19.89	20.26	19.33	20.33	18.19	19.03	18.80	21.24	18.14	18.65	18.40	18.19
2013	19.54	21.27	20.21	20.59	19.62	20.66	18.44	19.31	19.08	21.61	18.39	18.91	18.65	18.44
2014	19.79	21.58	20.47	20.87	19.87	20.94	18.64	19.55	19.30	21.93	18.59	19.14	18.87	18.65
2015	20.13	22.00	20.85	21.26	20.22	21.34	18.94	19.88	19.63	22.36	18.89	19.45	19.17	18.95
2016	20.71	22.67	21.46	21.90	20.80	21.98	19.45	20.45	20.18	23.05	19.40	19.99	19.70	19.46
2017	21.21	23.19	21.97	22.41	21.30	22.49	19.94	20.94	20.67	23.58	19.88	20.49	20.19	19.95
2018	21.82	23.87	22.61	23.06	21.92	23.15	20.51	21.55	21.27	24.27	20.46	21.08	20.77	20.52
2019	22.40	24.54	23.22	23.70	22.50	23.78	21.03	22.11	21.82	24.96	20.97	21.62	21.30	21.04
2020	22.99	25.18	23.83	24.32	23.09	24.40	21.59	22.70	22.40	25.61	21.53	22.19	21.86	21.60
2021	23.59	25.85	24.46	24.96	23.70	25.05	22.15	23.29	22.98	26.29	22.08	22.77	22.43	22.16
2022	24.21	26.51	25.09	25.61	24.32	25.70	22.74	23.90	23.59	26.96	22.67	23.37	23.03	22.75
2023	24.84	27.19	25.74	26.26	24.96	26.36	23.35	24.53	24.21	27.64	23.28	23.99	23.64	23.36
2024	25.50	27.88	26.41	26.94	25.61	27.03	23.97	25.18	24.85	28.34	23.90	24.63	24.27	23.98
2025	26.16	28.61	27.10	27.64	26.27	27.74	24.59	25.83	25.50	29.08	24.52	25.27	24.90	24.61

(b) Marginal Price Forecast

Year	Agriculture	College	Construction	Government	Health	Laundry	Lodging	Misc	Office	Restaurant	Retail	School	TCU	Warehouse
2006	16.68	18.21	17.12	17.52	16.68	17.62	15.95	16.61	16.47	18.21	15.97	16.14	16.12	15.99
2007	15.56	16.85	15.93	16.26	15.55	16.35	14.93	15.49	15.38	16.85	14.95	15.09	15.08	14.96
2008	19.37	20.84	19.79	20.17	19.36	20.28	18.66	19.30	19.17	20.84	18.68	18.84	18.83	18.69
2009	19.75	21.21	20.19	20.54	19.77	20.62	19.11	19.63	19.53	21.22	19.14	19.30	19.31	19.13
2010	19.12	20.59	19.56	19.91	19.13	19.99	18.47	18.99	18.89	20.59	18.50	18.67	18.67	18.49
2011	19.59	21.13	20.05	20.42	19.60	20.50	18.91	19.46	19.35	21.14	18.94	19.11	19.12	18.93
2012	19.18	20.75	19.65	20.03	19.20	20.11	18.49	19.05	18.94	20.76	18.52	18.70	18.71	18.51
2013	19.47	21.10	19.96	20.35	19.49	20.44	18.75	19.33	19.22	21.11	18.79	18.97	18.98	18.77
2014	19.71	21.41	20.22	20.62	19.73	20.72	18.97	19.57	19.46	21.42	19.00	19.19	19.20	18.99
2015	20.05	21.82	20.58	21.00	20.07	21.10	19.28	19.91	19.79	21.83	19.31	19.51	19.52	19.30
2016	20.62	22.49	21.18	21.63	20.64	21.73	19.81	20.47	20.34	22.50	19.85	20.06	20.06	19.83
2017	21.12	23.01	21.69	22.14	21.14	22.24	20.30	20.97	20.84	23.02	20.34	20.55	20.56	20.32
2018	21.74	23.68	22.32	22.78	21.76	22.89	20.88	21.58	21.44	23.69	20.92	21.14	21.15	20.91
2019	22.31	24.34	22.91	23.40	22.33	23.51	21.42	22.14	22.00	24.35	21.46	21.69	21.70	21.44
2020	22.90	24.97	23.52	24.01	22.92	24.13	21.98	22.72	22.58	24.98	22.03	22.26	22.27	22.01
2021	23.50	25.64	24.13	24.65	23.52	24.77	22.56	23.32	23.17	25.65	22.60	22.84	22.85	22.58
2022	24.11	26.30	24.76	25.29	24.13	25.41	23.15	23.93	23.78	26.31	23.20	23.45	23.45	23.18
2023	24.74	26.96	25.41	25.94	24.77	26.06	23.77	24.56	24.41	26.98	23.82	24.07	24.08	23.80
2024	25.39	27.65	26.07	26.61	25.42	26.74	24.40	25.21	25.05	27.66	24.45	24.71	24.71	24.43
2025	26.05	28.37	26.75	27.30	26.08	27.43	25.04	25.86	25.71	28.39	25.09	25.35	25.36	25.07

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Gas Price Forecast (\$ per therm)**

(a) Average Price Forecast

Year	Price														
	Deflator	Agriculture	College	Construction	Government	Health	Laundry	Lodging	Misc	Office	Restaurant	Retail	School	TCU	Warehouse
2006	100.00	0.9981	1.0938	1.0286	1.0607	1.0009	1.0592	0.9443	0.9930	0.9816	1.0951	0.9379	0.9583	0.9432	0.9465
2007	102.13	1.0783	1.1728	1.1084	1.1400	1.0810	1.1386	1.0249	1.0731	1.0618	1.1743	1.0186	1.0389	1.0240	1.0272
2008	104.19	1.1774	1.2720	1.2075	1.2392	1.1801	1.2378	1.1240	1.1722	1.1609	1.2735	1.1177	1.1380	1.1231	1.1263
2009	106.41	1.1045	1.1914	1.1378	1.1571	1.1086	1.1606	1.0490	1.0929	1.0811	1.2083	1.0465	1.0730	1.0599	1.0495
2010	108.52	1.0652	1.1520	1.0985	1.1178	1.0693	1.1212	1.0097	1.0536	1.0418	1.1690	1.0072	1.0337	1.0206	1.0101
2011	110.74	1.0381	1.1249	1.0714	1.0907	1.0422	1.0942	0.9826	1.0265	1.0147	1.1419	0.9801	1.0066	0.9935	0.9830
2012	113.37	1.0266	1.1154	1.0606	1.0804	1.0308	1.0839	0.9698	1.0147	1.0026	1.1328	0.9672	0.9943	0.9810	0.9702
2013	116.23	1.0274	1.1184	1.0622	1.0825	1.0317	1.0861	0.9691	1.0152	1.0028	1.1361	0.9666	0.9943	0.9806	0.9696
2014	119.10	1.0286	1.1219	1.0644	1.0851	1.0330	1.0888	0.9690	1.0162	1.0035	1.1401	0.9664	0.9948	0.9808	0.9695
2015	122.01	1.0300	1.1255	1.0666	1.0878	1.0345	1.0917	0.9690	1.0173	1.0043	1.1441	0.9663	0.9954	0.9810	0.9695
2016	125.15	1.0319	1.1297	1.0694	1.0912	1.0365	1.0951	0.9693	1.0188	1.0055	1.1488	0.9666	0.9964	0.9816	0.9698
2017	128.51	1.0722	1.1726	1.1107	1.1330	1.0769	1.1370	1.0080	1.0588	1.0451	1.1922	1.0051	1.0357	1.0206	1.0085
2018	131.98	1.0979	1.2009	1.1374	1.1603	1.1027	1.1644	1.0320	1.0841	1.0701	1.2210	1.0291	1.0605	1.0449	1.0325
2019	135.56	1.1075	1.2133	1.1480	1.1716	1.1125	1.1758	1.0399	1.0934	1.0790	1.2339	1.0369	1.0691	1.0532	1.0404
2020	139.20	1.1397	1.2482	1.1813	1.2054	1.1448	1.2098	1.0703	1.1252	1.1104	1.2694	1.0672	1.1003	1.0839	1.0708
2021	142.93	1.1638	1.2751	1.2064	1.2312	1.1690	1.2357	1.0925	1.1489	1.1337	1.2969	1.0894	1.1233	1.1066	1.0931
2022	146.76	1.2018	1.3161	1.2456	1.2710	1.2072	1.2756	1.1287	1.1865	1.1710	1.3384	1.1255	1.1603	1.1431	1.1293
2023	150.69	1.2441	1.3613	1.2890	1.3151	1.2496	1.3198	1.1691	1.2284	1.2125	1.3842	1.1657	1.2015	1.1838	1.1697
2024	154.73	1.2873	1.4076	1.3334	1.3602	1.2930	1.3650	1.2104	1.2712	1.2549	1.4311	1.2069	1.2436	1.2255	1.2110
2025	158.85	1.3192	1.4426	1.3665	1.3939	1.3250	1.3989	1.2402	1.3027	1.2859	1.4667	1.2367	1.2744	1.2558	1.2409

(b) Marginal Price Forecast

Year	Price														
	Deflator	Agriculture	College	Construction	Government	Health	Laundry	Lodging	Misc	Office	Restaurant	Retail	School	TCU	Warehouse
2006	100.00	0.9420	1.0282	0.9668	0.9892	0.9418	0.9952	0.9006	0.9380	0.9302	1.0283	0.9015	0.9114	0.9103	0.9026
2007	102.13	1.0227	1.1079	1.0471	1.0693	1.0224	1.0752	0.9817	1.0186	1.0110	1.1080	0.9826	0.9923	0.9912	0.9836
2008	104.19	1.1218	1.2070	1.1462	1.1684	1.1215	1.1743	1.0808	1.1178	1.1101	1.2071	1.0817	1.0914	1.0904	1.0828
2009	106.41	1.0462	1.1236	1.0693	1.0878	1.0469	1.0921	1.0122	1.0398	1.0345	1.1240	1.0138	1.0225	1.0228	1.0131
2010	108.52	1.0068	1.0842	1.0299	1.0485	1.0076	1.0528	0.9728	1.0004	0.9951	1.0846	0.9744	0.9832	0.9835	0.9738
2011	110.74	0.9797	1.0571	1.0028	1.0214	0.9805	1.0257	0.9458	0.9733	0.9681	1.0575	0.9474	0.9561	0.9564	0.9467
2012	113.37	0.9668	1.0460	0.9905	1.0095	0.9676	1.0139	0.9321	0.9603	0.9549	1.0465	0.9337	0.9427	0.9430	0.9330
2013	116.23	0.9661	1.0473	0.9904	1.0098	0.9670	1.0143	0.9305	0.9594	0.9539	1.0477	0.9322	0.9414	0.9417	0.9315
2014	119.10	0.9660	1.0491	0.9908	1.0107	0.9668	1.0153	0.9295	0.9591	0.9534	1.0495	0.9312	0.9406	0.9409	0.9305
2015	122.01	0.9659	1.0509	0.9913	1.0117	0.9667	1.0164	0.9285	0.9588	0.9530	1.0514	0.9303	0.9399	0.9402	0.9295
2016	125.15	0.9661	1.0533	0.9922	1.0131	0.9670	1.0179	0.9278	0.9589	0.9530	1.0538	0.9297	0.9395	0.9398	0.9289
2017	128.51	1.0047	1.0942	1.0314	1.0529	1.0056	1.0578	0.9654	0.9973	0.9912	1.0947	0.9673	0.9774	0.9777	0.9665
2018	131.98	1.0286	1.1204	1.0560	1.0780	1.0295	1.0831	0.9883	1.0210	1.0147	1.1209	0.9902	1.0006	1.0009	0.9894
2019	135.56	1.0364	1.1307	1.0645	1.0871	1.0373	1.0924	0.9950	1.0286	1.0222	1.1312	0.9970	1.0076	1.0080	0.9962
2020	139.20	1.0667	1.1635	1.0956	1.1188	1.0677	1.1242	1.0243	1.0587	1.0521	1.1640	1.0263	1.0372	1.0376	1.0254
2021	142.93	1.0889	1.1881	1.1185	1.1423	1.0899	1.1478	1.0453	1.0807	1.0739	1.1887	1.0474	1.0586	1.0590	1.0465
2022	146.76	1.1250	1.2268	1.1554	1.1798	1.1260	1.1855	1.0803	1.1166	1.1096	1.2274	1.0824	1.0939	1.0943	1.0815
2023	150.69	1.1652	1.2697	1.1964	1.2215	1.1663	1.2273	1.1194	1.1566	1.1495	1.2703	1.1215	1.1333	1.1337	1.1206
2024	154.73	1.2064	1.3136	1.2384	1.2641	1.2075	1.2701	1.1594	1.1976	1.1902	1.3142	1.1616	1.1737	1.1741	1.1606
2025	158.85	1.2362	1.3462	1.2690	1.2954	1.2373	1.3015	1.1879	1.2271	1.2196	1.3468	1.1902	1.2026	1.2030	1.1892

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Historical Throughput and Customer Counts**

<u>Segment</u>	<u>2006 Therm Sales</u>	<u>2006 Meter Count.</u>		<u>2006 Meter Count</u>		<u>Avg Use Per Meter</u>		<u>Price Elasticity</u>	<u>SQFT 2002</u>	<u>(Avg Sqred Ft)</u>		<u>MAS SQFT ADJ</u>	<u>Decay Rates</u>	<u>Employment Elasticities</u>
		<u>Meter Count</u>	<u>Existing/Old customers</u>	<u>Count New Customers</u>	<u>Existing Customers</u>	<u>Meter New Customers</u>	<u>Avg Use Per Customers</u>			<u>CUSTS 2002</u>	<u>FINAL SQFT</u>			
Office	28,203,304	6,180	6,142	38	4,557	20,047	-0.072000	94,020,954	3,440	15,214	1,687	0	0.3267434	
Restaurant	27,642,623	4,612	4,553	59	7,052	7,468	-0.001000	10,698,085	243	2,320	249	0	0.7372293	
Retail	10,381,283	3,217	3,167	50	3,109	5,939	-0.032000	56,377,441	2,910	17,525	2,364	0	0.4336357	
Laundry	4,959,351	505	498	7	11,564	11,704	-0.026000	661,754	99	1,310	112	0	0.2658749	
Warehouse	3,232,876	601	589	12	3,964	9,549	-0.000010	14,136,580	1,993	23,522	1,269	0	0.3504214	
School	4,143,460	775	763	12	4,943	4,333	-0.103000	16,808,582	4,190	21,688	2,193	0	0.0000000	
College	4,407,760	266	261	5	18,415	7,002	-0.090000	25,297,205	7,681	95,102	11,091	0	0.4753826	
Health	6,885,321	641	639	2	11,731	4,431	-0.052000	24,317,867	1,675	37,937	1,816	0	0.0866466	
Lodging	14,477,368	700	696	4	22,204	38,117	-0.013000	15,623,598	3,700	22,319	2,075	0	0.2778638	
Misc	20,013,547	5,996	5,854	142	2,066	2,740	-0.030000	109,868,587	4,184	18,324	9,053	0	0.0000000	
Government	15,987,033	1,544	1,536	8	8,903	2,629	-0.061000	69,307,343	18,958	44,888	28,557	0	1.0951027	
TCU	2,416,817	661	656	5	8,088	11,699	-0.062000	14,885,628	1,244	22,520	1,271	0	0.4683042	
Construction	1,654,091	775	738	37	1,890	172	-0.179000	10,187,860	2,443	13,146	1,382	0	0.0688501	
Agriculture	3,377,946	148	148	1	21,216	1	-0.059000	14,644,146	3,494	98,947	6,527	0	0.4328963	

San Diego Gas and Electric Company
2009 BCAP - Commercial GN3
Average Use Per Meter (therms)

<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>	<u>Total Building</u>
Office	2,013	836	102	34	26	105	23	34	100	29	2,007	5,308
Restaurant	3,100	1,287	157	52	40	162	35	53	155	44	3,091	8,177
Retail	1,442	599	73	24	19	76	16	25	72	21	1,438	3,803
Laundry	5,092	2,114	258	86	65	267	57	87	254	73	5,077	13,430
Warehouse	2,071	860	105	35	27	108	23	35	103	29	2,065	5,462
School	2,167	900	110	36	28	114	24	37	108	31	2,161	5,716
College	8,571	3,558	434	144	110	449	96	147	427	122	8,546	22,605
Health	5,528	2,295	280	93	71	290	62	95	276	79	5,512	14,581
Lodging	9,381	3,895	475	158	120	491	105	161	468	134	9,354	24,742
Misc	800	332	40	13	10	42	9	14	40	11	797	2,109
Government	7,089	2,943	359	119	91	371	80	122	353	101	7,068	18,696
TCU	772	320	39	13	10	40	9	13	38	11	770	2,035
Construction	1,032	428	52	17	13	54	12	18	51	15	1,029	2,721
Agriculture	9,111	3,783	461	153	117	477	102	156	454	130	9,084	24,029

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Use Per Meter for New Customers (therms)**

<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>	<u>Total Building</u>
Office	5,625	18,667	737	3,807	3	1,522	281	3	3	3	33	30,673
Restaurant	2,318	7,693	304	1,569	1	627	116	1	1	1	14	12,641
Retail	1,949	6,468	255	1,319	1	527	97	1	1	1	12	10,627
Laundry	4,932	16,368	646	3,338	3	1,334	246	3	3	3	29	26,895
Warehouse	14,253	47,299	1,868	9,647	8	3,856	712	8	8	8	85	77,719
School	881	2,925	115	596	0	238	44	0	0	0	5	4,806
College	3,990	13,241	523	2,700	2	1,079	199	2	2	2	24	21,756
Health	0	1	0	0	0	0	0	0	0	0	0	1
Lodging	12,341	40,953	1,617	8,352	7	3,339	616	7	7	7	73	67,291
Misc	657	2,181	86	445	0	178	33	0	0	0	4	3,584
Government	11,602	38,501	1,520	7,852	6	3,139	579	6	6	6	69	63,263
TCU	67	222	9	45	0	18	3	0	0	0	0	364
Construction	0	1	0	0	0	0	0	0	0	0	0	1
Agriculture	0	1	0	0	0	0	0	0	0	0	0	1

**San Diego Gas and Electric Company
 2009 BCAP - 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</u> <u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Equipment</u> <u>Cost</u>	<u>Efficiency</u> <u>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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
School	Space_Heat	1	3	0.076	1.471	0.04
School	Space_Heat	1	4	0.068	1.593	0.01

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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

<u>Business</u>	<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Equipment</u>	<u>Efficiency</u>
						<u>Cost</u>	<u>shares</u>
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
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
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

<u>Business</u>					<u>Equipment</u>	<u>Efficiency</u>
<u>Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>(therm/SqFt)</u>	<u>Cost</u>	<u>shares</u>
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
 2009 BCAP - Commercial GN3
 Fuel Market Share**

Where Fuel = 1 (gas) and =2 (electric)

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
Office	Space_Heat	1	0.85550
Office	Space_Heat	2	0.14450
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	0.06000
Office	AC_Compressor	2	0.94000
Office	Other	1	1.00000
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	0.66000
Restaurant	Other_Cooking	2	0.34000
Restaurant	AC_Compressor	1	0.06000
Restaurant	AC_Compressor	2	0.94000
Restaurant	Other	1	1.00000
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	1.00000
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	0.60000
Laundry	Drying	2	0.40000
Laundry	Other	1	1.00000
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	0.06000
Warehouse	Engine	2	0.94000
Warehouse	Other	1	1.00000
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

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
School	Griddle	2	0.57143
School	Other_Cooking	1	0.42857
School	Other_Cooking	2	0.57143
School	AC_Compressor	1	0.06000
School	AC_Compressor	2	0.94000
School	Other	1	1.00000
College	Space_Heat	1	0.33028
College	Space_Heat	2	0.66972
College	Water_Heat	1	0.81675
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	0.06000
College	AC_Compressor	2	0.94000
College	Other	1	1.00000
Health	Space_Heat	1	0.66026
Health	Space_Heat	2	0.33974
Health	Water_Heat	1	0.82420
Health	Water_Heat	2	0.17580
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	0.66000
Health	Other_Cooking	2	0.34000
Health	Drying	1	0.60000
Health	Drying	2	0.40000
Health	AC_Compressor	1	0.06000
Health	AC_Compressor	2	0.94000
Health	Other	1	1.00000
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	0.60000
Lodging	Drying	2	0.40000
Lodging	AC_Compressor	1	0.06000
Lodging	AC_Compressor	2	0.94000
Lodging	Other	1	1.00000
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

<u>Business Types</u>	<u>End Use</u>	<u>Fuel</u>	<u>Share</u>
Misc	Griddle	1	0.97038
Misc	Griddle	2	0.02962
Misc	Other_Cooking	1	0.66000
Misc	Other_Cooking	2	0.34000
Misc	AC_Compressor	1	0.06000
Misc	AC_Compressor	2	0.94000
Misc	Other	1	1.00000
Government	Space_Heat	1	0.85550
Government	Space_Heat	2	0.14450
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
Government	Griddle	2	0.02962
Government	Other_Cooking	1	0.66000
Government	Other_Cooking	2	0.34000
Government	AC_Compressor	1	0.06000
Government	AC_Compressor	2	0.94000
Government	Other	1	1.00000
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	0.06000
TCU	Engine	2	0.94000
TCU	Other	1	1.00000
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	1.00000
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	1.00000
Agriculture	Drying	2	0.00000
Agriculture	Engine	1	0.06000
Agriculture	Engine	2	0.94000
Agriculture	Other	1	1.00000
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	0.06000
Grocery	AC_Compressor	2	0.94000
Grocery	Other	1	1.00000

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<u>Obs</u>	<u>bname</u>	<u>nname</u>	<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>effshare</u>
1	Office	Space_Heat	1	1	1	1	0.65
2	Office	Space_Heat	1	1	1	2	0.30
3	Office	Space_Heat	1	1	1	3	0.04
4	Office	Space_Heat	1	1	1	4	0.01
5	Office	Space_Heat	1	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
6	Office	Water_Heat	1	2	1	1	0.40
7	Office	Water_Heat	1	2	1	2	0.50
8	Office	Water_Heat	1	2	1	3	0.08
9	Office	Water_Heat	1	2	1	4	0.02
10	Office	Water_Heat	1	2	2	1	0.40
11	Office	Water_Heat	1	2	2	2	0.50
12	Office	Water_Heat	1	2	2	3	0.08
13	Office	Water_Heat	1	2	2	4	0.02
14	Office	Cooking	1	3	1	1	0.65
15	Office	Cooking	1	3	1	2	0.35
16	Office	Cooking	1	3	2	1	0.65
17	Office	Cooking	1	3	2	2	0.35
18	Office	AC_Compressor	1	10	1	1	0.65
19	Office	AC_Compressor	1	10	1	2	0.35
20	Office	AC_Compressor	1	10	2	1	0.65
21	Office	AC_Compressor	1	10	2	2	0.35
22	Office	Other	1	11	1	1	1.00
					2	1	0.00
23	Restaurant	Space_Heat	2	1	1	1	0.65
24	Restaurant	Space_Heat	2	1	1	2	0.30
25	Restaurant	Space_Heat	2	1	1	3	0.04
26	Restaurant	Space_Heat	2	1	1	4	0.01
27	Restaurant	Space_Heat	2	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
28	Restaurant	Water_Heat	2	2	1	1	0.40
29	Restaurant	Water_Heat	2	2	1	2	0.50
30	Restaurant	Water_Heat	2	2	1	3	0.08
31	Restaurant	Water_Heat	2	2	1	4	0.02
32	Restaurant	Water_Heat	2	2	2	1	0.40
33	Restaurant	Water_Heat	2	2	2	2	0.50
34	Restaurant	Water_Heat	2	2	2	3	0.08
35	Restaurant	Water_Heat	2	2	2	4	0.02
36	Restaurant	Cook_top	2	4	1	1	0.65
37	Restaurant	Cook_top	2	4	1	2	0.35
38	Restaurant	Cook_top	2	4	2	1	0.65
39	Restaurant	Cook_top	2	4	2	2	0.35
40	Restaurant	Fryer	2	5	1	1	0.65
41	Restaurant	Fryer	2	5	1	2	0.35
42	Restaurant	Fryer	2	5	2	1	0.65
43	Restaurant	Fryer	2	5	2	2	0.35
44	Restaurant	Griddle	2	6	1	1	0.65
45	Restaurant	Griddle	2	6	1	2	0.35
46	Restaurant	Griddle	2	6	2	1	0.65
47	Restaurant	Griddle	2	6	2	2	0.35
48	Restaurant	Other_Cooking	2	7	1	1	0.65
49	Restaurant	Other_Cooking	2	7	1	2	0.35
50	Restaurant	Other_Cooking	2	7	2	1	0.65
51	Restaurant	Other_Cooking	2	7	2	2	0.35
52	Restaurant	AC_Compressor	2	10	1	1	0.65
53	Restaurant	AC_Compressor	2	10	1	2	0.35
54	Restaurant	AC_Compressor	2	10	2	1	0.65
55	Restaurant	AC_Compressor	2	10	2	2	0.35
56	Restaurant	Other	2	11	1	1	1.00

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<u>Obs</u>	<u>bname</u>	<u>nname</u>	<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>effshare</u>
					2	1	0.00
57	Retail	Space_Heat	3	1	1	1	0.65
58	Retail	Space_Heat	3	1	1	2	0.30
59	Retail	Space_Heat	3	1	1	3	0.04
60	Retail	Space_Heat	3	1	1	4	0.01
61	Retail	Space_Heat	3	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
62	Retail	Water_Heat	3	2	1	1	0.40
63	Retail	Water_Heat	3	2	1	2	0.50
64	Retail	Water_Heat	3	2	1	3	0.08
65	Retail	Water_Heat	3	2	1	4	0.02
66	Retail	Water_Heat	3	2	2	1	0.40
67	Retail	Water_Heat	3	2	2	2	0.50
68	Retail	Water_Heat	3	2	2	3	0.08
69	Retail	Water_Heat	3	2	2	4	0.02
70	Retail	Cooking	3	3	1	1	0.65
71	Retail	Cooking	3	3	1	2	0.35
72	Retail	Cooking	3	3	2	1	0.65
73	Retail	Cooking	3	3	2	2	0.35
74	Retail	Other	3	11	1	1	1.00
					2	1	0.00
75	Laundry	Space_Heat	4	1	1	1	0.65
76	Laundry	Space_Heat	4	1	1	2	0.30
77	Laundry	Space_Heat	4	1	1	3	0.04
78	Laundry	Space_Heat	4	1	1	4	0.01
79	Laundry	Space_Heat	4	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
80	Laundry	Water_Heat	4	2	1	1	0.40
81	Laundry	Water_Heat	4	2	1	2	0.50
82	Laundry	Water_Heat	4	2	1	3	0.08
83	Laundry	Water_Heat	4	2	1	4	0.02
84	Laundry	Water_Heat	4	2	2	1	0.40
85	Laundry	Water_Heat	4	2	2	2	0.50
86	Laundry	Water_Heat	4	2	2	3	0.08
87	Laundry	Water_Heat	4	2	2	4	0.02
88	Laundry	Drying	4	8	1	1	0.65
89	Laundry	Drying	4	8	1	2	0.35
90	Laundry	Drying	4	8	2	1	0.65
91	Laundry	Drying	4	8	2	2	0.35
92	Laundry	Other	4	11	1	1	1.00
					2	1	0.00
93	Warehouse	Space_Heat	5	1	1	1	0.65
94	Warehouse	Space_Heat	5	1	1	2	0.30
95	Warehouse	Space_Heat	5	1	1	3	0.04
96	Warehouse	Space_Heat	5	1	1	4	0.01
97	Warehouse	Space_Heat	5	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
98	Warehouse	Water_Heat	5	2	1	1	0.40
99	Warehouse	Water_Heat	5	2	1	2	0.50
100	Warehouse	Water_Heat	5	2	1	3	0.08
101	Warehouse	Water_Heat	5	2	1	4	0.02
102	Warehouse	Water_Heat	5	2	2	1	0.40
103	Warehouse	Water_Heat	5	2	2	2	0.50
104	Warehouse	Water_Heat	5	2	2	3	0.08
105	Warehouse	Water_Heat	5	2	2	4	0.02
106	Warehouse	Engine	5	9	1	1	0.65
107	Warehouse	Engine	5	9	1	2	0.35
108	Warehouse	Engine	5	9	2	1	0.65

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109	Warehouse	Engine	5	9	2	2	0.35
110	Warehouse	Other	5	11	1	1	1.00
					2	1	0.00
111	School	Space_Heat	6	1	1	1	0.65
112	School	Space_Heat	6	1	1	2	0.30
113	School	Space_Heat	6	1	1	3	0.04
114	School	Space_Heat	6	1	1	4	0.01
115	School	Space_Heat	6	1	2	1	1.00
					2	2	0.00
					2	2	0.00
					2	2	0.00
116	School	Water_Heat	6	2	1	1	0.40
117	School	Water_Heat	6	2	1	2	0.50
118	School	Water_Heat	6	2	1	3	0.08
119	School	Water_Heat	6	2	1	4	0.02
120	School	Water_Heat	6	2	2	1	0.40
121	School	Water_Heat	6	2	2	2	0.50
122	School	Water_Heat	6	2	2	3	0.08
123	School	Water_Heat	6	2	2	4	0.02
124	School	Cook_top	6	4	1	1	0.65
125	School	Cook_top	6	4	1	2	0.35
126	School	Cook_top	6	4	2	1	0.65
127	School	Cook_top	6	4	2	2	0.35
128	School	Fryer	6	5	1	1	0.65
129	School	Fryer	6	5	1	2	0.35
130	School	Fryer	6	5	2	1	0.65
131	School	Fryer	6	5	2	2	0.35
132	School	Griddle	6	6	1	1	0.65
133	School	Griddle	6	6	1	2	0.35
134	School	Griddle	6	6	2	1	0.65
135	School	Griddle	6	6	2	2	0.35
136	School	Other_Cooking	6	7	1	1	0.65
137	School	Other_Cooking	6	7	1	2	0.35
138	School	Other_Cooking	6	7	2	1	0.65
139	School	Other_Cooking	6	7	2	2	0.35
140	School	AC_Compressor	6	10	1	1	0.65
141	School	AC_Compressor	6	10	1	2	0.35
142	School	AC_Compressor	6	10	2	1	0.65
143	School	AC_Compressor	6	10	2	2	0.35
144	School	Other	6	11	1	1	1.00
							0.00
145	College	Space_Heat	7	1	1	1	0.65
146	College	Space_Heat	7	1	1	2	0.30
147	College	Space_Heat	7	1	1	3	0.04
148	College	Space_Heat	7	1	1	4	0.01
149	College	Space_Heat	7	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
150	College	Water_Heat	7	2	1	1	0.40
151	College	Water_Heat	7	2	1	2	0.50
152	College	Water_Heat	7	2	1	3	0.08
153	College	Water_Heat	7	2	1	4	0.02
154	College	Water_Heat	7	2	2	1	0.40
155	College	Water_Heat	7	2	2	2	0.50
156	College	Water_Heat	7	2	2	3	0.08
157	College	Water_Heat	7	2	2	4	0.02
158	College	Cook_top	7	4	1	1	0.65
159	College	Cook_top	7	4	1	2	0.35
160	College	Cook_top	7	4	2	1	0.65
161	College	Cook_top	7	4	2	2	0.35
162	College	Fryer	7	5	1	1	0.65
163	College	Fryer	7	5	1	2	0.35
164	College	Fryer	7	5	2	1	0.65

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<u>Obs</u>	<u>bname</u>	<u>nname</u>	<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>effshare</u>
165	College	Fryer	7	5	2	2	0.35
166	College	Griddle	7	6	1	1	0.65
167	College	Griddle	7	6	1	2	0.35
168	College	Griddle	7	6	2	1	0.65
169	College	Griddle	7	6	2	2	0.35
170	College	Other_Cooking	7	7	1	1	0.65
171	College	Other_Cooking	7	7	1	2	0.35
172	College	Other_Cooking	7	7	2	1	0.65
173	College	Other_Cooking	7	7	2	2	0.35
174	College	AC_Compressor	7	10	1	1	0.65
175	College	AC_Compressor	7	10	1	2	0.35
176	College	AC_Compressor	7	10	2	1	0.65
177	College	AC_Compressor	7	10	2	2	0.35
178	College	Other	7	11	1	1	1.00
					2	1	0.00
179	Health	Space_Heat	8	1	1	1	0.65
180	Health	Space_Heat	8	1	1	2	0.30
181	Health	Space_Heat	8	1	1	3	0.04
182	Health	Space_Heat	8	1	1	4	0.01
183	Health	Space_Heat	8	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
184	Health	Water_Heat	8	2	1	1	0.40
185	Health	Water_Heat	8	2	1	2	0.50
186	Health	Water_Heat	8	2	1	3	0.08
187	Health	Water_Heat	8	2	1	4	0.02
188	Health	Water_Heat	8	2	2	1	0.40
189	Health	Water_Heat	8	2	2	2	0.50
190	Health	Water_Heat	8	2	2	3	0.08
191	Health	Water_Heat	8	2	2	4	0.02
192	Health	Cook_top	8	4	1	1	0.65
193	Health	Cook_top	8	4	1	2	0.35
194	Health	Cook_top	8	4	2	1	0.65
195	Health	Cook_top	8	4	2	2	0.35
196	Health	Fryer	8	5	1	1	0.65
197	Health	Fryer	8	5	1	2	0.35
198	Health	Fryer	8	5	2	1	0.65
199	Health	Fryer	8	5	2	2	0.35
200	Health	Griddle	8	6	1	1	0.65
201	Health	Griddle	8	6	1	2	0.35
202	Health	Griddle	8	6	2	1	0.65
203	Health	Griddle	8	6	2	2	0.35
204	Health	Other_Cooking	8	7	1	1	0.65
205	Health	Other_Cooking	8	7	1	2	0.35
206	Health	Other_Cooking	8	7	2	1	0.65
207	Health	Other_Cooking	8	7	2	2	0.35
208	Health	Drying	8	8	1	1	0.65
209	Health	Drying	8	8	1	2	0.35
210	Health	Drying	8	8	2	1	0.65
211	Health	Drying	8	8	2	2	0.35
212	Health	AC_Compressor	8	10	1	1	0.65
213	Health	AC_Compressor	8	10	1	2	0.35
214	Health	AC_Compressor	8	10	2	1	0.65
215	Health	AC_Compressor	8	10	2	2	0.35
216	Health	Other	8	11	1	1	1.00
					2	1	0.00
217	Lodging	Space_Heat	9	1	1	1	0.65
218	Lodging	Space_Heat	9	1	1	2	0.30
219	Lodging	Space_Heat	9	1	1	3	0.04
220	Lodging	Space_Heat	9	1	1	4	0.01
221	Lodging	Space_Heat	9	1	2	1	1.00
					2	2	
					2	3	

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<u>Obs</u>	<u>bname</u>	<u>nname</u>	<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>effshare</u>
					2	4	
222	Lodging	Water_Heat	9	2	1	1	0.40
223	Lodging	Water_Heat	9	2	1	2	0.50
224	Lodging	Water_Heat	9	2	1	3	0.08
225	Lodging	Water_Heat	9	2	1	4	0.02
226	Lodging	Water_Heat	9	2	2	1	0.40
227	Lodging	Water_Heat	9	2	2	2	0.50
228	Lodging	Water_Heat	9	2	2	3	0.08
229	Lodging	Water_Heat	9	2	2	4	0.02
230	Lodging	Cook_top	9	4	1	1	0.65
231	Lodging	Cook_top	9	4	1	2	0.35
232	Lodging	Cook_top	9	4	2	1	0.65
233	Lodging	Cook_top	9	4	2	2	0.35
234	Lodging	Fryer	9	5	1	1	0.65
235	Lodging	Fryer	9	5	1	2	0.35
236	Lodging	Fryer	9	5	2	1	0.65
237	Lodging	Fryer	9	5	2	2	0.35
238	Lodging	Griddle	9	6	1	1	0.65
239	Lodging	Griddle	9	6	1	2	0.35
240	Lodging	Griddle	9	6	2	1	0.65
241	Lodging	Griddle	9	6	2	2	0.35
242	Lodging	Other_Cooking	9	7	1	1	0.65
243	Lodging	Other_Cooking	9	7	1	2	0.35
244	Lodging	Other_Cooking	9	7	2	1	0.65
245	Lodging	Other_Cooking	9	7	2	2	0.35
246	Lodging	Drying	9	8	1	1	0.65
247	Lodging	Drying	9	8	1	2	0.35
248	Lodging	Drying	9	8	2	1	0.65
249	Lodging	Drying	9	8	2	2	0.35
250	Lodging	AC_Compressor	9	10	1	1	0.65
251	Lodging	AC_Compressor	9	10	1	2	0.35
252	Lodging	AC_Compressor	9	10	2	1	0.65
253	Lodging	AC_Compressor	9	10	2	2	0.35
254	Lodging	Other	9	11	1	1	1.00
					2	1	0.00
255	Misc	Space_Heat	10	1	1	1	0.65
256	Misc	Space_Heat	10	1	1	2	0.30
257	Misc	Space_Heat	10	1	1	3	0.04
258	Misc	Space_Heat	10	1	1	4	0.01
259	Misc	Space_Heat	10	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
260	Misc	Water_Heat	10	2	1	1	0.40
261	Misc	Water_Heat	10	2	1	2	0.50
262	Misc	Water_Heat	10	2	1	3	0.08
263	Misc	Water_Heat	10	2	1	4	0.02
264	Misc	Water_Heat	10	2	2	1	0.40
265	Misc	Water_Heat	10	2	2	2	0.50
266	Misc	Water_Heat	10	2	2	3	0.08
267	Misc	Water_Heat	10	2	2	4	0.02
268	Misc	Cook_top	10	4	1	1	0.65
269	Misc	Cook_top	10	4	1	2	0.35
270	Misc	Cook_top	10	4	2	1	0.65
271	Misc	Cook_top	10	4	2	2	0.35
272	Misc	Fryer	10	5	1	1	0.65
273	Misc	Fryer	10	5	1	2	0.35
274	Misc	Fryer	10	5	2	1	0.65
275	Misc	Fryer	10	5	2	2	0.35
276	Misc	Griddle	10	6	1	1	0.65
277	Misc	Griddle	10	6	1	2	0.35
278	Misc	Griddle	10	6	2	1	0.65
279	Misc	Griddle	10	6	2	2	0.35
280	Misc	Other_Cooking	10	7	1	1	0.65

scg_comcore_effshares_clean							
Obs	bname	nname	b	n	f	e	effshare
281	Misc	Other_Cooking	10	7	1	2	0.35
282	Misc	Other_Cooking	10	7	2	1	0.65
283	Misc	Other_Cooking	10	7	2	2	0.35
284	Misc	AC_Compressor	10	10	1	1	0.65
285	Misc	AC_Compressor	10	10	1	2	0.35
286	Misc	AC_Compressor	10	10	2	1	0.65
287	Misc	AC_Compressor	10	10	2	2	0.35
288	Misc	Other	10	11	1	1	1.00
					2	1	0.00
289	Government	Space_Heat	11	1	1	1	0.65
290	Government	Space_Heat	11	1	1	2	0.30
291	Government	Space_Heat	11	1	1	3	0.04
292	Government	Space_Heat	11	1	1	4	0.01
293	Government	Space_Heat	11	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
294	Government	Water_Heat	11	2	1	1	0.40
295	Government	Water_Heat	11	2	1	2	0.50
296	Government	Water_Heat	11	2	1	3	0.08
297	Government	Water_Heat	11	2	1	4	0.02
298	Government	Water_Heat	11	2	2	1	0.40
299	Government	Water_Heat	11	2	2	2	0.50
300	Government	Water_Heat	11	2	2	3	0.08
301	Government	Water_Heat	11	2	2	4	0.02
302	Government	Cook_top	11	4	1	1	0.65
303	Government	Cook_top	11	4	1	2	0.35
304	Government	Cook_top	11	4	2	1	0.65
305	Government	Cook_top	11	4	2	2	0.35
306	Government	Fryer	11	5	1	1	0.65
307	Government	Fryer	11	5	1	2	0.35
308	Government	Fryer	11	5	2	1	0.65
309	Government	Fryer	11	5	2	2	0.35
310	Government	Griddle	11	6	1	1	0.65
311	Government	Griddle	11	6	1	2	0.35
312	Government	Griddle	11	6	2	1	0.65
313	Government	Griddle	11	6	2	2	0.35
314	Government	Other_Cooking	11	7	1	1	0.65
315	Government	Other_Cooking	11	7	1	2	0.35
316	Government	Other_Cooking	11	7	2	1	0.65
317	Government	Other_Cooking	11	7	2	2	0.35
318	Government	AC_Compressor	11	10	1	1	0.65
319	Government	AC_Compressor	11	10	1	2	0.35
320	Government	AC_Compressor	11	10	2	1	0.65
321	Government	AC_Compressor	11	10	2	2	0.35
322	Government	Other	11	11	1	1	1.00
					2	1	0.00
323	TCU	Space_Heat	12	1	1	1	0.65
324	TCU	Space_Heat	12	1	1	2	0.30
325	TCU	Space_Heat	12	1	1	3	0.04
326	TCU	Space_Heat	12	1	1	4	0.01
327	TCU	Space_Heat	12	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
328	TCU	Water_Heat	12	2	1	1	0.40
329	TCU	Water_Heat	12	2	1	2	0.50
330	TCU	Water_Heat	12	2	1	3	0.08
331	TCU	Water_Heat	12	2	1	4	0.02
332	TCU	Water_Heat	12	2	2	1	0.40
333	TCU	Water_Heat	12	2	2	2	0.50
334	TCU	Water_Heat	12	2	2	3	0.08
335	TCU	Water_Heat	12	2	2	4	0.02
336	TCU	Engine	12	9	1	1	0.65

scg_comcore_effshares_clean

<u>Obs</u>	<u>bname</u>	<u>nname</u>	<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>effshare</u>
337	TCU	Engine	12	9	1	2	0.35
338	TCU	Engine	12	9	2	1	0.65
339	TCU	Engine	12	9	2	2	0.35
340	TCU	Other	12	11	1	1	1.00
					2	1	0.00
341	Construction	Space_Heat	13	1	1	1	0.65
342	Construction	Space_Heat	13	1	1	2	0.30
343	Construction	Space_Heat	13	1	1	3	0.04
344	Construction	Space_Heat	13	1	1	4	0.01
345	Construction	Space_Heat	13	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
346	Construction	Water_Heat	13	2	1	1	0.40
347	Construction	Water_Heat	13	2	1	2	0.50
348	Construction	Water_Heat	13	2	1	3	0.08
349	Construction	Water_Heat	13	2	1	4	0.02
350	Construction	Water_Heat	13	2	2	1	0.40
351	Construction	Water_Heat	13	2	2	2	0.50
352	Construction	Water_Heat	13	2	2	3	0.08
353	Construction	Water_Heat	13	2	2	4	0.02
354	Construction	Other	13	11	1	1	1.00
					2	1	0.00
355	Agriculture	Space_Heat	14	1	1	1	0.65
356	Agriculture	Space_Heat	14	1	1	2	0.30
357	Agriculture	Space_Heat	14	1	1	3	0.04
358	Agriculture	Space_Heat	14	1	1	4	0.01
359	Agriculture	Space_Heat	14	1	2	1	1.00
					2	2	0.00
					2	3	0.00
					2	4	0.00
360	Agriculture	Water_Heat	14	2	1	1	0.40
361	Agriculture	Water_Heat	14	2	1	2	0.50
362	Agriculture	Water_Heat	14	2	1	3	0.08
363	Agriculture	Water_Heat	14	2	1	4	0.02
364	Agriculture	Water_Heat	14	2	2	1	0.40
365	Agriculture	Water_Heat	14	2	2	2	0.50
366	Agriculture	Water_Heat	14	2	2	3	0.08
367	Agriculture	Water_Heat	14	2	2	4	0.02
368	Agriculture	Drying	14	8	1	1	0.65
369	Agriculture	Drying	14	8	1	2	0.35
370	Agriculture	Drying	14	8	2	1	0.65
371	Agriculture	Drying	14	8	2	2	0.35
372	Agriculture	Engine	14	9	1	1	0.65
373	Agriculture	Engine	14	9	1	2	0.35
374	Agriculture	Engine	14	9	2	1	0.65
375	Agriculture	Engine	14	9	2	2	0.35
376	Agriculture	Other	14	11	1	1	1.00
					2	1	0.00

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Saturation Rate**

<u>Business Type</u>	<u>End Use</u>	<u>saturation</u>
Office	Space_Heat	0.872
Office	Water_Heat	0.700
Office	Cooking	0.082
Office	AC_Compressor	0.931
Office	Other	1.000
Restaurant	Space_Heat	0.818
Restaurant	Water_Heat	0.960
Restaurant	Cook_top	0.750
Restaurant	Fryer	0.729
Restaurant	Griddle	0.574
Restaurant	Other_Cooking	0.900
Restaurant	AC_Compressor	0.871
Restaurant	Other	1.000
Retail	Space_Heat	0.771
Retail	Water_Heat	0.620
Retail	Cooking	0.245
Retail	Other	1.000
Laundry	Space_Heat	0.720
Laundry	Water_Heat	1.000
Laundry	Drying	1.000
Laundry	Other	1.000
Warehouse	Space_Heat	0.231
Warehouse	Water_Heat	0.880
Warehouse	Engine	0.250
Warehouse	Other	1.000
School	Space_Heat	0.967
School	Water_Heat	0.900
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	1.000
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	1.000
Health	Space_Heat	0.936
Health	Water_Heat	1.000
Health	Cook_top	0.102
Health	Fryer	0.102
Health	Griddle	0.102
Health	Other_Cooking	0.102
Health	Drying	0.820
Health	AC_Compressor	0.792

<u>Business Type</u>	<u>End Use</u>	<u>saturation</u>
Health	Other	1.000
Lodging	Space_Heat	0.895
Lodging	Water_Heat	1.000
Lodging	Cook_top	0.084
Lodging	Fryer	0.084
Lodging	Griddle	0.084
Lodging	Other_Cooking	0.084
Lodging	Drying	0.820
Lodging	AC_Compressor	0.795
Lodging	Other	1.000
Misc	Space_Heat	0.695
Misc	Water_Heat	0.690
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	1.000
Government	Space_Heat	0.872
Government	Water_Heat	0.700
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	1.000
TCU	Space_Heat	0.720
TCU	Water_Heat	0.690
TCU	Engine	0.500
TCU	Other	1.000
Construction	Space_Heat	0.720
Construction	Water_Heat	0.690
Construction	Other	1.000
Agriculture	Space_Heat	0.720
Agriculture	Water_Heat	0.690
Agriculture	Drying	1.000
Agriculture	Engine	0.500
Agriculture	Other	1.000
Grocery	Space_Heat	0.647
Grocery	Water_Heat	0.930
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	1.000

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
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	0.5370
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	1.3000
1	11	1	1	Office	Other	0.0000
1	11	2	1	Office	Other	0.0000
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	1.3940
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	11.6660
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

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<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
2	5	2	1	Restaurant	Fryer	11.6220
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	10.7890
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	0.0000
2	11	2	1	Restaurant	Other	0.0000
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
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	1.5630
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	3.8750
3	11	1	1	Retail	Other	0.0000
3	11	2	1	Retail	Other	0.0000
4	1	1	1	Laundry	Space_Heat	1.8360
4	1	1	2	Laundry	Space_Heat	2.0200
4	1	1	3	Laundry	Space_Heat	2.2030
4	1	1	4	Laundry	Space_Heat	2.3870
4	1	2	1	Laundry	Space_Heat	1.4690
4	1	2	2	Laundry	Space_Heat	1.6160
4	1	2	3	Laundry	Space_Heat	1.7630
4	1	2	4	Laundry	Space_Heat	1.9090
4	2	1	1	Laundry	Water_Heat	34.5120
4	2	1	2	Laundry	Water_Heat	37.9630
4	2	1	3	Laundry	Water_Heat	41.4140

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
4	2	1	4	Laundry	Water_Heat	44.8650
4	2	2	1	Laundry	Water_Heat	27.6090
4	2	2	2	Laundry	Water_Heat	30.3700
4	2	2	3	Laundry	Water_Heat	33.1310
4	2	2	4	Laundry	Water_Heat	35.8920
4	8	1	1	Laundry	Drying	186.7380
4	8	1	2	Laundry	Drying	205.4120
4	8	2	1	Laundry	Drying	149.3900
4	8	2	2	Laundry	Drying	164.3290
4	11	1	1	Laundry	Other	0.0000
4	11	2	1	Laundry	Other	0.0000
5	1	1	1	Warehouse	Space_Heat	7.9090
5	1	1	2	Warehouse	Space_Heat	8.7000
5	1	1	3	Warehouse	Space_Heat	9.4910
5	1	1	4	Warehouse	Space_Heat	10.2820
5	1	2	1	Warehouse	Space_Heat	6.3270
5	1	2	2	Warehouse	Space_Heat	6.9600
5	1	2	3	Warehouse	Space_Heat	7.5930
5	1	2	4	Warehouse	Space_Heat	8.2250
5	2	1	1	Warehouse	Water_Heat	2.6080
5	2	1	2	Warehouse	Water_Heat	2.8690
5	2	1	3	Warehouse	Water_Heat	3.1300
5	2	1	4	Warehouse	Water_Heat	3.3900
5	2	2	1	Warehouse	Water_Heat	2.0860
5	2	2	2	Warehouse	Water_Heat	2.2950
5	2	2	3	Warehouse	Water_Heat	2.5040
5	2	2	4	Warehouse	Water_Heat	2.7120
5	9	1	1	Warehouse	Engine	113.1270
5	9	1	2	Warehouse	Engine	124.4400
5	9	2	1	Warehouse	Engine	90.5020
5	9	2	2	Warehouse	Engine	99.5520
5	11	1	1	Warehouse	Other	0.0000
5	11	2	1	Warehouse	Other	0.0000
6	1	1	1	School	Space_Heat	1.2250
6	1	1	2	School	Space_Heat	1.3480
6	1	1	3	School	Space_Heat	1.4710
6	1	1	4	School	Space_Heat	1.5930
6	1	2	1	School	Space_Heat	0.9800
6	1	2	2	School	Space_Heat	1.0780
6	1	2	3	School	Space_Heat	1.1760
6	1	2	4	School	Space_Heat	1.2740
6	2	1	1	School	Water_Heat	1.6350
6	2	1	2	School	Water_Heat	1.7990
6	2	1	3	School	Water_Heat	1.9620
6	2	1	4	School	Water_Heat	2.1260
6	2	2	1	School	Water_Heat	1.3080
6	2	2	2	School	Water_Heat	1.4390
6	2	2	3	School	Water_Heat	1.5700
6	2	2	4	School	Water_Heat	1.7010

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
6	4	1	1	School	Cook_top	0.6100
6	4	1	2	School	Cook_top	0.6710
6	4	2	1	School	Cook_top	0.4880
6	4	2	2	School	Cook_top	0.5370
6	5	1	1	School	Fryer	0.6120
6	5	1	2	School	Fryer	0.6730
6	5	2	1	School	Fryer	0.4890
6	5	2	2	School	Fryer	0.5380
6	6	1	1	School	Griddle	0.6120
6	6	1	2	School	Griddle	0.6730
6	6	2	1	School	Griddle	0.4890
6	6	2	2	School	Griddle	0.5380
6	7	1	1	School	Other_Cooking	0.6100
6	7	1	2	School	Other_Cooking	0.6710
6	7	2	1	School	Other_Cooking	0.4880
6	7	2	2	School	Other_Cooking	0.5370
6	10	1	1	School	AC_Compressor	0.8660
6	10	1	2	School	AC_Compressor	0.9530
6	10	2	1	School	AC_Compressor	0.6930
6	10	2	2	School	AC_Compressor	0.7620
6	11	1	1	School	Other	0.0000
6	11	2	1	School	Other	0.0000
7	1	1	1	College	Space_Heat	3.1444
7	1	1	2	College	Space_Heat	3.4589
7	1	1	3	College	Space_Heat	3.7733
7	1	1	4	College	Space_Heat	4.0877
7	1	2	1	College	Space_Heat	2.5155
7	1	2	2	College	Space_Heat	2.7671
7	1	2	3	College	Space_Heat	3.0186
7	1	2	4	College	Space_Heat	3.2702
7	2	1	1	College	Water_Heat	3.3889
7	2	1	2	College	Water_Heat	3.7278
7	2	1	3	College	Water_Heat	4.0667
7	2	1	4	College	Water_Heat	4.4056
7	2	2	1	College	Water_Heat	2.7112
7	2	2	2	College	Water_Heat	2.9823
7	2	2	3	College	Water_Heat	3.2534
7	2	2	4	College	Water_Heat	3.5245
7	4	1	1	College	Cook_top	0.5736
7	4	1	2	College	Cook_top	0.6309
7	4	2	1	College	Cook_top	0.4589
7	4	2	2	College	Cook_top	0.5048
7	5	1	1	College	Fryer	0.5732
7	5	1	2	College	Fryer	0.6306
7	5	2	1	College	Fryer	0.4586
7	5	2	2	College	Fryer	0.5044
7	6	1	1	College	Griddle	0.5732
7	6	1	2	College	Griddle	0.6306
7	6	2	1	College	Griddle	0.4586

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<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
7	6	2	2	College	Griddle	0.5044
7	7	1	1	College	Other_Cooking	0.5736
7	7	1	2	College	Other_Cooking	0.6309
7	7	2	1	College	Other_Cooking	0.4589
7	7	2	2	College	Other_Cooking	0.5048
7	10	1	1	College	AC_Compressor	1.3949
7	10	1	2	College	AC_Compressor	1.5344
7	10	2	1	College	AC_Compressor	1.1159
7	10	2	2	College	AC_Compressor	1.2275
7	11	1	1	College	Other	0.0000
7	11	2	1	College	Other	0.0000
8	1	1	1	Health	Space_Heat	0.8825
8	1	1	2	Health	Space_Heat	0.9708
8	1	1	3	Health	Space_Heat	1.0590
8	1	1	4	Health	Space_Heat	1.1473
8	1	2	1	Health	Space_Heat	0.7060
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	5.3392
8	2	1	2	Health	Water_Heat	5.8731
8	2	1	3	Health	Water_Heat	6.4070
8	2	1	4	Health	Water_Heat	6.9409
8	2	2	1	Health	Water_Heat	4.2713
8	2	2	2	Health	Water_Heat	4.6985
8	2	2	3	Health	Water_Heat	5.1256
8	2	2	4	Health	Water_Heat	5.5527
8	4	1	1	Health	Cook_top	3.3741
8	4	1	2	Health	Cook_top	3.7115
8	4	2	1	Health	Cook_top	2.6993
8	4	2	2	Health	Cook_top	2.9692
8	5	1	1	Health	Fryer	3.3741
8	5	1	2	Health	Fryer	3.7115
8	5	2	1	Health	Fryer	2.6993
8	5	2	2	Health	Fryer	2.9692
8	6	1	1	Health	Griddle	3.3741
8	6	1	2	Health	Griddle	3.7115
8	6	2	1	Health	Griddle	2.6993
8	6	2	2	Health	Griddle	2.9692
8	7	1	1	Health	Other_Cooking	0.3374
8	7	1	2	Health	Other_Cooking	0.3712
8	7	2	1	Health	Other_Cooking	0.2700
8	7	2	2	Health	Other_Cooking	0.2969
8	8	1	1	Health	Drying	1.8687
8	8	1	2	Health	Drying	2.0556
8	8	2	1	Health	Drying	1.4950
8	8	2	2	Health	Drying	1.6445
8	10	1	1	Health	AC_Compressor	1.4575
8	10	1	2	Health	AC_Compressor	1.6032

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
8	10	2	1	Health	AC_Compressor	1.1660
8	10	2	2	Health	AC_Compressor	1.2826
8	11	1	1	Health	Other	0.0000
8	11	2	1	Health	Other	0.0000
9	1	1	1	Lodging	Space_Heat	4.8589
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	0.4530
9	8	1	1	Lodging	Drying	2.1663
9	8	1	2	Lodging	Drying	2.3829
9	8	2	1	Lodging	Drying	1.7330
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	0.0000
9	11	2	1	Lodging	Other	0.0000
10	1	1	1	Misc	Space_Heat	2.1455
10	1	1	2	Misc	Space_Heat	2.3600
10	1	1	3	Misc	Space_Heat	2.5746

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
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	1.8880
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	2.3530
10	2	2	2	Misc	Water_Heat	2.5883
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	0.6910
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	0.6910
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	0.0000
10	11	2	1	Misc	Other	0.0000
11	1	1	1	Government	Space_Heat	3.8150
11	1	1	2	Government	Space_Heat	4.1965
11	1	1	3	Government	Space_Heat	4.5780
11	1	1	4	Government	Space_Heat	4.9595
11	1	2	1	Government	Space_Heat	3.0520
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

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
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	0.0000
11	11	2	1	Government	Other	0.0000
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
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	0.0000
12	11	2	1	TCU	Other	0.0000
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

scg_comcore_eqcostdata_clean

<u>b</u>	<u>n</u>	<u>f</u>	<u>e</u>	<u>bname</u>	<u>nname</u>	<u>EQcost</u>
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	3.4610
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	0.0000
13	11	2	1	Construction	Other	0.0000
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	1.9900
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	1.5920
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	0.0000
14	11	2	1	Agriculture	Other	0.0000

**San Diego Gas and Electric Company
 2009 BCAP - Commercial GN3
 Employment Forecast (in millions)**

<u>YEAR</u>	<u>EMPLOY1</u>	<u>EMPLOY2</u>	<u>EMPLOY3</u>	<u>EMPLOY4</u>	<u>EMPLOY5</u>	<u>EMPLOY6</u>	<u>EMPLOY7</u>
2006	0.29748	0.10237	0.14761	0.01566	0.04811	0.08773	0.03253
2007	0.30186	0.10568	0.14589	0.01610	0.04905	0.08930	0.03311
2008	0.30934	0.10779	0.14890	0.01625	0.05011	0.09012	0.03341
2009	0.31930	0.10997	0.15188	0.01632	0.05078	0.09104	0.03376
2010	0.32697	0.11221	0.15451	0.01647	0.05135	0.09151	0.03393
2011	0.33302	0.11423	0.15667	0.01665	0.05175	0.09224	0.03420
2012	0.33781	0.11581	0.15801	0.01680	0.05196	0.09316	0.03454
2013	0.34301	0.11703	0.15876	0.01692	0.05208	0.09410	0.03489
2014	0.34937	0.11813	0.15937	0.01703	0.05226	0.09508	0.03525
2015	0.35564	0.11920	0.15940	0.01717	0.05236	0.09619	0.03566
2016	0.36169	0.12023	0.15905	0.01732	0.05267	0.09728	0.03607
2017	0.36787	0.12114	0.15863	0.01747	0.05300	0.09864	0.03657
2018	0.37451	0.12205	0.15842	0.01758	0.05348	0.10023	0.03716
2019	0.38113	0.12318	0.15833	0.01768	0.05402	0.10206	0.03784
2020	0.38782	0.12450	0.15850	0.01780	0.05445	0.10397	0.03855
2021	0.39440	0.12578	0.15883	0.01796	0.05491	0.10602	0.03931
2022	0.40128	0.12711	0.15930	0.01813	0.05551	0.10795	0.04002
2023	0.40891	0.12844	0.15986	0.01832	0.05607	0.10978	0.04070
2024	0.41702	0.12970	0.16044	0.01849	0.05672	0.11149	0.04134
2025	0.42487	0.13095	0.16099	0.01865	0.05745	0.11330	0.04201

<u>YEAR</u>	<u>EMPLOY8</u>	<u>EMPLOY9</u>	<u>EMPLOY10</u>	<u>EMPLOY11</u>	<u>EMPLOY12</u>	<u>EMPLOY13</u>	<u>EMPLOY14</u>	<u>EMPLTOT</u>
2006	0.10366	0.02997	0.05714	0.11854	0.06243	0.09260	0.01096	1.19582
2007	0.10551	0.03094	0.05876	0.12052	0.06266	0.08705	0.01101	1.20644
2008	0.10647	0.03156	0.05930	0.12179	0.06298	0.08430	0.01107	1.22231
2009	0.10756	0.03220	0.05957	0.12324	0.06418	0.08286	0.01112	1.24265
2010	0.10812	0.03285	0.06011	0.12548	0.06542	0.08322	0.01118	1.26216
2011	0.10897	0.03345	0.06076	0.12620	0.06691	0.08346	0.01124	1.27850
2012	0.11007	0.03391	0.06131	0.12773	0.06840	0.08458	0.01129	1.29407
2013	0.11117	0.03427	0.06175	0.12921	0.06974	0.08614	0.01135	1.30906
2014	0.11234	0.03459	0.06218	0.13064	0.07093	0.08778	0.01140	1.32495
2015	0.11364	0.03490	0.06269	0.13197	0.07220	0.08948	0.01146	1.34051
2016	0.11494	0.03520	0.06322	0.13324	0.07354	0.09120	0.01152	1.35564
2017	0.11654	0.03547	0.06375	0.13453	0.07474	0.09290	0.01158	1.37126
2018	0.11842	0.03574	0.06417	0.13565	0.07549	0.09447	0.01163	1.38737
2019	0.12058	0.03607	0.06454	0.13666	0.07598	0.09574	0.01169	1.40381
2020	0.12284	0.03645	0.06498	0.13828	0.07656	0.09697	0.01175	1.42167
2021	0.12527	0.03683	0.06554	0.13850	0.07753	0.09812	0.01181	1.43900
2022	0.12754	0.03722	0.06616	0.13936	0.07856	0.09922	0.01187	1.45734
2023	0.12971	0.03761	0.06685	0.14021	0.07968	0.10042	0.01193	1.47657
2024	0.13173	0.03798	0.06749	0.14103	0.08069	0.10166	0.01199	1.49578
2025	0.13387	0.03834	0.06807	0.14186	0.08171	0.10300	0.01205	1.51508

**San Diego Gas and Electric Company
 2006 California Gas Report - Commercial GN3
 Core Commercial Demand Forecast
 (Average Temperature Conditions)
 MDth**

<u>YEAR</u>	<u>Model Output GN3-Com</u>	<u>DSM</u>	<u>"Generic Vernon"</u>	<u>AB970</u>	<u>GTNC Migrate to GN3</u>	<u>Total Com-GN3</u>
2006	14,778	0	0	0	0	14,778
2007	14,847	192	0	0	0	14,655
2008	14,886	451	0	0	0	14,435
2009	15,043	738	0	0	0	14,305
2010	15,182	1,053	0	0	0	14,129
2011	15,282	1,395	0	0	0	13,887
2012	15,370	1,765	0	0	0	13,605
2013	15,442	2,164	0	0	0	13,278
2014	15,514	2,562	0	0	0	12,951
2015	15,581	2,800	0	0	0	12,782
2016	15,647	2,981	0	0	0	12,666
2017	15,692	3,187	0	0	0	12,505
2018	15,744	3,327	0	0	0	12,418
2019	15,809	3,439	0	0	0	12,371
2020	15,878	3,522	0	0	0	12,356
2021	15,933	3,578	0	0	0	12,354
2022	15,993	3,606	0	0	0	12,386
2023	16,054	3,606	0	0	0	12,448
2024	16,114	3,606	0	0	0	12,508
2025	16,180	3,606	0	0	0	12,574

**San Diego Gas and Electric Company
 2006 California Gas Report - Commercial GN3
 Core Commercial Demand Forecast
 (Cold Temperature Conditions)**

<u>YEAR</u>	<u>Model Output GN3-Com</u>	<u>DSM</u>	<u>"Generic Vernon"</u>	<u>AB970</u>	<u>GTNC Migrate to GN3</u>	<u>(Mdth) Total Com-GN3</u>
2006	15,634	0	0	0	0	15,634
2007	15,695	192	0	0	0	15,503
2008	15,721	451	0	0	0	15,270
2009	15,871	738	0	0	0	15,133
2010	15,999	1,053	0	0	0	14,947
2011	16,085	1,395	0	0	0	14,690
2012	16,157	1,765	0	0	0	14,392
2013	16,211	2,164	0	0	0	14,047
2014	16,263	2,562	0	0	0	13,701
2015	16,321	2,800	0	0	0	13,521
2016	16,380	2,981	0	0	0	13,399
2017	16,415	3,187	0	0	0	13,228
2018	16,463	3,327	0	0	0	13,136
2019	16,525	3,439	0	0	0	13,087
2020	16,593	3,522	0	0	0	13,071
2021	16,648	3,578	0	0	0	13,069
2022	16,710	3,606	0	0	0	13,103
2023	16,774	3,606	0	0	0	13,168
2024	16,838	3,606	0	0	0	13,232
2025	16,908	3,606	0	0	0	13,301

**San Diego Gas and Electric Company
 2006 California Gas Report - Commercial GN3
 Core Commercial Demand Forecast
 (Hot Temperature Conditions)**

<u>YEAR</u>	<u>Model Output GN3-Com</u>	<u>DSM</u>	<u>"Generic Vernon"</u>	<u>AB970</u>	<u>GTNC Migrate to GN3</u>	<u>(Mdth) Total Com-GN3</u>
2006	13,950	0	0	0	0	13,950
2007	14,025	192	0	0	0	13,833
2008	14,077	451	0	0	0	13,626
2009	14,241	738	0	0	0	13,503
2010	14,390	1,053	0	0	0	13,337
2011	14,503	1,395	0	0	0	13,108
2012	14,607	1,765	0	0	0	12,842
2013	14,698	2,164	0	0	0	12,534
2014	14,788	2,562	0	0	0	12,225
2015	14,865	2,800	0	0	0	12,065
2016	14,937	2,981	0	0	0	11,956
2017	14,991	3,187	0	0	0	11,804
2018	15,048	3,327	0	0	0	11,721
2019	15,116	3,439	0	0	0	11,677
2020	15,186	3,522	0	0	0	11,663
2021	15,240	3,578	0	0	0	11,662
2022	15,298	3,606	0	0	0	11,692
2023	15,356	3,606	0	0	0	11,750
2024	15,413	3,606	0	0	0	11,807
2025	15,475	3,606	0	0	0	11,869

**San Diego Gas and Electric Company
 2006 California Gas Report - Commercial GN3
 Core Commercial Demand Forecast
 Base ("Zero HDD") Temperature**

<u>YEAR</u>	<u>Model Output GN3-Com</u>	<u>DSM</u>	<u>"Generic Vernon"</u>	<u>AB970</u>	<u>GTNC Migrate to GN3</u>	<u>(Mdth) Total Com-GN3</u>
2006	11,592	0	0	0	0	11,592
2007	11,687	192	0	0	0	11,495
2008	11,774	451	0	0	0	11,323
2009	11,959	738	0	0	0	11,221
2010	12,135	1,053	0	0	0	11,083
2011	12,288	1,395	0	0	0	10,893
2012	12,437	1,765	0	0	0	10,671
2013	12,579	2,164	0	0	0	10,416
2014	12,721	2,562	0	0	0	10,159
2015	12,825	2,800	0	0	0	10,026
2016	12,916	2,981	0	0	0	9,935
2017	12,996	3,187	0	0	0	9,809
2018	13,067	3,327	0	0	0	9,740
2019	13,142	3,439	0	0	0	9,704
2020	13,214	3,522	0	0	0	9,692
2021	13,269	3,578	0	0	0	9,691
2022	13,322	3,606	0	0	0	9,716
2023	13,370	3,606	0	0	0	9,764
2024	13,418	3,606	0	0	0	9,811
2025	13,469	3,606	0	0	0	9,863

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SDG&E CORE INDUSTRIAL TABLES
FEBRUARY 2008

San Diego Gas and Electric Company
2009 BCAP - 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	1980.63	1974.38	1977.88	1978.30	1968.00	1979.83	1972.75	1980.00	1975.35
Food	1979.91	1981.82	1975.16	1978.29	1976.07	1983.10	1970.40	1987.00	1977.49
Textile	1985.00	1979.31	1976.85	1978.05	1980.64	1975.57	1975.50		1978.50
Wood_Paper	1979.33	1974.77	1974.65	1975.64	1976.17	1976.36	1975.80		1979.59
Chemical	1980.32	1980.23	1975.83	1977.04	1967.40	1975.93	1973.83	1980.00	1978.75
Petroleum	1979.70	1980.55	1974.39	1976.62	1975.00	1979.33		1972.00	1978.24
Stone	1979.74	1973.44	1975.36	1977.39	1980.20	1977.95	1981.50		1976.81
Prim_Metal	1985.67	1978.85	1975.05	1976.18	1976.33	1977.41	1978.44		1973.82
Fab_Metal	1981.68	1980.55	1975.83	1976.61	1978.53	1979.24	1976.21	1972.00	1976.41
Transport	1979.81	1977.66	1975.58	1976.35	1980.29	1979.72	1973.67	1988.00	1976.22
Misc	1978.94	1980.48	1976.05	1976.41	1978.14	1978.11	1976.00	1979.25	1977.00

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Incremental Meter Forecast by Business Types**

<u>Year</u>	<u>Mining</u>	<u>Food</u>	<u>Textile</u>	<u>Wood_</u> <u>Paper</u>	<u>Chemical</u>	<u>Petroleum</u>	<u>Stone</u>	<u>Primary_</u> <u>Metal</u>	<u>Fabricated_</u> <u>Metal</u>	<u>Transportation</u>	<u>Miscellaneous</u>
2007	0.1	7.0	-0.5	0.3	0.3	0.3	1.0	0.0	4.5	0.7	-2.9
2008	-0.3	-0.6	0.2	-0.3	-0.3	-0.2	-1.0	-0.3	-3.7	0.3	16.7
2009	-0.2	1.5	0.6	0.1	0.3	-0.1	-0.4	0.2	0.9	0.7	6.3
2010	0.0	2.6	0.5	0.4	0.7	0.0	0.3	0.1	-1.3	0.2	6.2
2011	0.0	2.5	0.5	0.2	0.6	0.0	0.6	0.3	1.5	0.2	2.7
2012	0.1	-0.1	0.1	0.0	0.1	0.0	0.3	0.0	1.2	-0.2	6.9
2013	0.1	1.3	0.2	0.2	0.3	0.0	0.2	0.0	-0.4	0.2	6.2
2014	0.0	1.6	0.3	0.2	0.5	0.0	0.1	0.0	0.1	0.7	4.8
2015	0.0	1.6	0.2	0.2	0.6	0.0	0.2	0.1	1.7	0.4	4.0
2016	0.1	2.4	0.3	0.2	0.8	0.0	0.3	0.0	-0.2	0.4	4.8
2017	0.0	2.3	0.1	0.1	0.9	0.0	0.3	0.1	0.3	0.5	4.4
2018	0.0	2.2	0.3	0.2	0.6	0.0	0.5	0.1	0.2	0.4	4.6
2019	0.0	1.8	0.1	0.1	0.5	0.0	0.3	0.1	1.0	0.5	4.7
2020	0.0	2.1	0.3	0.2	0.5	0.0	0.3	0.1	0.6	0.5	4.7
2021	0.1	1.7	0.1	0.1	0.5	0.0	0.2	0.1	1.0	0.4	5.0
2022	0.0	1.7	0.1	0.1	0.4	0.0	0.2	0.1	1.2	0.5	5.0
2023	0.0	1.6	0.2	0.2	0.5	0.0	0.3	0.1	1.3	0.4	4.9
2024	0.1	1.9	0.2	0.2	0.4	0.0	0.3	0.1	1.0	0.5	4.8
2025	-0.1	2.2	0.5	0.3	0.5	0.0	0.0	0.1	0.6	0.5	5.1

**San Diego Gas and Electric Company
 2009 BCAP - 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>
2006	16.0219	15.7968	16.6108	15.9117	15.3954	16.9291	15.6321	16.0351	16.2683	14.9886	15.6036
2007	14.6447	14.4566	15.1384	14.5529	14.1203	15.4043	14.3185	14.6556	14.8513	13.7800	14.2950
2008	17.9794	17.7680	18.5344	17.8762	17.3899	18.8333	17.6127	17.9917	18.2117	17.0074	17.5863
2009	17.9627	17.8372	18.6273	17.9091	17.3602	18.8779	17.5911	17.9721	18.2591	17.0212	17.6425
2010	17.0458	16.9223	17.7000	16.9931	16.4527	17.9467	16.6801	17.0551	17.3376	16.1191	16.7307
2011	17.1943	17.0663	17.8716	17.1397	16.5803	18.1269	16.8156	17.2038	17.4963	16.2348	16.8680
2012	16.5635	16.4359	17.2388	16.5090	15.9513	17.4933	16.1859	16.5730	16.8646	15.6069	16.2382
2013	16.5803	16.4495	17.2725	16.5244	15.9526	17.5335	16.1932	16.5900	16.8890	15.5996	16.2467
2014	16.5400	16.4065	17.2465	16.4830	15.8995	17.5129	16.1450	16.5500	16.8551	15.5392	16.1996
2015	16.5891	16.4522	17.3138	16.5307	15.9321	17.5870	16.1840	16.5993	16.9123	15.5625	16.2400
2016	16.8410	16.6988	17.5940	16.7803	16.1584	17.8779	16.4200	16.8516	17.1768	15.7743	16.4783
2017	17.0111	16.8692	17.7622	16.9506	16.3302	18.0453	16.5912	17.0217	17.3461	15.9472	16.6493
2018	17.2687	17.1243	18.0329	17.2071	16.5759	18.3210	16.8414	17.2794	17.6095	16.1861	16.9005
2019	17.7275	17.5766	18.5258	17.6631	17.0037	18.8268	17.2811	17.7387	18.0835	16.5965	17.3428
2020	18.1929	18.0386	19.0099	18.1270	17.4522	19.3179	17.7361	18.2044	18.5573	17.0356	17.7993
2021	18.6706	18.5114	19.5132	18.6026	17.9067	19.8308	18.1995	18.6824	19.0463	17.4769	18.2646
2022	19.1592	18.9969	20.0182	19.0899	18.3804	20.3421	18.6789	19.1713	19.5423	17.9422	18.7453
2023	19.6598	19.4947	20.5334	19.5893	18.8677	20.8628	19.1713	19.6721	20.0494	18.4221	19.2388
2024	20.1738	20.0059	21.0628	20.1022	19.3679	21.3979	19.6768	20.1864	20.5703	18.9146	19.7456
2025	20.6988	20.5263	21.6119	20.6251	19.8709	21.9561	20.1882	20.7116	21.1060	19.4053	20.2588

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Electric Price Forecast (Cent/KWH)**

(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>
2006	12.5099	12.6241	12.9455	12.6969	12.2056	12.9570	12.5090	12.5846	12.8077	11.9637	12.3692
2007	11.4447	11.5399	11.8074	11.6004	11.1914	11.8170	11.4439	11.5069	11.6927	10.9900	11.3276
2008	14.0619	14.1684	14.4679	14.2362	13.7784	14.4786	14.0610	14.1315	14.3395	13.5529	13.9308
2009	14.0417	14.2376	14.4596	14.2211	13.8324	14.4706	14.0491	14.1134	14.3274	13.6717	13.9952
2010	13.3204	13.5136	13.7325	13.4973	13.1140	13.7434	13.3276	13.3911	13.6021	12.9554	13.2745
2011	13.4330	13.6333	13.8602	13.6164	13.2190	13.8715	13.4405	13.5063	13.7251	13.0546	13.3854
2012	12.9357	13.1357	13.3624	13.1189	12.7219	13.3737	12.9432	13.0089	13.2274	12.5578	12.8882
2013	12.9456	13.1509	13.3836	13.1336	12.7262	13.3952	12.9533	13.0207	13.2451	12.5576	12.8968
2014	12.9110	13.1209	13.3587	13.1032	12.6868	13.3705	12.9189	12.9878	13.2171	12.5146	12.8612
2015	12.9462	13.1617	13.4060	13.1436	12.7159	13.4181	12.9543	13.0250	13.2605	12.5390	12.8950
2016	13.1393	13.3636	13.6178	13.3447	12.8997	13.6304	13.1478	13.2214	13.4664	12.7156	13.0861
2017	13.2739	13.4975	13.7507	13.4786	13.0351	13.7634	13.2823	13.3557	13.5999	12.8517	13.2209
2018	13.4745	13.7020	13.9598	13.6828	13.2315	13.9726	13.4831	13.5578	13.8063	13.0448	13.4206
2019	13.8298	14.0677	14.3372	14.0476	13.5756	14.3507	13.8387	13.9168	14.1767	13.3804	13.7733
2020	14.1934	14.4368	14.7126	14.4163	13.9333	14.7263	14.2025	14.2824	14.5484	13.7336	14.1356
2021	14.5652	14.8163	15.1008	14.7951	14.2969	15.1150	14.5746	14.6571	14.9314	14.0908	14.5056
2022	14.9475	15.2034	15.4934	15.1818	14.6740	15.5078	14.9571	15.0411	15.3207	14.4640	14.8867
2023	15.3395	15.5997	15.8944	15.5778	15.0616	15.9091	15.3493	15.4347	15.7189	14.8482	15.2778
2024	15.7422	16.0067	16.3065	15.9844	15.4595	16.3214	15.7521	15.8390	16.1280	15.2425	15.6794
2025	16.1516	16.4233	16.7312	16.4004	15.8612	16.7466	16.1618	16.2510	16.5479	15.6382	16.0871

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Gas Price Forecast (\$/Therm)**

(a) Average Price Forecast												
<u>Year</u>	<u>Price</u> <u>Deflator</u>	<u>Chemical</u>	<u>Fabricated</u> <u>Metal</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Primary M</u> <u>etal</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Pa</u> <u>per</u>	<u>Misc</u>
2006	100.00	1.00	0.9813	1.0318	0.9884	0.9564	1.0516	0.9711	0.9961	1.0106	0.9311	0.9693
2007	102.13	1.08	1.0616	1.1116	1.0686	1.0369	1.1311	1.0514	1.0762	1.0905	1.0119	1.0497
2008	104.19	1.17	1.1607	1.2107	1.1677	1.1360	1.2303	1.1505	1.1753	1.1897	1.1110	1.1488
2009	106.41	1.09	1.0865	1.1347	1.0909	1.0575	1.1499	1.0715	1.0947	1.1122	1.0368	1.0747
2010	108.52	1.05	1.0472	1.0953	1.0516	1.0181	1.1106	1.0322	1.0554	1.0729	0.9975	1.0353
2011	110.74	1.03	1.0201	1.0682	1.0245	0.9910	1.0835	1.0051	1.0283	1.0458	0.9704	1.0082
2012	113.37	1.02	1.0081	1.0574	1.0126	0.9784	1.0730	0.9928	1.0166	1.0344	0.9573	0.9960
2013	116.23	1.02	1.0085	1.0589	1.0131	0.9780	1.0749	0.9928	1.0171	1.0354	0.9564	0.9960
2014	119.10	1.02	1.0093	1.0610	1.0140	0.9781	1.0774	0.9932	1.0181	1.0369	0.9559	0.9966
2015	122.01	1.02	1.0102	1.0631	1.0150	0.9783	1.0799	0.9938	1.0193	1.0385	0.9556	0.9972
2016	125.15	1.02	1.0116	1.0658	1.0165	0.9789	1.0830	0.9947	1.0209	1.0406	0.9556	0.9982
2017	128.51	1.06	1.0514	1.1070	1.0564	1.0178	1.1247	1.0340	1.0609	1.0811	0.9939	1.0377
2018	131.98	1.09	1.0765	1.1336	1.0817	1.0420	1.1517	1.0587	1.0862	1.1070	1.0175	1.0624
2019	135.56	1.09	1.0856	1.1442	1.0909	1.0502	1.1628	1.0673	1.0956	1.1169	1.0250	1.0711
2020	139.20	1.13	1.1172	1.1773	1.1226	1.0809	1.1964	1.0984	1.1274	1.1493	1.0550	1.1023
2021	142.93	1.15	1.1407	1.2024	1.1463	1.1034	1.2220	1.1214	1.1512	1.1736	1.0769	1.1254
2022	146.76	1.19	1.1781	1.2414	1.1839	1.1399	1.2615	1.1584	1.1889	1.2119	1.1127	1.1625
2023	150.69	1.23	1.2197	1.2847	1.2256	1.1805	1.3053	1.1995	1.2308	1.2544	1.1526	1.2037
2024	154.73	1.27	1.2623	1.3290	1.2684	1.2221	1.3502	1.2416	1.2737	1.2979	1.1935	1.2459
2025	158.85	1.30	1.2936	1.3620	1.2998	1.2523	1.3837	1.2723	1.3052	1.3301	1.2229	1.2767

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Gas Price Forecast (\$/Therm)**

(b) Marginal Price Forecast												
<u>Year</u>	<u>Price</u>	<u>Chemical</u>	<u>Fabricated</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Primary M</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Pa</u>	<u>Misc</u>
	<u>Deflator</u>		<u>Metal</u>				<u>etal</u>				<u>per</u>	
2006	100.00	0.9326	0.9412	0.9651	0.9466	0.9100	0.9660	0.9326	0.9382	0.9549	0.8919	0.9222
2007	102.13	1.0134	1.0218	1.0455	1.0272	0.9909	1.0463	1.0133	1.0189	1.0353	0.9731	1.0030
2008	104.19	1.1125	1.1209	1.1446	1.1263	1.0901	1.1455	1.1124	1.1180	1.1345	1.0722	1.1021
2009	106.41	1.0330	1.0474	1.0637	1.0462	1.0176	1.0645	1.0335	1.0382	1.0540	1.0057	1.0295
2010	108.52	0.9936	1.0080	1.0243	1.0068	0.9782	1.0252	0.9941	0.9989	1.0146	0.9664	0.9902
2011	110.74	0.9665	0.9809	0.9973	0.9797	0.9511	0.9981	0.9671	0.9718	0.9875	0.9393	0.9631
2012	113.37	0.9533	0.9681	0.9848	0.9668	0.9376	0.9856	0.9539	0.9587	0.9748	0.9255	0.9498
2013	116.23	0.9523	0.9674	0.9845	0.9661	0.9362	0.9854	0.9529	0.9578	0.9743	0.9238	0.9487
2014	119.10	0.9518	0.9673	0.9848	0.9660	0.9353	0.9857	0.9524	0.9575	0.9744	0.9226	0.9481
2015	122.01	0.9513	0.9672	0.9851	0.9659	0.9344	0.9860	0.9519	0.9571	0.9744	0.9214	0.9476
2016	125.15	0.9512	0.9675	0.9859	0.9661	0.9339	0.9868	0.9519	0.9572	0.9749	0.9206	0.9474
2017	128.51	0.9894	1.0061	1.0250	1.0047	0.9716	1.0259	0.9901	0.9955	1.0137	0.9580	0.9855
2018	131.98	1.0129	1.0300	1.0494	1.0286	0.9947	1.0504	1.0136	1.0192	1.0379	0.9806	1.0089
2019	135.56	1.0203	1.0379	1.0578	1.0364	1.0016	1.0587	1.0210	1.0267	1.0459	0.9872	1.0161
2020	139.20	1.0502	1.0682	1.0886	1.0667	1.0310	1.0897	1.0509	1.0568	1.0765	1.0162	1.0459
2021	142.93	1.0720	1.0904	1.1114	1.0889	1.0522	1.1124	1.0727	1.0787	1.0989	1.0370	1.0676
2022	146.76	1.1076	1.1266	1.1481	1.1250	1.0874	1.1491	1.1083	1.1146	1.1353	1.0718	1.1031
2023	150.69	1.1474	1.1669	1.1889	1.1652	1.1266	1.1900	1.1481	1.1545	1.1758	1.1106	1.1428
2024	154.73	1.1881	1.2081	1.2307	1.2064	1.1668	1.2318	1.1889	1.1954	1.2172	1.1504	1.1834
2025	158.85	1.2174	1.2379	1.2611	1.2362	1.1955	1.2623	1.2182	1.2249	1.2473	1.1787	1.2126

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Historical Throughput and Customer Counts**

<u>Business Type</u>	<u>therms_</u> <u>2006</u> <u>Temp. Adj.</u>	<u>meters_</u> <u>2006</u>	<u>meters_</u> <u>2006_</u> <u>ExCust</u>	<u>meters_</u> <u>2006_</u> <u>NewCust</u>	<u>avgUse_</u> <u>2006_</u> <u>ExCust</u>	<u>avgUse_</u> <u>2006_</u> <u>NewCust</u>	<u>Price</u> <u>Elasticity</u>	<u>Employment</u> <u>Elasticity</u>
Mining	87074.59	7	7	0	11248.33	0.00	0.000000	0.321451
Food	3433938.26	297	295	2	12661.51	30199.95	-0.190795	1.242506
Textile	58445.52	31	30	1	2202.55	0.00	0.000000	0.033325
Wood_Paper	252789.31	23	23	0	5697.22	0.00	0.000000	0.508272
Chemical	2502145.00	76	76	0	28646.10	0.00	-0.080517	0.650067
Petroleum	13566.18	3	3	0	3137.41	0.00	-0.180563	0.084537
Stone	824552.18	39	39	0	19923.46	0.00	0.000000	0.416909
Prim_Metal	321038.94	16	16	0	19948.15	0.00	0.000000	0.956685
Fab_Metal	1162949.59	182	181	1	5751.55	9135.21	-0.137441	1.023881
Transport	2396791.21	67	67	0	31555.37	0.00	0.000000	0.402505
Misc	7533411.14	699	692	7	11153.39	38838.04	-0.108307	0.879307
Total	18,586,702							

**San Diego Gas and Electric Company
 2009 BCAP - 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
 2009 BCAP - 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
 2009 BCAP - 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
 2009 BCAP - 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	

**San Diego Gas and Electric Company
 2009 BCAP - 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
 2009 BCAP - 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
 2009 BCAP - 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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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	-
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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	-
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	-

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 UEC, Equipment Cost and Efficiency Shares**

**Where Fuel = 1 (gas) and = 2 (electric), and
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<u>Business Type</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>EQcost</u>
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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	-

**San Diego Gas and Electric Company
 2009 BCAP - 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>
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
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
 2009 BCAP - Industrial GN3
 Employment Forecast (in thousands)**

YEAR	Mining	Food	Wood_Pap				Chemical	Petroleum	Stone	Primary_M Fabricated_ Transportat		Miscellane	Total
			er	er	etal	Metal				ion	ous		
2006	2091	13511	4724	3256	4688	673	3213	1192	10713	9808	50214	104084	
2007	2180	13590	4450	3090	4745	661	3165	1151	10647	9564	49243	102486	
2008	2207	13569	4367	3026	4783	650	3135	1094	10699	9542	48419	101492	
2009	2158	13660	4358	3042	4869	638	3138	1072	10824	9546	48022	101328	
2010	2090	13799	4379	3111	4980	634	3169	1061	10849	9535	48094	101699	
2011	2008	13932	4360	3158	5084	629	3181	1062	10906	9497	48165	101982	
2012	1925	13977	4287	3159	5154	619	3164	1057	11097	9418	47954	101810	
2013	1854	14025	4212	3153	5218	609	3142	1050	11241	9343	47772	101619	
2014	1790	14101	4159	3158	5292	601	3130	1043	11376	9281	47781	101712	
2015	1731	14191	4125	3179	5381	595	3126	1036	11571	9216	47818	101969	
2016	1682	14304	4109	3208	5475	589	3126	1033	11819	9162	48105	102610	
2017	1639	14417	4114	3226	5577	585	3137	1036	12089	9125	48631	103576	
2018	1601	14522	4127	3231	5667	582	3157	1031	12189	9107	48933	104147	
2019	1577	14602	4127	3216	5731	577	3172	1020	12164	9074	48800	104058	
2020	1573	14689	4129	3201	5795	572	3179	1005	12096	9052	48602	103893	
2021	1574	14779	4133	3193	5866	568	3182	992	12054	9015	48455	103809	
2022	1576	14848	4143	3182	5939	566	3175	976	11958	8993	48447	103803	
2023	1579	14911	4140	3169	6017	564	3159	962	11893	8989	48567	103948	
2024	1583	14978	4132	3161	6081	560	3132	948	11834	8996	48679	104084	
2025	1587	15052	4137	3162	6145	557	3102	934	11764	9006	48827	104273	

San Diego Gas and Electric Company
2009 BCAP - Industrial GN3
Core Industrial Demand Forecast (MDth)
Average Temperature

YEAR	<u>Model Output</u>		<u>GN-3 - Ind</u>
	<u>GN-3 - Ind</u>	<u>DSM</u>	
2006	1,850.8	0.0	1,850.8
2007	1,815.2	3.9	1,811.3
2008	1,778.0	9.2	1,768.7
2009	1,784.3	15.1	1,769.2
2010	1,787.9	21.6	1,766.4
2011	1,789.6	28.6	1,761.0
2012	1,784.2	36.2	1,748.0
2013	1,776.8	44.4	1,732.5
2014	1,772.1	52.5	1,719.6
2015	1,769.2	57.4	1,711.8
2016	1,770.3	61.1	1,709.2
2017	1,768.6	65.3	1,703.3
2018	1,765.8	68.2	1,697.6
2019	1,759.6	70.5	1,689.2
2020	1,750.1	72.2	1,677.9
2021	1,742.9	73.3	1,669.6
2022	1,734.3	73.9	1,660.4
2023	1,726.8	73.9	1,652.9
2024	1,719.9	73.9	1,645.9
2025	1,715.3	73.9	1,641.4

San Diego Gas and Electric Company
2009 BCAP - Industrial GN3
Core Industrial Demand Forecast (MDth)
Cold Temperature

<u>YEAR</u>	<u>Model Output</u>		<u>GN-3 - Ind</u>
	<u>GN-3 - Ind</u>	<u>DSM</u>	
2006	1,947.1	0.0	1,947.1
2007	1,909.6	4.1	1,905.5
2008	1,870.4	9.7	1,860.7
2009	1,877.1	15.9	1,861.2
2010	1,880.9	22.7	1,858.2
2011	1,882.7	30.1	1,852.6
2012	1,877.0	38.1	1,838.9
2013	1,869.2	46.7	1,822.6
2014	1,864.2	55.3	1,809.0
2015	1,861.2	60.4	1,800.8
2016	1,862.4	64.3	1,798.1
2017	1,860.6	68.7	1,791.9
2018	1,857.6	71.7	1,785.9
2019	1,851.1	74.1	1,777.0
2020	1,841.1	75.9	1,765.1
2021	1,833.5	77.1	1,756.4
2022	1,824.4	77.8	1,746.7
2023	1,816.6	77.8	1,738.9
2024	1,809.3	77.8	1,731.5
2025	1,804.5	77.8	1,726.7

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Core Industrial Demand Forecast (MDth)
 Hot Temperature**

YEAR	Model Output GN-3 - Ind	DSM	GN-3 - Ind
2006	1,754.6	0.0	1,754.6
2007	1,720.9	3.7	1,717.1
2008	1,685.5	8.8	1,676.7
2009	1,691.5	14.3	1,677.2
2010	1,695.0	20.5	1,674.5
2011	1,696.6	27.1	1,669.5
2012	1,691.4	34.3	1,657.1
2013	1,684.4	42.1	1,642.4
2014	1,679.9	49.8	1,630.1
2015	1,677.2	54.4	1,622.8
2016	1,678.3	57.9	1,620.4
2017	1,676.6	61.9	1,614.7
2018	1,673.9	64.6	1,609.3
2019	1,668.1	66.8	1,601.3
2020	1,659.1	68.4	1,590.6
2021	1,652.3	69.5	1,582.8
2022	1,644.1	70.1	1,574.0
2023	1,637.0	70.1	1,567.0
2024	1,630.4	70.1	1,560.4
2025	1,626.1	70.1	1,556.0

**San Diego Gas and Electric Company
 2009 BCAP - Industrial GN3
 Core Industrial Demand Forecast (MDth)
 Base Temperature**

<u>YEAR</u>	<u>Model Output GN-3 - Ind</u>	<u>DSM</u>	<u>GN-3 - Ind</u>
2006	1,489.7	0.0	1,489.7
2007	1,461.0	3.2	1,457.8
2008	1,431.0	7.6	1,423.4
2009	1,436.1	12.1	1,424.0
2010	1,439.0	17.3	1,421.7
2011	1,440.4	23.0	1,417.4
2012	1,436.0	29.2	1,406.8
2013	1,430.1	35.9	1,394.2
2014	1,426.3	42.4	1,383.9
2015	1,423.9	46.3	1,377.7
2016	1,424.8	49.1	1,375.7
2017	1,423.5	52.6	1,370.9
2018	1,421.2	55.0	1,366.2
2019	1,416.3	56.9	1,359.3
2020	1,408.5	58.4	1,350.1
2021	1,402.8	59.3	1,343.5
2022	1,395.8	59.8	1,336.0
2023	1,389.9	59.7	1,330.1
2024	1,384.2	59.7	1,324.5
2025	1,380.5	59.6	1,320.9

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**SDG&E NATURAL GAS VEHICLES DEMAND FORECAST
FEBRUARY 2008**

Year	SDG&E								
	Volumetric Growth Rate	Uncompressed			Compressed				
					Total			Public Access Use	
		stations	ccf	therms	stations	ccf	therms	ccf	therms
2006	-	32	10,095,692	10,272,367	6	119,915	122,013	39,572	40,264
2007	2.285%	34	10,326,334	10,507,045	6	122,654	124,801	40,476	41,184
2008	12.91%	36	11,659,464	11,863,505	6	138,489	140,913	91,403	93,002
2009	12.91%	38	13,164,701	13,395,083	6	156,368	159,104	103,203	105,009
2010	12.91%	40	14,864,264	15,124,388	7	176,555	179,645	116,526	118,566
2011	12.91%	43	16,783,240	17,076,947	7	199,348	202,837	131,570	133,872
2012	12.91%	45	18,949,956	19,281,581	7	225,084	229,023	148,555	151,155
2009 - 2011 Average	-	-	14,937,401	15,198,806	-	177,424	180,529	117,100	119,149

Footnotes:

¹ 2007 volumetric growth rate based on year to date trend. 2008 through 2012 volumetric growth rate taken from the "Moderate Case" natural gas transportation fuel use forecast, State Alternative Fuels Plan, CEC-600-2007-011-CTF, Table-4, page 34

² Uncompressed station growth rate was assumed to be 6% based on actual station growth rate from 2004 through 2006. Compressed station growth rate based on Climate Action Initiative proposal growth plan.

³ Conversion to therms assumes 1.0302 therms per ccf for SoCalGas and 1.0175 therms per ccf for SDG&E.

⁴ Compressed volume is the total volume at utility-owned CNG stations and is a subset of overall uncompressed volumes.

⁵ Public access use is that portion of compressed volumes sold to the general public. The % allocated to public access use is based upon actual 2006 volumes. Projections for 2008 through 2012 account for added public access load expected from increased use of natural gas vehicles, which equates to an allocation percentage of 91.5% for SoCalGas and an allocation percentage of 66% for SDG&E.

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**SDG&E NONCORE COMMERCIAL & INDUSTRIAL AND
SMALL COGENERATION DEMAND FORECAST
FEBRUARY 2008**

Units are in MDth

Date	Year	GTNC	DSM	Net	Cogen < 3M	Cogen > 3M
Jan-06	2006	573	0	573	173	553
Feb-06	2006	578	0	578	178	596
Mar-06	2006	518	0	518	176	518
Apr-06	2006	605	0	605	192	558
May-06	2006	486	0	486	174	1,037
Jun-06	2006	371	0	371	195	1,521
Jul-06	2006	366	0	366	196	1,499
Aug-06	2006	305	0	305	218	1,571
Sep-06	2006	340	0	340	225	1,554
Oct-06	2006	313	0	313	292	1,512
Nov-06	2006	354	0	354	238	1,496
Dec-06	2006	321	0	321	205	1,425
Jan-07	2007	385	25	360	211	1,433
Feb-07	2007	348	25	323	190	1,294
Mar-07	2007	385	25	360	211	1,433
Apr-07	2007	373	25	348	204	1,387
May-07	2007	385	25	360	211	1,433
Jun-07	2007	373	25	348	204	1,387
Jul-07	2007	385	25	360	211	1,433
Aug-07	2007	385	25	360	211	1,433
Sep-07	2007	373	25	348	204	1,387
Oct-07	2007	385	25	360	211	1,433
Nov-07	2007	373	25	348	204	1,387
Dec-07	2007	385	25	360	211	1,433
Jan-08	2008	390	34	356	213	1,442
Feb-08	2008	352	34	318	192	1,303
Mar-08	2008	390	34	356	213	1,442
Apr-08	2008	377	34	343	206	1,396
May-08	2008	390	34	356	213	1,442
Jun-08	2008	377	34	343	206	1,396
Jul-08	2008	390	34	356	213	1,442
Aug-08	2008	390	34	356	213	1,442
Sep-08	2008	377	34	343	206	1,396
Oct-08	2008	390	34	356	213	1,442
Nov-08	2008	377	34	343	206	1,396
Dec-08	2008	390	34	356	213	1,442
Jan-09	2009	395	44	351	215	1,452
Feb-09	2009	356	44	312	194	1,312
Mar-09	2009	395	44	351	215	1,452
Apr-09	2009	382	44	338	208	1,405
May-09	2009	395	44	351	215	1,452
Jun-09	2009	382	44	338	208	1,405
Jul-09	2009	395	44	351	215	1,452
Aug-09	2009	395	44	351	215	1,452
Sep-09	2009	382	44	338	208	1,405
Oct-09	2009	395	44	351	215	1,452
Nov-09	2009	382	44	338	208	1,405
Dec-09	2009	395	44	351	215	1,452
Jan-10	2010	399	55	345	217	1,462
Feb-10	2010	361	55	306	196	1,321

Units are in MDth

Date	Year	GTNC	DSM	Net	Cogen < 3M	Cogen > 3M
Mar-10	2010	399	55	345	217	1,462
Apr-10	2010	386	55	332	210	1,415
May-10	2010	399	55	345	217	1,462
Jun-10	2010	386	55	332	210	1,415
Jul-10	2010	399	55	345	217	1,462
Aug-10	2010	399	55	345	217	1,462
Sep-10	2010	386	55	332	210	1,415
Oct-10	2010	399	55	345	217	1,462
Nov-10	2010	386	55	332	210	1,415
Dec-10	2010	399	55	345	217	1,462
Jan-11	2011	404	66	338	219	1,472
Feb-11	2011	365	66	299	198	1,330
Mar-11	2011	404	66	338	219	1,472
Apr-11	2011	391	66	325	212	1,425
May-11	2011	404	66	338	219	1,472
Jun-11	2011	391	66	325	212	1,425
Jul-11	2011	404	66	338	219	1,472
Aug-11	2011	404	66	338	219	1,472
Sep-11	2011	391	66	325	212	1,425
Oct-11	2011	404	66	338	219	1,472
Nov-11	2011	391	66	325	212	1,425
Dec-11	2011	404	66	338	219	1,472
Jan-12	2012	409	79	330	221	1,483
Feb-12	2012	369	79	291	199	1,339
Mar-12	2012	409	79	330	221	1,483
Apr-12	2012	396	79	317	214	1,435
May-12	2012	409	79	330	221	1,483
Jun-12	2012	396	79	317	214	1,435
Jul-12	2012	409	79	330	221	1,483
Aug-12	2012	409	79	330	221	1,483
Sep-12	2012	396	79	317	214	1,435
Oct-12	2012	409	79	330	221	1,483
Nov-12	2012	396	79	317	214	1,435
Dec-12	2012	409	79	330	221	1,483
Jan-13	2013	414	93	322	223	1,493
Feb-13	2013	374	93	281	201	1,349
Mar-13	2013	414	93	322	223	1,493
Apr-13	2013	401	93	308	216	1,445
May-13	2013	414	93	322	223	1,493
Jun-13	2013	401	93	308	216	1,445
Jul-13	2013	414	93	322	223	1,493
Aug-13	2013	414	93	322	223	1,493
Sep-13	2013	401	93	308	216	1,445
Oct-13	2013	414	93	322	223	1,493
Nov-13	2013	401	93	308	216	1,445
Dec-13	2013	414	93	322	223	1,493
Jan-14	2014	419	106	313	225	1,504
Feb-14	2014	379	106	272	203	1,359
Mar-14	2014	419	106	313	225	1,504
Apr-14	2014	406	106	299	218	1,456

Units are in MDth

Date	Year	GTNC	DSM	Net	Cogen < 3M	Cogen > 3M
May-14	2014	419	106	313	225	1,504
Jun-14	2014	406	106	299	218	1,456
Jul-14	2014	419	106	313	225	1,504
Aug-14	2014	419	106	313	225	1,504
Sep-14	2014	406	106	299	218	1,456
Oct-14	2014	419	106	313	225	1,504
Nov-14	2014	406	106	299	218	1,456
Dec-14	2014	419	106	313	225	1,504
Jan-15	2015	424	108	316	227	1,515
Feb-15	2015	383	108	275	205	1,369
Mar-15	2015	424	108	316	227	1,515
Apr-15	2015	411	108	302	220	1,466
May-15	2015	424	108	316	227	1,515
Jun-15	2015	411	108	302	220	1,466
Jul-15	2015	424	108	316	227	1,515
Aug-15	2015	424	108	316	227	1,515
Sep-15	2015	411	108	302	220	1,466
Oct-15	2015	424	108	316	227	1,515
Nov-15	2015	411	108	302	220	1,466
Dec-15	2015	424	108	316	227	1,515
Jan-16	2016	430	115	314	229	1,526
Feb-16	2016	388	115	273	207	1,379
Mar-16	2016	430	115	314	229	1,526
Apr-16	2016	416	115	301	222	1,477
May-16	2016	430	115	314	229	1,526
Jun-16	2016	416	115	301	222	1,477
Jul-16	2016	430	115	314	229	1,526
Aug-16	2016	430	115	314	229	1,526
Sep-16	2016	416	115	301	222	1,477
Oct-16	2016	430	115	314	229	1,526
Nov-16	2016	416	115	301	222	1,477
Dec-16	2016	430	115	314	229	1,526
Jan-17	2017	435	103	331	232	1,538
Feb-17	2017	393	103	289	209	1,389
Mar-17	2017	435	103	331	232	1,538
Apr-17	2017	421	103	317	224	1,488
May-17	2017	435	103	331	232	1,538
Jun-17	2017	421	103	317	224	1,488
Jul-17	2017	435	103	331	232	1,538
Aug-17	2017	435	103	331	232	1,538
Sep-17	2017	421	103	317	224	1,488
Oct-17	2017	435	103	331	232	1,538
Nov-17	2017	421	103	317	224	1,488
Dec-17	2017	435	103	331	232	1,538
Jan-18	2018	440	108	332	234	1,550
Feb-18	2018	398	108	290	211	1,400
Mar-18	2018	440	108	332	234	1,550
Apr-18	2018	426	108	318	226	1,500
May-18	2018	440	108	332	234	1,550
Jun-18	2018	426	108	318	226	1,500

Units are in MDth

Date	Year	GTNC	DSM	Net	Cogen < 3M	Cogen > 3M
Jul-18	2018	440	108	332	234	1,550
Aug-18	2018	440	108	332	234	1,550
Sep-18	2018	426	108	318	226	1,500
Oct-18	2018	440	108	332	234	1,550
Nov-18	2018	426	108	318	226	1,500
Dec-18	2018	440	108	332	234	1,550
Jan-19	2019	446	112	334	236	1,562
Feb-19	2019	403	112	291	213	1,410
Mar-19	2019	446	112	334	236	1,562
Apr-19	2019	431	112	319	229	1,511
May-19	2019	446	112	334	236	1,562
Jun-19	2019	431	112	319	229	1,511
Jul-19	2019	446	112	334	236	1,562
Aug-19	2019	446	112	334	236	1,562
Sep-19	2019	431	112	319	229	1,511
Oct-19	2019	446	112	334	236	1,562
Nov-19	2019	431	112	319	229	1,511
Dec-19	2019	446	112	334	236	1,562
Jan-20	2020	451	115	337	239	1,574
Feb-20	2020	408	115	293	215	1,421
Mar-20	2020	451	115	337	239	1,574
Apr-20	2020	437	115	322	231	1,523
May-20	2020	451	115	337	239	1,574
Jun-20	2020	437	115	322	231	1,523
Jul-20	2020	451	115	337	239	1,574
Aug-20	2020	451	115	337	239	1,574
Sep-20	2020	437	115	322	231	1,523
Oct-20	2020	451	115	337	239	1,574
Nov-20	2020	437	115	322	231	1,523
Dec-20	2020	451	115	337	239	1,574
Jan-21	2021	457	117	340	241	1,586
Feb-21	2021	413	117	296	218	1,433
Mar-21	2021	457	117	340	241	1,586
Apr-21	2021	442	117	326	233	1,535
May-21	2021	457	117	340	241	1,586
Jun-21	2021	442	117	326	233	1,535
Jul-21	2021	457	117	340	241	1,586
Aug-21	2021	457	117	340	241	1,586
Sep-21	2021	442	117	326	233	1,535
Oct-21	2021	457	117	340	241	1,586
Nov-21	2021	442	117	326	233	1,535
Dec-21	2021	457	117	340	241	1,586
Jan-22	2022	463	118	345	243	1,599
Feb-22	2022	418	118	300	220	1,444
Mar-22	2022	463	118	345	243	1,599
Apr-22	2022	448	118	330	236	1,547
May-22	2022	463	118	345	243	1,599
Jun-22	2022	448	118	330	236	1,547
Jul-22	2022	463	118	345	243	1,599
Aug-22	2022	463	118	345	243	1,599

Units are in MDth

Date	Year	GTNC	DSM	Net	Cogen < 3M	Cogen > 3M
Sep-22	2022	448	118	330	236	1,547
Oct-22	2022	463	118	345	243	1,599
Nov-22	2022	448	118	330	236	1,547
Dec-22	2022	463	118	345	243	1,599
Jan-23	2023	469	118	351	246	1,612
Feb-23	2023	423	118	306	222	1,456
Mar-23	2023	469	118	351	246	1,612
Apr-23	2023	454	118	336	238	1,560
May-23	2023	469	118	351	246	1,612
Jun-23	2023	454	118	336	238	1,560
Jul-23	2023	469	118	351	246	1,612
Aug-23	2023	469	118	351	246	1,612
Sep-23	2023	454	118	336	238	1,560
Oct-23	2023	469	118	351	246	1,612
Nov-23	2023	454	118	336	238	1,560
Dec-23	2023	469	118	351	246	1,612
Jan-24	2024	475	118	357	248	1,625
Feb-24	2024	429	118	311	224	1,467
Mar-24	2024	475	118	357	248	1,625
Apr-24	2024	459	118	342	240	1,572
May-24	2024	475	118	357	248	1,625
Jun-24	2024	459	118	342	240	1,572
Jul-24	2024	475	118	357	248	1,625
Aug-24	2024	475	118	357	248	1,625
Sep-24	2024	459	118	342	240	1,572
Oct-24	2024	475	118	357	248	1,625
Nov-24	2024	459	118	342	240	1,572
Dec-24	2024	475	118	357	248	1,625
Jan-25	2025	481	118	363	251	1,638
Feb-25	2025	434	118	317	227	1,479
Mar-25	2025	481	118	363	251	1,638
Apr-25	2025	465	118	348	243	1,585
May-25	2025	481	118	363	251	1,638
Jun-25	2025	465	118	348	243	1,585
Jul-25	2025	481	118	363	251	1,638
Aug-25	2025	481	118	363	251	1,638
Sep-25	2025	465	118	348	243	1,585
Oct-25	2025	481	118	363	251	1,638
Nov-25	2025	465	118	348	243	1,585
Dec-25	2025	481	118	363	251	1,638

	Peak Day (MDth)		
	Candi	Cogen T1	Cogen T2
Dec-06	10.36	6.62	45.97
Dec-07	11.62	6.80	46.22
Dec-08	11.48	6.86	46.53
Dec-09	11.31	6.93	46.85
Dec-10	11.12	6.99	47.17
Dec-11	10.90	7.06	47.50
Dec-12	10.65	7.12	47.83
Dec-13	10.37	7.19	48.17
Dec-14	10.10	7.26	48.52
Dec-15	10.20	7.33	48.88
Dec-16	10.14	7.40	49.24
Dec-17	10.69	7.47	49.61
Dec-18	10.71	7.55	49.99
Dec-19	10.77	7.62	50.37
Dec-20	10.86	7.70	50.76
Dec-21	10.98	7.77	51.16
Dec-22	11.14	7.85	51.57
Dec-23	11.33	7.93	51.98
Dec-24	11.52	8.01	52.41
Dec-25	11.72	8.10	52.84

	DSM Adjustment for C&I, No Adjustment for Cogen		
	GTNC Mth	Com (MDth)	Ind (MDth)
2007	304	3.04	27.40
2008	410	4.10	36.92
2009	527	5.27	47.47
2010	656	6.56	59.04
2011	796	7.96	71.65
2012	948	9.48	85.28
2013	1110	11.10	99.94
2014	1273	12.73	114.60
2015	1298	12.98	116.83
2016	1382	13.82	124.36
2017	1240	12.40	111.61
2018	1297	12.97	116.76
2019	1343	13.43	120.87
2020	1377	13.77	123.96
2021	1400	14.00	126.02
2022	1412	14.12	127.05
2023	1412	14.12	127.05
2024	1412	14.12	127.05
2025	1412	14.12	127.05

Code	Employment	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
AGR	Agriculture	11.13	10.91	10.97	11.02	11.08	11.14	11.20	11.26	11.32	11.38	11.44
CRM	Construction, Resources and Mining	87.79	92.94	96.92	99.27	100.87	101.54	101.97	102.61	103.78	105.32	107.14
EHS	Health	121.34	123.78	127.34	130.01	132.45	134.26	134.99	135.72	136.72	138.08	139.65
FED	Government - Federal Service - Leisure and	39.51	38.76	38.73	38.72	38.73	38.89	39.98	38.83	38.90	38.90	38.88
LHS	Hospitality	145.28	149.28	153.13	156.01	158.52	161.09	163.41	165.41	167.25	169.06	170.91
MFG	Manufacturing	104.21	103.70	102.88	101.76	101.90	102.02	101.78	101.43	101.47	101.60	101.88
MIL	Military	115.64	115.67	117.20	118.95	120.42	122.05	123.53	124.78	126.16	127.74	129.49
SAL	Government - State and Local	175.21	178.03	179.01	181.70	183.20	186.07	188.45	190.94	192.99	195.83	198.72
TWU	Tranportation, Warehousing & Utilities	28.35	28.52	28.90	29.42	30.07	30.92	31.90	32.83	33.67	34.52	35.49

	Annual Growth	20-Year Avg										
AGR	Agriculture	1.0053	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
CRM	Construction, Resources and Mining	1.0164	4.29%	2.42%	1.61%	0.67%	0.42%	0.63%	1.14%	1.49%	1.73%	
EHS	Health	1.0184	2.87%	2.10%	1.88%	1.37%	0.54%	0.54%	0.74%	0.99%	1.14%	
FED	Government - Federal Service - Leisure and	0.9988	-0.08%	-0.04%	0.02%	0.43%	2.79%	-2.86%	0.17%	0.01%	-0.05%	
LHS	Hospitality	1.0131	2.58%	1.88%	1.61%	1.62%	1.44%	1.23%	1.11%	1.08%	1.09%	
MFG	Manufacturing	1.0008	-0.79%	-1.09%	0.14%	0.12%	-0.24%	-0.34%	0.04%	0.13%	0.27%	
MIL	Military	1.0134	1.33%	1.49%	1.23%	1.36%	1.22%	1.01%	1.11%	1.25%	1.37%	
SAL	Government - State and Local	1.0113	0.55%	1.50%	0.83%	1.57%	1.28%	1.32%	1.08%	1.47%	1.48%	
TWU	Tranportation, Warehousing & Utilities	1.0215	1.34%	1.81%	2.21%	2.82%	3.17%	2.92%	2.56%	2.51%	2.82%	
	WACOG (\$/Therm)	58.06	74.34	62.53	64.63	79.53	77.52	73.23	69.31	66.29	64.70	63.18
	Price Elasticity	-0.073	-1.80%	1.26%	-0.24%	-1.51%	0.19%	0.42%	0.40%	0.32%	0.18%	0.17%

Code	Employment	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AGR	Agriculture	11.50	11.56	11.63	11.69	11.75	11.81	11.88	11.94	12.00	12.07	12.13
CRM	Construction, Resources and Mining	109.09	111.13	113.11	115.11	117.03	119.01	120.86	122.70	124.60	126.53	128.65
EHS	Health	141.46	143.88	147.03	150.53	154.23	158.01	162.13	166.20	170.16	173.98	178.01
FED	Government - Federal Service - Leasure and	38.86	38.78	38.68	38.57	38.54	39.40	38.28	38.16	38.04	37.93	37.82
LHS	Hospitality	172.86	174.87	176.87	178.97	181.25	183.57	185.72	187.82	189.91	191.85	193.67
MFG	Manufacturing	102.31	102.80	103.27	103.74	104.10	104.30	104.52	104.70	104.95	105.20	105.43
MIL	Military	131.28	133.14	135.01	136.92	138.79	140.78	142.69	144.67	146.67	148.71	150.83
SAL	Government - State and Local	201.40	203.77	206.06	207.69	209.21	211.48	213.47	215.68	217.87	220.17	222.67
TWU	Tranportation, Warehousing & Utilities	36.55	37.39	38.02	38.69	39.41	40.03	40.70	41.39	42.10	42.83	43.64
Annual Growth												
AGR	Agriculture	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
CRM	Construction, Resources and Mining	1.82%	1.87%	1.78%	1.77%	1.67%	1.69%	1.55%	1.52%	1.55%	1.55%	1.68%
EHS	Health	1.29%	1.71%	2.18%	2.39%	2.46%	2.45%	2.61%	2.51%	2.38%	2.25%	2.32%
FED	Government - Federal Service - Leasure and	-0.07%	-0.19%	-0.27%	-0.29%	-0.07%	2.23%	-2.85%	-0.31%	-0.30%	-0.29%	-0.30%
LHS	Hospitality	1.14%	1.17%	1.14%	1.19%	1.27%	1.28%	1.17%	1.13%	1.11%	1.03%	0.95%
MFG	Manufacturing	0.42%	0.48%	0.46%	0.45%	0.35%	0.18%	0.21%	0.17%	0.24%	0.24%	0.21%
MIL	Military	1.39%	1.42%	1.40%	1.41%	1.37%	1.43%	1.36%	1.39%	1.39%	1.39%	1.43%
SAL	Government - State and Local	1.35%	1.17%	1.12%	0.79%	0.73%	1.09%	0.94%	1.03%	1.01%	1.06%	1.14%
TWU	Tranportation, Warehousing & Utilities	2.99%	2.28%	1.69%	1.76%	1.85%	1.59%	1.66%	1.70%	1.73%	1.73%	1.87%
	WACOG (\$/Therm)	61.72	60.30	61.90	62.28	61.42	62.23	62.41	63.54	64.87	66.18	66.63
	Price Elasticity	0.17%	0.17%	-0.19%	-0.04%	0.10%	-0.10%	-0.02%	-0.13%	-0.15%	-0.15%	-0.05%

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**SDG&E METER FORECAST
FEBRUARY 2008**

**SAN DIEGO GAS and ELECTRIC COMPANY: CUSTOMER FORECAST
 2009 BCAP
 (annual averages)**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Residential	798,253	812,434	825,747	839,422	853,063	866,373	879,758	893,627	908,053	922,662
Core C/I	29,588	29,834	30,050	30,257	30,453	30,636	30,808	30,978	31,152	31,331
NGV	114	299	311	323	335	347	359	371	383	395
Non-Core C/I	56	57	58	58	59	59	59	60	60	60
Electric Generation	77	82	85	89	92	95	98	102	105	108
TOTAL	828,088	842,707	856,251	870,148	884,001	897,510	911,082	925,138	939,753	954,557

**SAN DIEGO GAS and ELECTRIC COMPANY: CUSTOMER FORECAST
 (annual averages)**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Residential	937,416	952,223	967,143	982,096	997,075	1,012,006	1,026,878	1,041,735	1,056,588	1,071,535
Core C/I	31,514	31,699	31,886	32,074	32,265	32,457	32,648	32,842	33,037	33,235
NGV	408	420	432	444	456	468	480	492	504	516
Non-Core C/I	61	61	61	62	62	62	63	63	64	64
Electric Generation	111	115	118	121	124	128	131	134	137	141
TOTAL	969,510	984,518	999,640	1,014,797	1,029,983	1,045,121	1,060,200	1,075,267	1,090,331	1,105,492

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**SDG&E SERVICE AREA ECONOMIC FORECAST
FEBRUARY 2008**

SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST

(forecast based on Global Insight's "Spring 2007 Long Term" Regional Forecast)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EMPLOYMENT (1000's)												
Total	1,241.7	1,251.3	1,271.4	1,292.8	1,310.9	1,319.9	1,334.9	1,355.1	1,375.0	1,391.7	1,407.2	1,422.0
I: Industrial (all manufacturing + mining)	112.6	105.6	104.7	104.9	104.1	102.5	101.5	101.3	101.7	102.0	101.8	101.6
C1: Office (Financial+Bus. & Professional Svcs)	276.7	281.1	286.5	293.6	297.5	301.9	309.3	319.3	327.0	333.0	337.8	343.0
C2: Restaurants	89.9	93.3	95.9	97.8	102.4	105.7	107.8	110.0	112.2	114.2	115.8	117.0
C3: Retail Trade	138.0	140.8	144.9	147.4	147.6	145.9	148.9	151.9	154.5	156.7	158.0	158.8
C4: Laundry & other Personal Services	13.9	14.2	14.3	15.0	15.7	16.1	16.2	16.3	16.5	16.6	16.8	16.9
C5: Wholesale Trade & Warehouses	45.5	44.0	44.7	46.6	48.1	49.1	50.1	50.8	51.3	51.8	52.0	52.1
C6: Primary & Secondary Schools	89.2	87.3	85.7	87.0	87.7	89.3	90.1	91.0	91.5	92.2	93.2	94.1
C7: Colleges (including other adult education)	30.5	31.7	31.8	32.0	32.5	33.1	33.4	33.8	33.9	34.2	34.5	34.9
C8: Health Services	102.5	103.0	101.6	101.4	103.7	105.5	106.5	107.6	108.1	109.0	110.1	111.2
C9: Accommodation	25.2	26.3	27.7	29.2	30.0	30.9	31.6	32.2	32.9	33.4	33.9	34.3
C10: Misc. (all other commercial employment)	50.3	53.8	55.7	56.4	57.1	58.8	59.3	59.6	60.1	60.8	61.3	61.8
C11: Government (non-education)	117.1	117.2	117.0	117.1	118.5	120.5	121.8	123.2	125.5	126.2	127.7	129.2
C12: Transportation, Information, and Utilities	62.8	61.8	62.3	62.7	62.4	62.7	63.0	64.2	65.4	66.9	68.4	69.7
C13: Construction	76.4	80.2	87.7	90.8	92.6	87.1	84.3	82.9	83.2	83.5	84.6	86.1
C14: Agriculture	11.0	11.2	11.1	10.7	11.0	11.0	11.1	11.1	11.2	11.2	11.3	11.3
OTHER INDICATORS												
Southern California Area Consumer Inflation*	2.8%	2.6%	3.3%	4.5%	4.3%	2.1%	2.0%	2.1%	2.0%	2.0%	2.4%	2.5%
Inflation--US Gross Domestic Product**	1.7%	2.1%	2.8%	3.0%	2.9%	2.5%	1.9%	2.0%	2.1%	2.2%	2.1%	2.0%
Housing Permits, Single-Family***	5,989	8,859	7,751	7,354	6,024	4,386	5,254	6,013	6,430	6,553	6,752	7,009
Housing Permits, Multi-Family***	9,749	9,455	9,555	7,904	4,753	3,985	4,020	5,453	6,767	7,064	7,259	7,464

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

** Chained Price Index--US GDP. Through 2017 from Global Insight May 2007 US forecast; after 2017 from Global Insight Feb. 2007 US long-term forecast

*** New housing permits for San Diego County

SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST

(forecast based on Global Insight's "Spring 2007 Long Term" Regional Forecast)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EMPLOYMENT (1000's)												
Total	1,438.1	1,453.9	1,469.8	1,486.4	1,503.1	1,519.6	1,537.3	1,554.6	1,573.0	1,592.4	1,611.8	1,631.4
I: Industrial (all manufacturing + mining)	101.7	102.0	102.6	103.6	104.1	104.1	103.9	103.8	103.8	103.9	104.1	104.3
C1: Office (Financial+Bus. & Professional Svcs)	349.4	355.6	361.7	367.9	374.5	381.1	387.8	394.4	401.3	408.9	417.0	424.9
C2: Restaurants	118.1	119.2	120.2	121.1	122.1	123.2	124.5	125.8	127.1	128.4	129.7	131.0
C3: Retail Trade	159.4	159.4	159.1	158.6	158.4	158.3	158.5	158.8	159.3	159.9	160.4	161.0
C4: Laundry & other Personal Services	17.0	17.2	17.3	17.5	17.6	17.7	17.8	18.0	18.1	18.3	18.5	18.6
C5: Wholesale Trade & Warehouses	52.3	52.4	52.7	53.0	53.5	54.0	54.5	54.9	55.5	56.1	56.7	57.5
C6: Primary & Secondary Schools	95.1	96.2	97.3	98.6	100.2	102.1	104.0	106.0	107.9	109.8	111.5	113.3
C7: Colleges (including other adult education)	35.3	35.7	36.1	36.6	37.2	37.8	38.5	39.3	40.0	40.7	41.3	42.0
C8: Health Services	112.3	113.6	114.9	116.5	118.4	120.6	122.8	125.3	127.5	129.7	131.7	133.9
C9: Accommodation	34.6	34.9	35.2	35.5	35.7	36.1	36.5	36.8	37.2	37.6	38.0	38.3
C10: Misc. (all other commercial employment)	62.2	62.7	63.2	63.8	64.2	64.5	65.0	65.5	66.2	66.9	67.5	68.1
C11: Government (non-education)	130.6	132.0	133.2	134.5	135.6	136.7	138.3	138.5	139.4	140.2	141.0	141.9
C12: Transportation, Information, and Utilities	70.9	72.2	73.5	74.7	75.5	76.0	76.6	77.5	78.6	79.7	80.7	81.7
C13: Construction	87.8	89.5	91.2	92.9	94.5	95.7	97.0	98.1	99.2	100.4	101.7	103.0
C14: Agriculture	11.4	11.5	11.5	11.6	11.6	11.7	11.8	11.8	11.9	11.9	12.0	12.0
OTHER INDICATORS												
Southern California Area Consumer Inflation*	2.5%	2.4%	2.6%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
Inflation--US Gross Domestic Product**	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.9%	1.9%	1.9%
Housing Permits, Single-Family***	7,216	7,409	7,493	7,596	7,647	7,660	7,702	7,744	7,817	7,894	7,979	8,063
Housing Permits, Multi-Family***	7,446	7,514	7,525	7,460	7,383	7,328	7,269	7,193	7,029	6,911	6,890	7,043

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

** Chained Price Index--US GDP. Through 2017 from Global Insight May 2007 US forecast; after 2017 from Global Insight Feb. 2007 US long-term forecast

*** New housing permits for San Diego County

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**SDG&E WEATHER HEATING DEGREE DAYS – AVERAGE AND “COLD” YEAR
DESIGNS; AND WINTER PEAK DAY DESIGN TEMPERATURES
FEBRUARY 2008**

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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 a designated temperature zone as a mnemonic.

Table 1

Temperature Zones with Representative Weather Stations

Temperature Zone	Weight	Station Location
1. Inland (East)	1/3	El Cajon
2. Coastal	1/3	San Diego's Lindberg Field
3. Inland (North)	1/3	Miramar Naval Air Station

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 weights shown in Table 1. These weights are used in calculating the data shown from January 1987 to December 2006.

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/sgx/obs/rtp/rtpmap.php?wfo=sgx>

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 1987 to 2006 are listed in Table 2, below.

Table 2

Calendar Month Heating Degree-Days (Jan. 1987 through Dec. 2006)

<u>Year</u>	<u>Month</u>												<u>Total</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>
1987	329	226	202	75	40	4	2	1	0	4	132	392	1407
1988	287	163	136	101	61	30	0	0	7	9	173	308	1275
1989	360	280	169	60	46	17	0	0	3	24	83	223	1264
1990	274	301	205	66	54	5	0	0	0	1	106	310	1322
1991	258	148	282	121	96	26	0	0	1	32	108	247	1319
1992	243	118	160	14	1	0	0	0	0	3	114	350	1002
1993	268	226	132	65	16	9	0	0	2	7	123	264	1111
1994	229	233	160	125	92	2	0	0	0	30	289	308	1468
1995	266	117	164	128	107	23	0	0	0	7	44	222	1078
1996	236	189	175	72	18	3	0	0	1	74	142	244	1155
1997	256	250	145	102	2	2	0	0	0	16	95	290	1159
1998	254	258	206	195	94	22	1	0	5	31	172	340	1576
1999	277	267	281	223	113	50	3	0	4	4	146	244	1612
2000	247	217	223	93	28	3	0	0	0	50	238	227	1327
2001	353	299	199	197	29	5	0	0	0	9	127	326	1544
2002	316	225	247	156	89	12	0	0	2	53	81	296	1478
2003	142	202	179	185	94	31	0	0	0	7	158	276	1273
2004	273	270	97	66	14	4	1	0	0	52	202	267	1246
2005	246	199	160	118	33	5	0	0	4	38	95	231	1128
2006	275	204	307	145	32	0	0	0	1	36	89	288	1377
20-Yr-Avg (Jan1987-Dec2006)													
Avg.	269.5	219.6	191.4	115.3	52.9	12.7	0.4	0.0	1.4	24.4	135.8	282.7	1306.1
St.Dev.	47.4	53.8	54.7	55.1	37.2	13.6	0.8	0.1	1.9	21.2	58.0	46.9	171.780
Min.	142.0	117.0	96.7	13.7	1.3	0.0	0.0	0.0	0.0	1.3	43.7	222.3	1002.3
Max.	359.7	300.7	307.0	223.3	113.0	49.7	3.3	0.7	6.7	74.0	289.0	392.3	1612.0

II. Calculations to Define Our Average-Temperature Year

The simple average of the 20-year period (January 1987 through December 2006) 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 171.78 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 1,534 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:

$$(3) \quad \text{Cold-year HDD} = 1,654 \text{ which equals approximately} \\
 1,306 \text{ average-year HDDs} + 2.025 * 171.78$$

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 1987 to 2006, as shown as the bottom of Table 2, above. For example, the average-year December value of 282.6 HDD equals the simple average of the 20 December HDD figures from 1987 to 2006, and represents 21.6 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 21.6 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 21.6 percent, or 358.0 HDDs.

Table 3

Calendar Month Heating Degree-Day Designs

SDG&E Heating Degree Day (HDD) Weather Designs

	(Calendar Based)				
	Cold		Average	Hot	
	1-in-35 Design	1-in-10 Design		1-in-10 Design	1-in-35 Design
January	341.3	316.6	269.5	222.5	197.7
February	278.1	258.0	219.6	181.3	161.1
March	242.4	224.8	191.4	158.0	140.4
April	146.0	135.4	115.3	95.1	84.5
May	66.9	62.1	52.9	43.6	38.8
June	16.1	14.9	12.7	10.5	9.3
July	0.4	0.4	0.3	0.3	0.3
August	0.0	0.0	0.0	0.0	0.0
September	1.8	1.7	1.4	1.2	1.0
October	30.9	28.6	24.4	20.1	17.9
November	172.0	159.5	135.8	112.1	99.6
December	358.0	332.0	282.6	233.3	207.3
	1654	1534	1306	1078	958

IV. Calculating the Peak-Day Design Temperature

SDGandE's Peak-Day design temperature of 41.8 degrees Fahrenheit, denoted "Deg-F," is determined from a statistical analysis of observed annual minimum daily system average temperatures constructed from daily temperature recordings from the three U.S. Weather Bureau weather stations discussed above. Since we have a time series of daily data by year, the following notation will be used for the remainder of this discussion:

- (1) $AVG_{y,d}$ = system average value of Temperature
for calendar year "y" and day "d".

The calendar year, y, can range from 1972 through 2006, while the day, d, can range from 1 to 365, for non leap years, or from 1 to 366 for leap years. The "upper" value for the day, d, thus depends on the calendar year, y, and will be denoted by $n(y)=365$, or 366, respectively, when y is a non-leap year or a leap year.

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

- $$(2) \quad \text{MinAVG}_y = \min_{d=1}^{n(y)} \{ AVG_{y,d} \}, \text{ for } y=1972, 1973, \dots, 2006.$$

(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 minimum for 1991 was observed in March).

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:

$$- \text{MinAVG}_y = - \min_{d=1}^{n(y)} \{ \text{AVG}_{y,d} \} = \max_{d=1}^{n(y)} \{ -\text{AVG}_{y,d} \}, \text{ for } y=1972, \dots, 2006;$$

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.

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 GEV model were selected since the fit to the ECDF was better than that of either the EV1 model or the T_Dist model. (Convergence to stable parameter estimates was occasionally a problem with fitting a GEV model to the ECDF; however, convergence was obtained in this case.)

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

$$(3) \quad \text{ECDF}(-\text{MinAVG}_y) = \text{Prob} \{ -T < -\text{MinAVG}_y \} = \exp[-((1 - k \cdot z) (1/k))],$$

where “exp[.]” is the exponential function, and

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

the parameters “k”, “γ” and “θ” are estimated for the GEV model. The estimated values for k, 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*, $TPDD_{\delta}$, with a specified likelihood, δ , that a value less than $TPDD_{\delta}$ would be observed, we use the equation below:

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

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

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

$$(7) \quad \delta = 1 - \exp[-((1 - k \cdot z_{\delta}) (1/k))], \text{ or } (1 - \delta) = \exp[-((1 - k \cdot z_{\delta}) (1/k))],$$

which yields the following equation for z_{δ} ,

$$(7') \quad z_{\delta} = \{1 - [(-\ln(1 - \delta))^{(k)}] (1/k)\}, \text{ where "ln[.]" is the natural}$$

logarithm function. The implied equation for $TPDD_{\delta}$ is:

$$(8) \quad TPDD_{\delta} = - [\gamma + (z_{\delta} \cdot \theta)].$$

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:

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

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

The value of $z_{\delta} = 2.676$ and $TPDD_{\delta} = - [\gamma + (z_{\delta} \cdot \theta)] = 41.8$ degrees Fahrenheit, with values for "k", "γ" and "θ" in Table 5, below.

SDG&E's Peak-Day design temperature of 43.7 degrees Fahrenheit, is calculated in a methodologically similar way as for the 41.8 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.

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

which yields a "z_δ" value of $z_{\delta} = 1.877$ and, $TPDD_{\delta} = - [\gamma + (z_{\delta} \cdot \theta)] = 43.7$, with values for "k", "γ" and "θ" in Table 5, below.

A plot of the cumulative distribution function for $MinAVG_y$ based on the fitted model parameters "k", "γ" and "θ" in Table 5, below, is shown in Figure 1.

Table 4

YEAR	MINAVG	Month(MinAvg)
1972	46.5833	Dec
1973	46.0833	Jan
1974	44.0000	Dec
1975	44.0833	Jan
1976	44.9167	Jan
1977	50.5833	Mar
1978	42.5833	Dec
1979	45.0000	Jan
1980	53.6667	Jan
1981	49.6667	Jan
1982	48.6667	Dec
1983	51.3333	Jan
1984	48.3333	Dec
1985	46.0000	Dec
1986	50.0000	Feb
1987	41.3333	Dec
1988	45.3333	Dec
1989	45.0000	Jan
1990	43.6667	Feb
1991	48.6667	Mar
1992	47.0000	Dec
1993	46.6667	Jan
1994	48.0000	Nov
1995	51.0000	Dec
1996	48.6667	Feb
1997	49.0000	Dec
1998	46.6667	Dec
1999	48.6667	Jan
2000	50.3333	Jan
2001	47.6667	Jan
2002	45.6667	Jan
2003	49.0000	Dec
2004	47.6667	Nov
2005	47.6667	Jan
2006	48.3333	Dec

Table 5

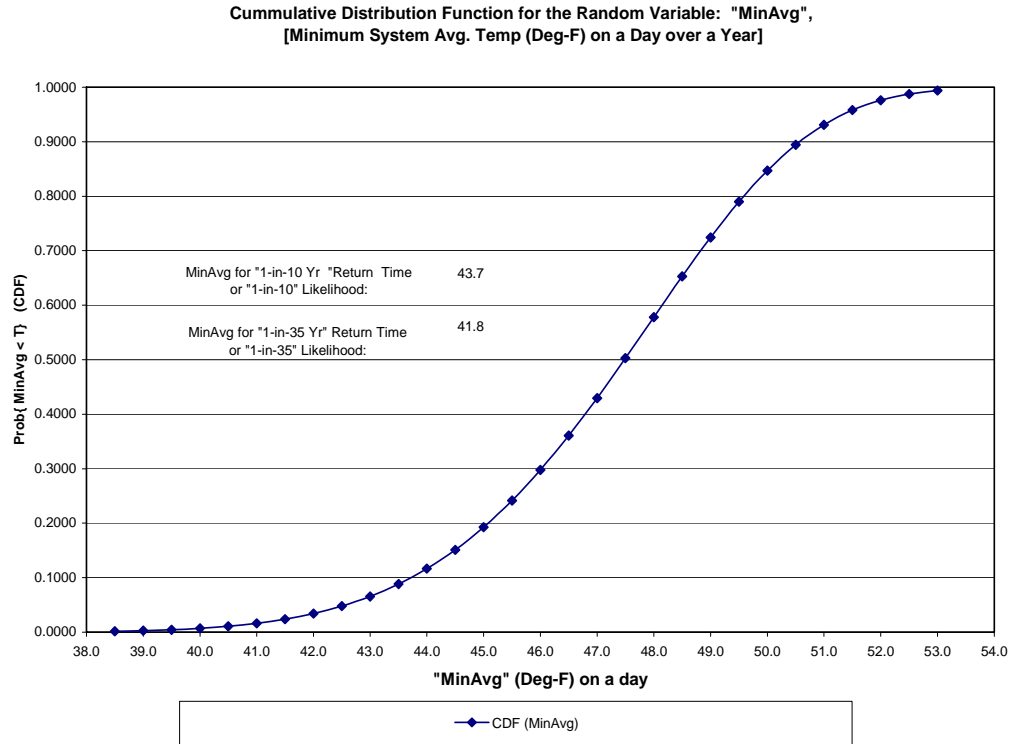
alpha= 0.375

YEAR	Month (-MinAvg)	Days/Yr	-MinAvg	"Rank"	Empirical CDF	"Fitted" Model CDF
1980	Jan	366	-53.6667	1	0.01773	0.00188
1983	Jan	365	-51.3333	2	0.04610	0.05003
1995	Dec	365	-51.0000	3	0.07447	0.06900
1977	Mar	365	-50.5833	4	0.10284	0.09897
2000	Jan	366	-50.3333	5	0.13121	0.12043
1986	Feb	365	-50.0000	6	0.15957	0.15309
1981	Jan	365	-49.6667	7	0.18794	0.19016
1997	Dec	365	-49.0000	8	0.21631	0.27570
2003	Dec	365	-49.0000	9	0.24468	0.27570
1982	Dec	365	-48.6667	10	0.27305	0.32287
1991	Mar	365	-48.6667	11	0.30142	0.32287
1996	Feb	366	-48.6667	12	0.32979	0.32287
1999	Jan	365	-48.6667	13	0.35816	0.32287
1984	Dec	366	-48.3333	14	0.38652	0.37193
2006	Dec	365	-48.3333	15	0.41489	0.37193
1994	Nov	365	-48.0000	16	0.44326	0.42204
2001	Jan	365	-47.6667	17	0.47163	0.47236
2004	Nov	366	-47.6667	18	0.50000	0.47236
2005	Jan	365	-47.6667	19	0.52837	0.47236
1992	Dec	366	-47.0000	20	0.55674	0.57051
1993	Jan	365	-46.6667	21	0.58511	0.61702
1998	Dec	365	-46.6667	22	0.61348	0.61702
1972	Dec	366	-46.5833	23	0.64184	0.62829
1973	Jan	365	-46.0833	24	0.67021	0.69237
1985	Dec	365	-46.0000	25	0.69858	0.70242
2002	Jan	365	-45.6667	26	0.72695	0.74066
1988	Dec	366	-45.3333	27	0.75532	0.77569
1979	Jan	365	-45.0000	28	0.78369	0.80744
1989	Jan	365	-45.0000	29	0.81206	0.80744
1976	Jan	366	-44.9167	30	0.84043	0.81487
1975	Jan	365	-44.0833	31	0.86879	0.87831
1974	Dec	365	-44.0000	32	0.89716	0.88362
1990	Feb	365	-43.6667	33	0.92553	0.90312
1978	Dec	365	-42.5833	34	0.95390	0.94959
1987	Dec	365	-41.3333	35	0.98227	0.97900

Mean{-MinAvg}= -47.3571
 St.Dev{-MinAvg}= 2.6523

"Gamma": "Data Analysis Fitted Est."= -48.36
 "Theta": "Data Analysis Fitted Est."= 2.47
 "Kappa": "Data Analysis Fitted Est."= 0.17

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:

$$\text{RMSE} = \text{SQRT} \left\{ \left(\sum_{i=1, \dots, N} e[i]^2 \right) / (N-3) \right\},$$

where $e[i]$ = *observed* less *fitted* value of temperature, $T[i]$. The number of estimated parameters (3 for the GEV model) 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	53.6667	52.2373	1.4294	2.0431
U	51.3333	51.4135	-0.0802	0.0064
U	51.0000	50.9160	0.0840	0.0071
U	50.5833	50.5360	0.0474	0.0022
U	50.3333	50.2181	0.1152	0.0133
U	50.0000	49.9388	0.0612	0.0037
U	49.6667	49.6856	-0.0189	0.0004
U	49.0000	49.4509	-0.4509	0.2033
U	49.0000	49.2299	-0.2299	0.0529
U	48.6667	49.0192	-0.3526	0.1243
U	48.6667	48.8162	-0.1496	0.0224
U	48.6667	48.6190	0.0477	0.0023
M	48.6667	48.4260	0.2407	0.0579
M	48.3333	48.2358	0.0975	0.0095
M	48.3333	48.0473	0.2860	0.0818
M	48.0000	47.8596	0.1404	0.0197
M	47.6667	47.6715	-0.0048	0.0000
M	47.6667	47.4822	0.1845	0.0340
M	47.6667	47.2907	0.3760	0.1414
M	47.0000	47.0960	-0.0960	0.0092
M	46.6667	46.8970	-0.2304	0.0531
M	46.6667	46.6927	-0.0260	0.0007
M	46.5833	46.4815	0.1019	0.0104
L	46.0833	46.2619	-0.1786	0.0319
L	46.0000	46.0320	-0.0320	0.0010
L	45.6667	45.7894	-0.1227	0.0151
L	45.3333	45.5309	-0.1976	0.0390
L	45.0000	45.2525	-0.2525	0.0638
L	45.0000	44.9485	0.0515	0.0027
L	44.9167	44.6106	0.3061	0.0937
L	44.0833	44.2261	-0.1428	0.0204
L	44.0000	43.7736	0.2264	0.0513
L	43.6667	43.2123	0.4544	0.2065
L	42.5833	42.4461	0.1373	0.0188
L	41.3333	41.1143	0.2190	0.0480
Overall RMSE (e _[i]):				0.3 °F
Lower 3rd RMSE (e _[i]):				0.3 °F
Middle 3rd RMSE (e _[i]):				0.2 °F
Upper 3rd RMSE (e _[i]):				0.5 °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.

$$(2) \quad E[\#Yrs \text{ for Peak-Day Event to Occur}] = 1 / \delta,$$

$$1 / \text{Prob}\{ \text{Minimum Daily Temperature over the Year} < \text{TPDD}_{\delta} \}.$$

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 43.7°F peak-day design temperature, the return period is 10 years (δ=1/10). Occasionally, a less precise terminology is used. For example, the 41.8°F peak-day design temperature may be referred to as a “1-in-35 year cold day”; and the 43.7°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 $\delta = 0.0011$, 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 $\text{TPDD}_{\delta} = 40.5^{\circ}\text{F}$. 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 $\delta = 0.000841$ with $\text{TPDD}_{\delta} = 38.1^{\circ}\text{F}$ for this value of δ .

VIII. Attachment 1: SAS Program Execution Log

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
Workpapers of Herb Emmrich - SDG&E Demand Forecast
Attachment 5

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\2009Bcap\SDGandE\GEV4DlyTemp(NLReg2)_Sdge4WP.sas"
9 /*
10 /* Sep. 19th,2007 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
17
18
19
20
21 options mprint ;
22 /* %cour8p */
23 %cour8l
MPRINT(COUR8L): DM 'dlgprtsetup orient=landscape nodisplay';
MPRINT(COUR8L): OPTIONS LS=158 PS=72;
24
25
26 options ls=211 ps=69 ; **<<LANDSCAPE: SAS-Monospace w/Roman 6pt. Font >>**;
27 *options ls=160 ps=90 ; **<<PORTRAIT: SAS-Monospace w/Roman 6pt. Font >>**;
28
29 options date number notes ;
30
31
32
33 libname out2 'S:\Weather\2009Bcap\SDGandE\';
NOTE: Libref OUT2 was successfully assigned as follows:
Engine: V612
Physical Name: S:\Weather\2009Bcap\SDGandE
34
35
36 proc contents data=out2.SAvgSDGE ;
37 run ;
```

NOTE: The PROCEDURE CONTENTS used 0.12 seconds.

```
38
39 data seriesD ;
40 set out2.SAvgSDGE ;
41 year = year(date) ;
42 month = month(date) ;
43 posAvg = avg ;
44 negAvg = -avg ;
45 run ;
```

NOTE: The data set WORK.SERIESD has 12996 observations and 10 variables.
NOTE: The DATA statement used 0.42 seconds.

```
46
47
48 proc means data=seriesD noprint nway ;
49 class year month ;
50 var posAvg negAvg ;
51 output out=mostat
52 mean=posAvg negAvg
53 max=MxPosAvg MxNegAvg
54 min=MnPosAvg MnNegAvg ;
55 run;
```

NOTE: The data set WORK.MOSTAT has 427 observations and 10 variables.

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NOTE: The PROCEDURE MEANS used 0.11 seconds.

```
56
57
58 proc sort data=mostat ;
59     by year month ;
60 run ;
```

NOTE: The data set WORK.MOSTAT has 427 observations and 10 variables.
NOTE: The PROCEDURE SORT used 0.14 seconds.

```
61
62
63 data mostat ;
64     set mostat ;
65     MxPRatio = MxPosAvg/ PosAvg ;
66     MnPRatio = MnPosAvg/ PosAvg ;
67     MxNRatio = MxNegAvg/ NegAvg ;
68     MnNRatio = MnNegAvg/ NegAvg ;
69 run ;
```

NOTE: The data set WORK.MOSTAT has 427 observations and 14 variables.
NOTE: The DATA statement used 0.15 seconds.

```
70
71
72
73
74
75
76
77 /*****
78 ***<< Print Summary Tables of Means/Minimums/Maximums of daily NEGATIVE-Temperatures (degrees-F). >>*** ;
79
80 proc transpose data=mostat out=AvTData prefix=AvT_ ;
81     where (year < 2007) ;
82     by year;
83     id month ;
84     var NegAvg ;
85 run ;
86
87 data AvTData ;
88     set AvTData ;
89
90 if (mod(year,4)=0) then do ;
91     AvTyr = (AvT_1 + AvT_3 + AvT_5 + AvT_7 + AvT_8 + AvT_10 + AvT_12)*31
92             + (AvT_4 + AvT_6 + AvT_9 + AvT_11)*30
93             + (AvT_2)*29 ;
94     AvTyr = AvTyr / 366 ;
95 end ;
96 else do ;
97     AvTyr = (AvT_1 + AvT_3 + AvT_5 + AvT_7 + AvT_8 + AvT_10 + AvT_12)*31
98             + (AvT_4 + AvT_6 + AvT_9 + AvT_11)*30
99             + (AvT_2)*28 ;
100    AvTyr = AvTyr / 365 ;
101    end ;
102
103 run ;
104
105 proc print data=AvTData ;
106     id year ;
107     var AvTyr AvT_1-AvT_12 ;
108     title3 'Monthly Mean NEGATIVE Temperature (Deg-F) from 1972 thru 2006.';
109 run ;
110
111
112
113
114
115 proc transpose data=mostat out=MnTData prefix=MnT_ ;
116     where (year < 2007) ;
117     by year;
118     id month ;
119     var MnNegAvg ;
```

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```
120 run ;
121
122 data MnTData ;
123   set MnTData ;
124   MnTyr = min(of MnT_1-MnT_12) ;
125 run ;
126
127 proc print data=MnTData ;
128   id year ;
129   var MnTyr MnT_1-MnT_12 ;
130 title3 'Monthly MINIMUM NEGATIVE-Temperature (Deg-F) from 1972 thru 2006.';
131 run ;
132 *****/
133
134
135
136
137
138 proc transpose data=mostat out=MxTData prefix=MxT_ ;
139   where (year < 2007) ;
140   by year;
141   id month ;
142   var MxNegAvg ;
143 run ;
```

NOTE: The data set WORK.MXTDATA has 35 observations and 14 variables.
NOTE: The PROCEDURE TRANSPOSE used 0.1 seconds.

```
144
145 data MxTData ;
146   set MxTData ;
147   MxTyr = max(of MxT_1-MxT_12) ;
148 run ;
```

NOTE: The data set WORK.MXTDATA has 35 observations and 15 variables.
NOTE: The DATA statement used 0.12 seconds.

```
149
150 proc print data=MxTData ;
151   id year ;
152   var MxTyr MxT_1-MxT_12 ;
153 title3 'Monthly MAXIMUM NEGATIVE-Temperature (Deg-F) from 1972 thru 2006.';
154 run ;
```

NOTE: The PROCEDURE PRINT used 0.01 seconds.

```
155
156
157
158
159
160
161
162
163
164
165 /*****
166 ***<< Descriptive Statistics: Maxiums of daily NEGATIVE-Temperatures (Deg-F) for Year and each calendar month.
>>*** ;
167
168
169 proc corr data=MxTData ;
170   var MxTyr MxT_1 - MxT_12 ;
171 title3 'Correlation Matrix of Monthly Maximum NEGATIVE-Temperatures (Deg-F) within same year.';
172 run ;
173
174 proc arima data=MxTData ;
175   identify var=MxTyr ;
176   identify var=MxT_1 ;
177   identify var=MxT_2 ;
178   identify var=MxT_3 ;
179   identify var=MxT_4 ;
180   identify var=MxT_5 ;
181   identify var=MxT_6 ;
```

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```

182 identify var=MxT_7 ;
183 identify var=MxT_8 ;
184 identify var=MxT_9 ;
185 identify var=MxT_10 ;
186 identify var=MxT_11 ;
187 identify var=MxT_12 ;
188 title3 "Auto-correlation analysis of each calendar month's Maximum NEGATIVE-Temperatures (Deg-F) within same
year.";
189 run ;
190
191 proc univariate normal data=MxTData plot ;
192 id year ;
193 var MxTYr MxT_1 - MxT_12 ;
194 title3 "Probability plots and tests for NORMALity by each calendar month's Maximun NEGATIVE-Temperatures (Deg-F)
time series.";
195 run ;
196
197
198 proc means data=MxTData ;
199 var MxT_1 - MxT_12 MxTYr ;
200 run ;
201 *****/
202
203
204
205
206
207
208
209
210 ***<< Statistical Estimation of GEV Models: Maximums of daily heating degrees for Year and each calendar month.
>>*** ;
211
212 %macro RankIt(file=MxTData,var=MxTYr,rank=RankYr,prob=PrMxTYr,Nobser=35,PltValue=0.375) ;
213 proc sort data=&file ;
214 by &var ;
215 run ;
216
217 data &file ;
218 set &file ;
219 retain &rank 0 alpha &pltvalue ;
220
221 &rank = &rank + 1 ;
222 &prob = (&rank - alpha) / (&Nobser +(1 - 2*alpha)) ;
223 run ;
224
225 proc print data=&file ;
226 var &var &rank &prob alpha year ;
227 run ;
228 %mend RankIt ;
229
230
231
232
233 %macro GEVfit(file=MxTData,ofile=MxTNL1,outfit=fit1,outest=est1,depvar=PrMxTYr,var=MxTYr,typeGEV=1,
234 KappaI=0.25,GammaI=-47.05,ThetaI=2.77,YrLo=1972,YrHi=2006) ;
235 proc sort data=&file ;
236 by year ;
237 run ;
238
239
240
241 proc model data=&file converge=0.001
242 maxit=500 dw ; outmodel=&ofile ;
243 range year = &YrLo to &YrHi ; ***<< Dropped Jan-Jul 2007 data. >>*** ;
244
245
246 y = (&var - Gamma) / Theta ;
247
248 %if &typeGEV=1 %then %do ; ***<< 3-parameter GEV Model. >>*** ;
249 &depvar = exp( -(1 - Kappa * (y))**(1/Kappa) ) ;
250 %let typmod = 3-parameter GEV Model. ;
251 %end ;
252
253 %if &typeGEV=2 %then %do ; ***<< 2-parameter "Double Exponential" or "Gumbel" Model. >>*** ;
254 &depvar = exp( -exp(-(y)) ) ;
255 %let typmod = 2-parameter Double Exponential or Gumbel Model. ;

```

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```

256         %end ;
257
258         %if (&typeGEV NE 1) AND (&typeGEV NE 2) %then %do ; **<< 2-parameter "T-Dist" Model. >>** ;
259         dft=(&YrHi - &YrLo) +1 -2 ;
260         &depvar = probt(y,dft) ;
261         %let typmod = 2-parameter T-Dist Model. ;
262         %end ;
263
264
265 %if &typeGEV = 1 %then %do ;
266 parms
267     Kappa &KappaI
268     Gamma &GammaI
269     Theta &ThetaI ;
270 %end ;
271
272 %if (&typeGEV NE 1) %then %do ;
273 parms
274     Gamma &GammaI
275     Theta &ThetaI ;
276 %end ;
277
278
279 fit &depvar /out=&outfit outall
280         outest=&outest corrb corrs outcov ;
281
282 title3 "Non-linear Estimation of &typmod: for Maximum NEGATIVE Temperature (Deg-F).";
283 run ;
284 %mend GEVfit ;
285
286
287
288
289
290
291
292 /*****
293 *****/
294
295 proc means data=MxTData ;
296     var MxT_1 - MxT_12 MxTYr ;
297     output out=VarStat
298         mean=mean1-mean12 meanYr
299         std=stdev1-stdev12 stdevYr;
300 title3 "Calc. Means and Standard Deviantions to use as Starting Values in Non-Linear Estimations." ;
301 run ;

```

NOTE: The data set WORK.VARSTAT has 1 observations and 28 variables.
 NOTE: The PROCEDURE MEANS used 0.07 seconds.

```

302
303
304 proc print data=VarStat ;
305 run ;

```

NOTE: The PROCEDURE PRINT used 0.14 seconds.

```

306
307
308 data _null_ ;
309     set VarStat ;
310
311     call symput('gamma_Yr',meanYr) ;
312     call symput('theta_Yr',stdevYr) ;
313
314     call symput('gamma_12',mean12) ;
315     call symput('theta_12',stdev12) ;
316
317     call symput('gamma_11',mean11) ;
318     call symput('theta_11',stdev11) ;
319
320     call symput('gamma_10',mean10) ;
321     call symput('theta_10',stdev10) ;
322
323     call symput('gamma_9',mean9) ;

```

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```

324 call symput('theta_9',stdev9) ;
325
326 call symput('gamma_8',mean8) ;
327 call symput('theta_8',stdev8) ;
328
329 call symput('gamma_7',mean7) ;
330 call symput('theta_7',stdev7) ;
331
332 call symput('gamma_6',mean6) ;
333 call symput('theta_6',stdev6) ;
334
335 call symput('gamma_5',mean5) ;
336 call symput('theta_5',stdev5) ;
337
338 call symput('gamma_4',mean4) ;
339 call symput('theta_4',stdev4) ;
340
341 call symput('gamma_3',mean3) ;
342 call symput('theta_3',stdev3) ;
343
344 call symput('gamma_2',mean2) ;
345 call symput('theta_2',stdev2) ;
346
347 call symput('gamma_1',mean1) ;
348 call symput('theta_1',stdev1) ;
349
350 run ;

```

NOTE: Numeric values have been converted to character values at the places given by: (Line):(Column).
 311:26 312:26 314:26 315:26 317:26 318:26 320:26 321:26 323:25 324:25 326:25 327:25
 329:25 330:25 332:25 333:25 335:25 336:25 338:25 339:25 341:25 342:25
 344:25 345:25 347:25 348:25
 NOTE: The DATA statement used 0.06 seconds.

```

351
352
353
354
355
356
357 *****<<< Analysis for "Annual" Data (i.e., SUFIX "mm" = "_Yr" >>>*****;
358
359
360
361
362
363 %RankIt(file=MxTData,var=MxTYr,rank=RankYr,prob=PrMxTYr,Nobser=35,PltValue=0.375) ;
MPRINT(RANKIT): PROC SORT DATA=MXTDATA ;
MPRINT(RANKIT): BY MXTYR ;
MPRINT(RANKIT): RUN ;

```

NOTE: The data set WORK.MXTDATA has 35 observations and 15 variables.
 NOTE: The PROCEDURE SORT used 0.17 seconds.

```

MPRINT(RANKIT): DATA MXTDATA ;
MPRINT(RANKIT): SET MXTDATA ;
MPRINT(RANKIT): RETAIN RANKYR 0 ALPHA 0.375 ;
MPRINT(RANKIT): RANKYR = RANKYR + 1 ;
MPRINT(RANKIT): PRMXTYR = (RANKYR - ALPHA) / (35 +(1 - 2*ALPHA)) ;
MPRINT(RANKIT): RUN ;

```

NOTE: The data set WORK.MXTDATA has 35 observations and 18 variables.
 NOTE: The DATA statement used 0.18 seconds.

```

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

```

NOTE: The PROCEDURE PRINT used 0.0 seconds.

```

364
365
366

```

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```
367
368
369
370
371
372
373 %GEVfit(file=MxTData,ofile=MxTnL1,outfit=fit1,outest=est1,depvar=PrMxTYr,var=MxTYr,typeGEV=1,
374           KappaI=0.25,GammaI=&gamma_Yr,ThetaI=&theta_Yr,YrLo=1972,YrHi=2006) ;
MPRINT(GEVFIT):  PROC SORT DATA=MXTDATA ;
MPRINT(GEVFIT):  BY YEAR ;
MPRINT(GEVFIT):  RUN ;
```

NOTE: The data set WORK.MXTDATA has 35 observations and 18 variables.
NOTE: The PROCEDURE SORT used 0.14 seconds.

```
MPRINT(GEVFIT):  PROC MODEL DATA=MXTDATA CONVERGE=0.001 MAXIT=500 DW ;
MPRINT(GEVFIT):  OUTMODEL%MXTN1 ;
MPRINT(GEVFIT):  RANGE YEAR = 1972 TO 2006 ;
MPRINT(GEVFIT):  ***<< DROPPED JAN-JUL 2007 DATA. >>*** ;
MPRINT(GEVFIT):  Y % (MXTYR - GAMMA) / THETA ;
MPRINT(GEVFIT):  ***<< 3-PARAMETER GEV MODEL. >>>*** ;
MPRINT(GEVFIT):  PRMXTYR % EXP( -(1 - KAPPA * (Y))**(1/KAPPA) ) ;
MPRINT(GEVFIT):  PARS KAPPA 0.25 GAMMA -47.35714286 THETA 2.6523490813 ;

MPRINT(GEVFIT):  FIT PRMXTYR /OUT=FIT1 OUTALL OUTEST=EST1 CORR CORR OUTCOV ;
MPRINT(GEVFIT):  TITLE3 "Non-linear Estimation of 3-parameter GEV 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 105 observations and 6 variables.
NOTE: The data set WORK.EST1 has 4 observations and 6 variables.
375
376

NOTE: The PROCEDURE MODEL used 0.15 seconds.

```
377 proc print data=fit1 ;
378 run ;
```

NOTE: The PROCEDURE PRINT used 0.0 seconds.

```
379
380
381
382 proc transpose data=fit1 out=pred1 prefix=probP ;
383   where (_type_ = "PREDICT" ) ;
384   by year ;
385   var prmxtyr ;
386 run ;
```

NOTE: The data set WORK.PRED1 has 35 observations and 3 variables.
NOTE: The PROCEDURE TRANSPOSE used 0.06 seconds.

```
387
388 data comb1 ;
389   merge MxTData pred1 ;
390   by year ;
391   ProbP = ProbP1 ;
392   keep year MxTYr PrMxTYr ProbP ;
393 run ;
```

NOTE: The data set WORK.COMB1 has 35 observations and 4 variables.
NOTE: The DATA statement used 0.12 seconds.

```
394
395
396 proc print data=comb1 ;
397 run ;
```

NOTE: The PROCEDURE PRINT used 0.0 seconds.

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```
398
399
400 proc plot data=comb1 ;
401   plot prmxtyr*MxTYr='*'
402       ProbP*MxTYr='-.' / overlay ;
403 run ;

404
405
406
```

NOTE: The PROCEDURE PLOT used 0.01 seconds.

```
407 proc print data=est1 ;
408 run ;
```

NOTE: The PROCEDURE PRINT used 0.0 seconds.

```
409
410
411 /*****
412 data out2.est1_Yr ;   ***<<< Save a copy of the "G.E.V. Model" estimation results! >>*** ;
413   set est1 ;
414 run ;
415 *****/
416
417
418
419
420
421
422
423
424
425
426
427
428 data comb ;
429   merge MxTData pred1 ;
430   by year ;
431
432 ***<< "Log(PrMxTYr) - Log(ProgP)" to calc. RMSE of Proportional Errors Models! >>*** ;
433   LgPrRat1 = Log(PrMxTYr/ProbP1) ;
434
435 label   LgPrRat1 = "Log(PrMxTYr/ProbP1)- GEV" ;
436
437   if (PrMxTYr <= (1/3)) then Quantile=1 ; ***<< "Lower Third" >>*** ;
438   if (PrMxTYr > (1/3)) AND (PrMxTYr <= (2/3)) then Quantile=2 ; ***<< "Middle Third" >>*** ;
439   if (PrMxTYr > (2/3)) then Quantile=3 ; ***<< "Upper Third" >>*** ;
440
441   keep year MxTYr Quantile PrMxTYr ProbP1 LgPrRat1 ;
442 run ;
```

NOTE: The data set WORK.COMB has 35 observations and 6 variables.

NOTE: The DATA statement used 0.17 seconds.

```
443
444
445 proc print data=comb ;
446   var year MxTYr Quantile PrMxTYr ProbP1 LgPrRat1 ;
447   title3 "Est'd CDFs and Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models." ;
448 run ;
```

NOTE: The PROCEDURE PRINT used 0.0 seconds.

```
449
450
451
452 proc means data=comb n mean std min max var uss ;
453   var LgPrRat1 ;
454   title3 "Stats for Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models to calc. RMSE of Prop. Model
Spec" ;
455 run ;
```

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NOTE: The PROCEDURE MEANS used 0.0 seconds.

```
456  
457  
458 proc sort data=comb ;  
459   by Quantile ;  
460 run ;
```

NOTE: The data set WORK.COMB has 35 observations and 6 variables.
NOTE: The PROCEDURE SORT used 0.1 seconds.

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

NOTE: The PROCEDURE MEANS used 0.0 seconds.

```
468  
469  
470  
471  
472  
473 quit ;
```


IX. Attachment 2: SAS Program Output

CONTENTS PROCEDURE

Data Set Name:	OUT2.SAVGSDGE	Observations:	12996
Member Type:	DATA	Variables:	6
Engine:	V612	Indexes:	0
Created:	11:54 Thursday, August 16, 2007	Observation Length:	48
Last Modified:	11:54 Thursday, August 16, 2007	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:	78
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.	DATE12.	
5	HDD	Num	8	32			Syst-Avg. Hdd
3	MAX	Num	8	16			Syst-Avg. Max
4	MIN	Num	8	24			Syst-Avg. Min

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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	-46.5833	-46.9167	-50.0000	-54.5833	-56.5833	-59.0833	-63.5833	-69.4167	-67.6667	-66.0000	-55.4167	-54.0833	-46.5833
1973	-46.0833	-46.0833	-54.0000	-52.9167	-56.0000	-57.6667	-63.5833	-67.6667	-69.0000	-66.0000	-61.6667	-52.0000	-51.9167
1974	-44.0000	-48.0000	-51.0000	-52.3333	-57.4167	-60.0000	-64.4167	-67.0833	-69.3333	-67.0000	-57.4167	-54.5833	-44.0000
1975	-44.0833	-44.0833	-48.9167	-48.0833	-51.0833	-57.0000	-60.3333	-66.4167	-68.0833	-66.0000	-60.0000	-49.9167	-50.0000
1976	-44.9167	-44.9167	-54.0000	-49.6667	-55.0000	-60.0000	-63.0000	-69.5833	-68.5833	-68.0833	-61.5833	-49.6667	-52.4167
1977	-50.5833	-51.5833	-52.0833	-50.5833	-53.9167	-58.5833	-65.5833	-68.9167	-71.6667	-67.9167	-63.0000	-56.0000	-56.0000
1978	-42.5833	-52.0000	-53.0000	-55.4167	-54.9167	-60.0000	-66.3333	-68.0000	-68.3333	-66.4167	-65.0000	-54.4167	-42.5833
1979	-45.0000	-45.0000	-50.0000	-50.9167	-58.0000	-60.4167	-63.6667	-67.6667	-70.8167	-71.4167	-60.9667	-51.9167	-52.3333
1980	-53.6667	-53.6667	-55.9167	-53.9167	-55.6667	-58.5833	-63.9167	-69.4167	-70.0833	-67.5833	-60.0833	-55.6667	-54.5833
1981	-49.6667	-49.6667	-53.0000	-53.3333	-56.0000	-61.6667	-66.6667	-71.6667	-72.3333	-68.3333	-58.3333	-54.3333	-53.3333
1982	-48.6667	-49.3333	-54.3333	-53.6667	-53.0000	-60.3333	-62.0000	-67.0000	-71.0000	-64.0000	-61.3333	-55.3333	-48.6667
1983	-51.3333	-51.3333	-53.0000	-55.6667	-54.0000	-60.0000	-62.0000	-68.0000	-70.0000	-67.6667	-66.6667	-51.6667	-52.3333
1984	-48.3333	-51.3333	-51.6667	-58.6667	-57.5833	-59.3333	-65.3333	-72.6667	-73.6667	-72.0000	-61.0000	-53.0000	-48.3333
1985	-46.0000	-48.6667	-46.6667	-49.3333	-58.3333	-60.3333	-62.6667	-71.6667	-68.6667	-65.3333	-63.0000	-50.6667	-46.0000
1986	-50.0000	-56.3333	-50.0000	-53.3333	-57.3333	-58.6667	-66.0000	-67.6667	-70.3333	-60.0000	-60.6667	-58.0000	-53.0000
1987	-41.3333	-42.3333	-49.0000	-53.0000	-56.0000	-60.3333	-64.0000	-64.6667	-64.3333	-67.0000	-63.3333	-54.3333	-41.3333
1988	-45.3333	-49.0000	-52.3333	-55.0000	-55.6667	-57.0000	-59.6667	-68.6667	-68.6667	-63.3333	-62.3333	-53.3333	-45.3333
1989	-45.0000	-45.0000	-45.6667	-51.6667	-56.6667	-58.3333	-62.0000	-68.0000	-69.0000	-62.6667	-61.0000	-56.6667	-51.3333
1990	-43.6667	-48.0000	-43.6667	-50.0000	-58.6667	-58.0000	-63.0000	-69.0000	-69.0000	-68.0000	-65.0000	-55.0000	-43.6667
1991	-48.6667	-51.6667	-54.6667	-48.6667	-58.0000	-58.0000	-61.3333	-66.6667	-68.0000	-65.0000	-58.0000	-51.0000	-50.3333
1992	-47.0000	-52.0000	-56.3333	-56.0000	-63.0000	-64.3333	-65.3333	-68.3333	-68.3333	-70.0000	-64.3333	-55.0000	-47.0000
1993	-46.6667	-46.6667	-52.3333	-54.3333	-58.6667	-59.6667	-61.3333	-68.0000	-67.6667	-64.3333	-62.3333	-55.6667	-52.0000
1994	-48.0000	-51.6667	-52.0000	-53.6667	-55.3333	-59.3333	-64.6667	-68.0000	-70.3333	-66.6667	-61.3333	-48.0000	-50.3333
1995	-51.0000	-52.3333	-56.0000	-52.3333	-53.3333	-56.0000	-61.0000	-66.6667	-70.0000	-66.6667	-62.6667	-60.0000	-51.0000
1996	-48.6667	-50.3333	-48.6667	-55.0000	-58.3333	-61.6667	-64.6667	-68.3333	-69.3333	-67.0000	-55.0000	-53.3333	-52.0000
1997	-49.0000	-51.0000	-50.6667	-52.3333	-53.0000	-64.6667	-64.0000	-67.6667	-70.6667	-69.6667	-62.0000	-57.6667	-49.0000
1998	-46.6667	-51.3333	-52.6667	-50.0000	-51.0000	-57.3333	-62.0000	-66.6667	-71.3333	-64.0000	-61.3333	-56.3333	-46.6667
1999	-48.6667	-48.6667	-49.6667	-50.0000	-49.0000	-57.0000	-58.3333	-64.3333	-67.3333	-63.6667	-64.3333	-54.3333	-51.0000
2000	-50.3333	-50.3333	-52.6667	-50.3333	-57.6667	-62.3333	-64.3333	-67.0000	-67.6667	-67.3333	-59.0000	-50.6667	-52.3333
2001	-47.6667	-47.6667	-49.0000	-52.3333	-51.3333	-60.3333	-62.3333	-67.0000	-67.0000	-68.0000	-64.3333	-50.6667	-50.3333
2002	-45.6667	-45.6667	-47.6667	-52.6667	-57.3333	-57.6667	-61.6667	-66.6667	-67.3333	-64.3333	-59.6667	-57.3333	-50.0000
2003	-49.0000	-54.6667	-52.6667	-52.6667	-53.3333	-57.3333	-61.3333	-68.0000	-71.0000	-68.3333	-61.3333	-54.6667	-49.0000
2004	-47.6667	-51.0000	-53.0000	-54.6667	-58.3333	-63.3333	-65.0000	-67.3333	-69.6667	-66.0000	-57.3333	-47.6667	-49.3333
2005	-47.6667	-47.6667	-53.6667	-55.6667	-58.0000	-60.6667	-64.0000	-67.8000	-69.6667	-64.6667	-60.6667	-55.0000	-52.6667
2006	-48.3333	-51.0000	-49.0000	-48.6667	-55.6667	-61.0000	-66.3333	-73.6667	-70.3333	-67.0000	-59.6667	-52.0000	-48.3333

Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Fitted Probability Model to Empirical CDF using NL-OLS Regression Methods.
 Calc. Means and Standard Deviantions to use as Starting Values in Non-Linear Estimations.

Variable	N	Mean	Std Dev	Minimum	Maximum
MXT_1	35	-49.3404762	3.1554478	-56.3333333	-42.3333333
MXT_2	35	-51.3976190	2.9257621	-56.3333333	-43.6666667
MXT_3	35	-52.6119048	2.4690852	-58.6666667	-48.0833333
MXT_4	35	-55.8047619	2.7934727	-63.0000000	-49.0000000
MXT_5	35	-59.6000000	2.0697400	-64.6666667	-56.0000000
MXT_6	35	-63.2976190	2.0007439	-66.6666667	-58.3333333
MXT_7	35	-68.1514286	1.9398739	-73.6666667	-64.3333333
MXT_8	35	-69.3209524	1.7600707	-73.6666667	-64.3333333
MXT_9	35	-66.4976190	2.4349784	-72.0000000	-60.0000000
MXT_10	35	-61.1752381	2.6433335	-66.6666667	-55.0000000
MXT_11	35	-53.7119048	2.8460889	-60.0000000	-47.6666667
MXT_12	35	-49.5738095	3.4359672	-56.0000000	-41.3333333
MXTYR	35	-47.3571429	2.6523491	-53.6666667	-41.3333333

Workpapers of Herb Emmrich - SDG&E Demand Forecast
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Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Probability Model to Empirical CDF using NL-OLS Regression Methods.
 Calc. Means and Standard Deviantions to use as Starting Values in Non-Linear Estimations.

OBS	_TYPE_	_FREQ_	MEAN1	MEAN2	MEAN3	MEAN4	MEAN5	MEAN6	MEAN7	MEAN8	MEAN9	MEAN10	MEAN11	MEAN12
1	0	35	-49.3405	-51.3976	-52.6119	-55.8048	-59.6	-63.2976	-68.1514	-69.3210	-66.4976	-61.1752	-53.7119	-49.5738
OBS	MEANYR	STDEV1	STDEV2	STDEV3	STDEV4	STDEV5	STDEV6	STDEV7	STDEV8	STDEV9	STDEV10	STDEV11	STDEV12	STDEVYR
1	-47.3571	3.15545	2.92576	2.46909	2.79347	2.06974	2.00074	1.93987	1.76007	2.43498	2.64333	2.84609	3.43597	2.65235

OBS	MXTYR	RANKYR	PRMXTYR	ALPHA	YEAR
1	-53.6667	1	0.01773	0.375	1980
2	-51.3333	2	0.04610	0.375	1983
3	-51.0000	3	0.07447	0.375	1995
4	-50.5833	4	0.10284	0.375	1977
5	-50.3333	5	0.13121	0.375	2000
6	-50.0000	6	0.15957	0.375	1986
7	-49.6667	7	0.18794	0.375	1981
8	-49.0000	8	0.21631	0.375	1997
9	-49.0000	9	0.24468	0.375	2003
10	-48.6667	10	0.27305	0.375	1982
11	-48.6667	11	0.30142	0.375	1991
12	-48.6667	12	0.32979	0.375	1996
13	-48.6667	13	0.35816	0.375	1999
14	-48.3333	14	0.38652	0.375	1984
15	-48.3333	15	0.41489	0.375	2006
16	-48.0000	16	0.44326	0.375	1994
17	-47.6667	17	0.47163	0.375	2001
18	-47.6667	18	0.50000	0.375	2004
19	-47.6667	19	0.52837	0.375	2005
20	-47.0000	20	0.55674	0.375	1992
21	-46.6667	21	0.58511	0.375	1993
22	-46.6667	22	0.61348	0.375	1998
23	-46.5833	23	0.64184	0.375	1972
24	-46.0833	24	0.67021	0.375	1973
25	-46.0000	25	0.69858	0.375	1985
26	-45.6667	26	0.72695	0.375	2002
27	-45.3333	27	0.75532	0.375	1988
28	-45.0000	28	0.78369	0.375	1979
29	-45.0000	29	0.81206	0.375	1989
30	-44.9167	30	0.84043	0.375	1976
31	-44.0833	31	0.86879	0.375	1975
32	-44.0000	32	0.89716	0.375	1974
33	-43.6667	33	0.92553	0.375	1990
34	-42.5833	34	0.95390	0.375	1978
35	-41.3333	35	0.98227	0.375	1987

MODEL Procedure

Model Summary

Model Variables	1
Parameters	4
RANGE Variable	YEAR
Equations	1
Number of Statements	3

Model Variables: PRMXTYR

Parameters: GAMMA: -47.36 THETA: 2.652 KAPPA: 0.25 MXTNL1

Equations: PRMXTYR

MODEL Procedure

The Equation to Estimate is:

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


```
MODEL Procedure
  OLS Estimation

  OLS Estimation Summary

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

  Parameters Estimated      3

  RANGE Processed      YEAR
  First                 1972
  Last                   2006

  Minimization Summary
  Method                 GAUSS
  Iterations              3

  Final Convergence Criteria
  R                       0.00070353
  PPC(KAPPA)              0.00026
  RPC(KAPPA)              0.033597
  Object                   0.00171551
  Trace(S)                 0.00063019
  Objective Value          0.00057617

  Observations Processed
  Read                     35
  Solved                   35
```

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
PRMXTYR	3	32	0.02017	0.0006302	0.02510	0.9930	0.9925	1.694

Nonlinear OLS Parameter Estimates

Parameter	Estimate	Approx. Std Err	'T' Ratio	Approx. Prob> T
GAMMA	-48.360528	0.04287	-1127.99	0.0001
THETA	2.470319	0.08227	30.03	0.0001
KAPPA	0.166335	0.05089	3.27	0.0026

Number of Observations		Statistics for System	
Used	35	Objective	0.000576
Missing	0	Objective*N	0.0202

RANGE of Fit: YEAR = 1972 TO 2006

Correlations of Estimates

CorrB	GAMMA	THETA	KAPPA
GAMMA	1.0000	-0.0259	0.3522
THETA	-0.0259	1.0000	0.6938
KAPPA	0.3522	0.6938	1.0000

Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
Probability Model to Empirical CDF using NL-OLS Regression Methods.
Non-linear Estimation of 3-parameter GEV Model.: for Maximum NEGATIVE Temperature (Deg-F).

MODEL Procedure

Model Summary

Model Variables	1
Parameters	4
RANGE Variable	YEAR
Equations	1
Number of Statements	4

Model Variables: PRMXYR

Parameters: MXTNL1 GAMMA: -48.36(-1128) THETA: 2.47(30) KAPPA: 0.1663(3.3)

Equations: PRMXYR

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 Attachment 5

Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Non-linear Estimation of 3-parameter GEV Model.: for Maximum NEGATIVE Temperature (Deg-F).

OBS	YEAR	_ESTYPE_	_TYPE_	_WEIGHT_	PRMXYR	MXYR
1	1972	OLS	ACTUAL	1	0.64184	-46.5833
2	1972	OLS	PREDICT	1	0.62829	-46.5833
3	1972	OLS	RESIDUAL	1	0.01356	-46.5833
4	1973	OLS	ACTUAL	1	0.67021	-46.0833
5	1973	OLS	PREDICT	1	0.69237	-46.0833
6	1973	OLS	RESIDUAL	1	-0.02216	-46.0833
7	1974	OLS	ACTUAL	1	0.89716	-44.0000
8	1974	OLS	PREDICT	1	0.88362	-44.0000
9	1974	OLS	RESIDUAL	1	0.01354	-44.0000
10	1975	OLS	ACTUAL	1	0.86879	-44.0833
11	1975	OLS	PREDICT	1	0.87831	-44.0833
12	1975	OLS	RESIDUAL	1	-0.00952	-44.0833
13	1976	OLS	ACTUAL	1	0.84043	-44.9167
14	1976	OLS	PREDICT	1	0.81487	-44.9167
15	1976	OLS	RESIDUAL	1	0.02556	-44.9167
16	1977	OLS	ACTUAL	1	0.10284	-50.5833
17	1977	OLS	PREDICT	1	0.09897	-50.5833
18	1977	OLS	RESIDUAL	1	0.00387	-50.5833
19	1978	OLS	ACTUAL	1	0.95390	-42.5833
20	1978	OLS	PREDICT	1	0.94959	-42.5833
21	1978	OLS	RESIDUAL	1	0.00431	-42.5833
22	1979	OLS	ACTUAL	1	0.78369	-45.0000
23	1979	OLS	PREDICT	1	0.80744	-45.0000
24	1979	OLS	RESIDUAL	1	-0.02375	-45.0000
25	1980	OLS	ACTUAL	1	0.01773	-53.6667
26	1980	OLS	PREDICT	1	0.00188	-53.6667
27	1980	OLS	RESIDUAL	1	0.01585	-53.6667
28	1981	OLS	ACTUAL	1	0.18794	-49.6667
29	1981	OLS	PREDICT	1	0.19016	-49.6667
30	1981	OLS	RESIDUAL	1	-0.00221	-49.6667
31	1982	OLS	ACTUAL	1	0.27305	-48.6667
32	1982	OLS	PREDICT	1	0.32287	-48.6667
33	1982	OLS	RESIDUAL	1	-0.04982	-48.6667
34	1983	OLS	ACTUAL	1	0.04610	-51.3333
35	1983	OLS	PREDICT	1	0.05003	-51.3333
36	1983	OLS	RESIDUAL	1	-0.00394	-51.3333
37	1984	OLS	ACTUAL	1	0.38652	-48.3333
38	1984	OLS	PREDICT	1	0.37193	-48.3333
39	1984	OLS	RESIDUAL	1	0.01459	-48.3333
40	1985	OLS	ACTUAL	1	0.69858	-46.0000
41	1985	OLS	PREDICT	1	0.70242	-46.0000
42	1985	OLS	RESIDUAL	1	-0.00384	-46.0000
43	1986	OLS	ACTUAL	1	0.15957	-50.0000
44	1986	OLS	PREDICT	1	0.15309	-50.0000
45	1986	OLS	RESIDUAL	1	0.00648	-50.0000
46	1987	OLS	ACTUAL	1	0.98227	-41.3333
47	1987	OLS	PREDICT	1	0.97900	-41.3333
48	1987	OLS	RESIDUAL	1	0.00326	-41.3333
49	1988	OLS	ACTUAL	1	0.75532	-45.3333
50	1988	OLS	PREDICT	1	0.77569	-45.3333
51	1988	OLS	RESIDUAL	1	-0.02037	-45.3333
52	1989	OLS	ACTUAL	1	0.81206	-45.0000
53	1989	OLS	PREDICT	1	0.80744	-45.0000
54	1989	OLS	RESIDUAL	1	0.00462	-45.0000
55	1990	OLS	ACTUAL	1	0.92553	-43.6667
56	1990	OLS	PREDICT	1	0.90312	-43.6667
57	1990	OLS	RESIDUAL	1	0.02241	-43.6667
58	1991	OLS	ACTUAL	1	0.30142	-48.6667
59	1991	OLS	PREDICT	1	0.32287	-48.6667
60	1991	OLS	RESIDUAL	1	-0.02145	-48.6667
61	1992	OLS	ACTUAL	1	0.55674	-47.0000
62	1992	OLS	PREDICT	1	0.57051	-47.0000
63	1992	OLS	RESIDUAL	1	-0.01377	-47.0000

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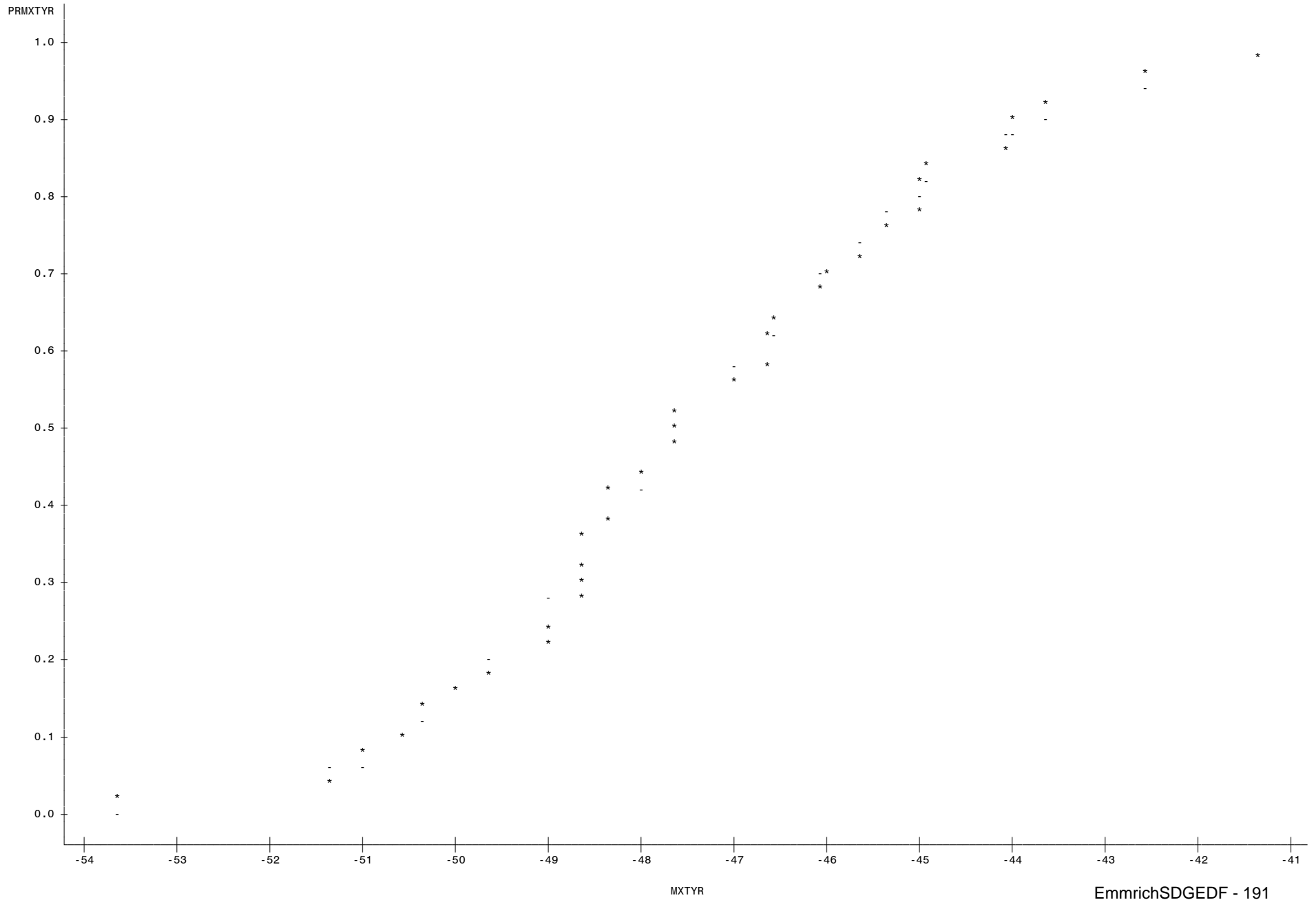
beta Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Non-linear Estimation of 3-parameter GEV Model.: for Maximum NEGATIVE Temperature (Deg-F).

OBS	YEAR	_ESTYPE_	_TYPE_	_WEIGHT_	PRMXYR	MXYR
64	1993	OLS	ACTUAL	1	0.58511	-46.6667
65	1993	OLS	PREDICT	1	0.61702	-46.6667
66	1993	OLS	RESIDUAL	1	-0.03191	-46.6667
67	1994	OLS	ACTUAL	1	0.44326	-48.0000
68	1994	OLS	PREDICT	1	0.42204	-48.0000
69	1994	OLS	RESIDUAL	1	0.02122	-48.0000
70	1995	OLS	ACTUAL	1	0.07447	-51.0000
71	1995	OLS	PREDICT	1	0.06900	-51.0000
72	1995	OLS	RESIDUAL	1	0.00547	-51.0000
73	1996	OLS	ACTUAL	1	0.32979	-48.6667
74	1996	OLS	PREDICT	1	0.32287	-48.6667
75	1996	OLS	RESIDUAL	1	0.00692	-48.6667
76	1997	OLS	ACTUAL	1	0.21631	-49.0000
77	1997	OLS	PREDICT	1	0.27570	-49.0000
78	1997	OLS	RESIDUAL	1	-0.05938	-49.0000
79	1998	OLS	ACTUAL	1	0.61348	-46.6667
80	1998	OLS	PREDICT	1	0.61702	-46.6667
81	1998	OLS	RESIDUAL	1	-0.00354	-46.6667
82	1999	OLS	ACTUAL	1	0.35816	-48.6667
83	1999	OLS	PREDICT	1	0.32287	-48.6667
84	1999	OLS	RESIDUAL	1	0.03529	-48.6667
85	2000	OLS	ACTUAL	1	0.13121	-50.3333
86	2000	OLS	PREDICT	1	0.12043	-50.3333
87	2000	OLS	RESIDUAL	1	0.01077	-50.3333
88	2001	OLS	ACTUAL	1	0.47163	-47.6667
89	2001	OLS	PREDICT	1	0.47236	-47.6667
90	2001	OLS	RESIDUAL	1	-0.00072	-47.6667
91	2002	OLS	ACTUAL	1	0.72695	-45.6667
92	2002	OLS	PREDICT	1	0.74066	-45.6667
93	2002	OLS	RESIDUAL	1	-0.01371	-45.6667
94	2003	OLS	ACTUAL	1	0.24468	-49.0000
95	2003	OLS	PREDICT	1	0.27570	-49.0000
96	2003	OLS	RESIDUAL	1	-0.03102	-49.0000
97	2004	OLS	ACTUAL	1	0.50000	-47.6667
98	2004	OLS	PREDICT	1	0.47236	-47.6667
99	2004	OLS	RESIDUAL	1	0.02764	-47.6667
100	2005	OLS	ACTUAL	1	0.52837	-47.6667
101	2005	OLS	PREDICT	1	0.47236	-47.6667
102	2005	OLS	RESIDUAL	1	0.05601	-47.6667
103	2006	OLS	ACTUAL	1	0.41489	-48.3333
104	2006	OLS	PREDICT	1	0.37193	-48.3333
105	2006	OLS	RESIDUAL	1	0.04296	-48.3333

Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Utility Model to Empirical CDF using NL-OLS Regression Methods.
 Non-linear Estimation of 3-parameter GEV Model.: for Maximum NEGATIVE Temperature (Deg-F).

OBS	YEAR	MXTYR	PRMXTYR	PROBP
1	1972	-46.5833	0.64184	0.62829
2	1973	-46.0833	0.67021	0.69237
3	1974	-44.0000	0.89716	0.88362
4	1975	-44.0833	0.86879	0.87831
5	1976	-44.9167	0.84043	0.81487
6	1977	-50.5833	0.10284	0.09897
7	1978	-42.5833	0.95390	0.94959
8	1979	-45.0000	0.78369	0.80744
9	1980	-53.6667	0.01773	0.00188
10	1981	-49.6667	0.18794	0.19016
11	1982	-48.6667	0.27305	0.32287
12	1983	-51.3333	0.04610	0.05003
13	1984	-48.3333	0.38652	0.37193
14	1985	-46.0000	0.69858	0.70242
15	1986	-50.0000	0.15957	0.15309
16	1987	-41.3333	0.98227	0.97900
17	1988	-45.3333	0.75532	0.77569
18	1989	-45.0000	0.81206	0.80744
19	1990	-43.6667	0.92553	0.90312
20	1991	-48.6667	0.30142	0.32287
21	1992	-47.0000	0.55674	0.57051
22	1993	-46.6667	0.58511	0.61702
23	1994	-48.0000	0.44326	0.42204
24	1995	-51.0000	0.07447	0.06900
25	1996	-48.6667	0.32979	0.32287
26	1997	-49.0000	0.21631	0.27570
27	1998	-46.6667	0.61348	0.61702
28	1999	-48.6667	0.35816	0.32287
29	2000	-50.3333	0.13121	0.12043
30	2001	-47.6667	0.47163	0.47236
31	2002	-45.6667	0.72695	0.74066
32	2003	-49.0000	0.24468	0.27570
33	2004	-47.6667	0.50000	0.47236
34	2005	-47.6667	0.52837	0.47236
35	2006	-48.3333	0.41489	0.37193

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



Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Gumbel Utility Model to Empirical CDF using NL-OLS Regression Methods.
 Non-linear Estimation of 3-parameter GEV Model.: for Maximum NEGATIVE Temperature (Deg-F).

OBS	_NAME_	_TYPE_	_NUSED_	GAMMA	THETA	KAPPA
1		OLS	35	-48.3605	2.47032	0.16633
2	GAMMA	OLS	35	0.0018	-0.00009	0.00077
3	THETA	OLS	35	-0.0001	0.00677	0.00290
4	KAPPA	OLS	35	0.0008	0.00290	0.00259

Workpapers of Herb Emmrich - SDG&E Demand Forecast
Attachment 5

Data Analysis for Maximum/Minimum Daily SysAvg Temperatures (Un-Rounded).
 Probability Model to Empirical CDF using NL-OLS Regression Methods.
 Est'd CDFs and Logarithms of 'Empirical CDF rel. to Fitted CDF' values by Models.

OBS	YEAR	MXTYR	QUANTILE	PRMXTYR	PROBP1	LGPRRT1
1	1972	-46.5833	2	0.64184	0.62829	0.02135
2	1973	-46.0833	3	0.67021	0.69237	-0.03253
3	1974	-44.0000	3	0.89716	0.88362	0.01521
4	1975	-44.0833	3	0.86879	0.87831	-0.01089
5	1976	-44.9167	3	0.84043	0.81487	0.03088
6	1977	-50.5833	1	0.10284	0.09897	0.03832
7	1978	-42.5833	3	0.95390	0.94959	0.00453
8	1979	-45.0000	3	0.78369	0.80744	-0.02986
9	1980	-53.6667	1	0.01773	0.00188	2.24241
10	1981	-49.6667	1	0.18794	0.19016	-0.01171
11	1982	-48.6667	1	0.27305	0.32287	-0.16759
12	1983	-51.3333	1	0.04610	0.05003	-0.08192
13	1984	-48.3333	2	0.38652	0.37193	0.03848
14	1985	-46.0000	3	0.69858	0.70242	-0.00548
15	1986	-50.0000	1	0.15957	0.15309	0.04148
16	1987	-41.3333	3	0.98227	0.97900	0.00333
17	1988	-45.3333	3	0.75532	0.77569	-0.02661
18	1989	-45.0000	3	0.81206	0.80744	0.00570
19	1990	-43.6667	3	0.92553	0.90312	0.02451
20	1991	-48.6667	1	0.30142	0.32287	-0.06875
21	1992	-47.0000	2	0.55674	0.57051	-0.02444
22	1993	-46.6667	2	0.58511	0.61702	-0.05311
23	1994	-48.0000	2	0.44326	0.42204	0.04906
24	1995	-51.0000	1	0.07447	0.06900	0.07632
25	1996	-48.6667	1	0.32979	0.32287	0.02120
26	1997	-49.0000	1	0.21631	0.27570	-0.24258
27	1998	-46.6667	2	0.61348	0.61702	-0.00576
28	1999	-48.6667	2	0.35816	0.32287	0.10372
29	2000	-50.3333	1	0.13121	0.12043	0.08566
30	2001	-47.6667	2	0.47163	0.47236	-0.00154
31	2002	-45.6667	3	0.72695	0.74066	-0.01868
32	2003	-49.0000	1	0.24468	0.27570	-0.11935
33	2004	-47.6667	2	0.50000	0.47236	0.05688
34	2005	-47.6667	2	0.52837	0.47236	0.11206
35	2006	-48.3333	2	0.41489	0.37193	0.10931

Analysis Variable : LGPRRAT1 Log(PrMxTYr/ProbP1)- GEV

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
35	0.0622752	0.3862909	-0.2425777	2.2424075	0.1492207	5.2092406

Analysis Variable : LGPRRAT1 Log(PrMxTYr/ProbP1)- GEV

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

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
12	0.1511246	0.6663248	-0.2425777	2.2424075	0.4439888	5.1579402

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

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
11	0.0369105	0.0559546	-0.0531075	0.1120616	0.0031309	0.0462955

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

N	Mean	Std Dev	Minimum	Maximum	Variance	USS
12	-0.0033234	0.0210462	-0.0325255	0.0308826	0.000442943	0.0050049

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**SDG&E DEMAND-SIDE-MANAGEMENT SAVINGS
FEBRUARY 2008**

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	2007 therms	2008 therms	2009 therms	2010 therms	2011 therms	2012 therms	2013 therms	2014 therms	2015 therms	2016 therms
SDG&E EE Programs TOTAL	4,002,666	3,846,188								
PUC Goal	3,100,000	3,700,000	4,100,000	4,500,000	4,900,000	5,300,000	5,700,000	5,700,000	5,700,000	5,700,000
Difference	902,666	146,188								

SDGE	2007 therms	2008 therms	2009 therms	2010 therms	2011 therms	2012 therms	2013 therms	2014 therms	2015 therms	2016 therms
Residential	1,073,524	993,132	1,058,670	1,161,955	1,265,240	1,368,524	1,471,809	1,471,809	1,471,809	1,471,809
Core Commercial	2,485,281	2,688,267	2,865,668	3,145,245	3,424,823	3,704,400	3,983,977	3,983,977	3,983,977	3,983,977
Core Industrial	50,892	55,135	58,774	64,508	70,242	75,976	81,710	81,710	81,710	81,710
Noncore Commercial	39,314	10,993	11,718	12,861	14,004	15,148	16,291	16,291	16,291	16,291
Noncore Industrial	353,827	98,933	105,461	115,750	126,039	136,328	146,617	146,617	146,617	146,617
Total	4,002,838	3,846,460	4,100,291	4,500,319	4,900,347	5,300,376	5,700,404	5,700,404	5,700,404	5,700,404

Proportionally scale it down to match
 PUC Goal for 2006,2007, and 2008

ANNUAL NET SAVINGS	2007 mdth	2008 mdth	2009 mdth	2010 mdth	2011 mdth	2012 mdth	2013 mdth	2014 mdth	2015 mdth	2016 mdth
Residential	83	96	106	116	127	137	147	147	147	147
Core Commercial	192	259	287	315	342	370	398	398	398	398
Core Industrial	4	5	6	6	7	8	8	8	8	8
Noncore Commercial	3	1	1	1	2	2	2	2	2	2
Noncore Industrial	27	10	11	12	13	14	15	15	15	15
Total	310	370	410	450	490	530	570	570	570	570

Cumulative Savings (Mdth)	2007 mdth	2008 mdth	2009 mdth	2010 mdth	2011 mdth	2012 mdth	2013 mdth	2014 mdth	2015 mdth	2016 mdth
Residential	83	179	285	401	527	664	811	958	925	1,031
Core Commercial	192	451	738	1,052	1,395	1,765	2,164	2,562	2,799	2,981
Core Industrial	4	9	15	22	29	36	44	53	57	61
Noncore Commercial	3	4	5	7	8	9	11	13	13	14
Noncore Industrial	27	37	47	59	72	85	100	115	117	124
Total Load Impacts	310	680	1,090	1,540	2,030	2,560	3,130	3,700	3,911	4,211

Cumulative Savings (MMCF)	MMCF factor:	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	1.012										
SDGE											
Residential		82	177	281	396	521	656	802	947	914	1,019
Core Commercial		190	446	729	1,040	1,378	1,744	2,138	2,532	2,766	2,945
Core Industrial		4	9	15	21	28	36	44	52	57	60
Noncore Commercial		3	4	5	6	8	9	11	13	13	14
Noncore Industrial		27	36	47	58	71	84	99	113	115	123
Total Cumulative Load		306	672	1,077	1,522	2,006	2,530	3,093	3,656	3,865	4,161

SDG&E and SoCalGas 2009 BCAP - A.08-02-001
 Workpapers of Herb Emmrich - SDG&E Demand Forecast
 Attachment 5

	2017 therms	2018 therms	2019 therms	2020 therms						
SDG&E EE Programs TOTAL										
PUC Goal	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000
Difference										

SDGE	2017 therms	2018 therms	2019 therms	2020 therms
Residential	1,471,809	1,471,809	1,471,809	1,471,809
Core Commercial	3,983,977	3,983,977	3,983,977	3,983,977
Core Industrial	81,710	81,710	81,710	81,710
Noncore Commercial	16,291	16,291	16,291	16,291
Noncore Industrial	146,617	146,617	146,617	146,617
Total	5,700,404	5,700,404	5,700,404	5,700,404

Proportionally scale it down to match
 PUC Goal for 2006,2007, and 2008

ANNUAL NET SAVINGS	2017 mdth	2018 mdth	2019 mdth	2020 mdth	2021 mdth	2022 mdth	2023 mdth	2024 mdth	2025 mdth
Residential	147	147	147	147	147	147	147	147	147
Core Commercial	398	398	398	398	398	398	398	398	398
Core Industrial	8	8	8	8	8	8	8	8	8
Noncore Commercial	2	2	2	2	2	2	2	2	2
Noncore Industrial	15	15	15	15	15	15	15	15	15
Total	570	570	570	570	570	570	570	570	570

Cumulative Savings (Mdth)	2017 mdth	2018 mdth	2019 mdth	2020 mdth	2021 mdth	2022 mdth	2023 mdth	2024 mdth	2025 mdth
SDGE									
Residential	1,095	1,147	1,188	1,219	1,240	1,250	1,250	1,250	1,250
Core Commercial	3,187	3,326	3,438	3,522	3,578	3,606	3,606	3,606	3,606
Core Industrial	65	68	70	72	73	74	74	74	74
Noncore Commercial	12	13	13	14	14	14	14	14	14
Noncore Industrial	112	117	121	124	126	127	127	127	127
Total Load Impacts	4,471	4,671	4,831	4,951	5,031	5,071	5,071	5,071	5,071

Cumulative Savings (MMCF)	2017	2018	2019	2020	2021	2022	2023	2024	2025
SDGE									
Residential	1,083	1,134	1,174	1,205	1,225	1,236	1,236	1,236	1,236
Core Commercial	3,149	3,287	3,397	3,480	3,536	3,563	3,563	3,563	3,563
Core Industrial	65	67	70	71	72	73	73	73	73
Noncore Commercial	12	13	13	14	14	14	14	14	14
Noncore Industrial	110	115	119	122	125	126	126	126	126
Total Cumulative Load	4,418	4,616	4,774	4,893	4,972	5,011	5,011	5,011	5,011

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**CONVERSION OF ENERGY TO VOLUME, PERCENTAGES OF COMPAN USE FUEL
AND UN-ACCOUNTED-FOR GAS FOR SDG&E
FEBRUARY 2008**

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I. Conversion Between Energy and Volumetric Units

The estimated conversion of Dth to Mcf was calculated from SDG&E's system-wide gas consumption for year 2006. The data shown in Table 1 below show the monthly data.

This conversion factor is used to develop a volumetric (e.g., Mcf unit) load estimate from the gas demand forecasts which are developed on an energy (e.g., Dth unit) basis.

Table 1

Load Data to Calculate "Dth/Mcf" Factor for SDG&E

2006 BTU FACTOR			
	<u>MMBTU</u>	<u>MCF</u>	<u>BTU</u>
Jan-06	12,557,345.6	12,313,352.1	1.020
Feb-06	10,932,107.8	10,761,267.4	1.016
Mar-06	11,495,163.0	11,330,872.9	1.014
Apr-06	10,256,944.8	10,097,783.3	1.016
May-06	8,271,270.5	8,156,349.0	1.014
Jun-06	8,372,643.0	8,237,083.6	1.016
Jul-06	11,060,903.3	10,880,704.9	1.017
Aug-06	9,108,598.9	8,934,574.7	1.019
Sep-06	8,399,763.9	8,248,714.6	1.018
Oct-06	8,671,077.6	8,508,794.8	1.019
Nov-06	9,931,331.9	9,737,861.5	1.020
Dec-06	12,701,135.2	12,453,070.3	1.020
		AVERAGE Dth/Mcf Factor	1.0175

$$\text{Dth/Mcf} = (12,701,135 \text{ Dth}) / (12,453,070 \text{ Mcf}) = 1.0175$$

II. Company-Use-Fuel (Co-Use-Fuel) as Percent of Receipts

For SDG&E, data on gas consumed for Company uses is tracked via the SDG&E gas accounting system. Three categories of use are identified: Transmission, Storage and "Other." Further, to facilitate the calculations of gas consumed for Company uses, a simple percentage is calculated using the total gas available for disposition as the denominator. We calculated these percentages over the time frame of January 2005 through December 2006. Table 2, below, shows the monthly data and the summary calculations.

Table 2

Company Use Fuel Data as Percentage of "Receipts"

San Diego Gas & Electric Company

<u>Date</u> (MMM-yy)	<u>Trans- mission</u> (Dth)	<u>Storage</u> (Dth)	<u>"Other"</u> (Dth)	<u>Total</u> (Dth)	<u>"Receipts" PGA: Net Avail.-for Disposition</u> (Dth)
Jan-05	47,133	0	3,060	50,193	13,286,350
Feb-05	40,817	0	3,060	43,876	11,870,400
Mar-05	22,976	0	3,060	26,035	11,490,086
Apr-05	46,146	0	3,060	49,206	11,491,438
May-05	12,171	0	3,060	15,231	9,550,383
Jun-05	2,442	0	3,060	5,501	7,145,170
Jul-05	11,232	0	3,060	14,292	7,894,287
Aug-05	14,217	0	3,060	17,277	8,114,020
Sep-05	6,175	0	3,060	9,234	6,642,989
Oct-05	2,406	0	3,060	5,466	6,872,003
Nov-05	10,751	0	3,060	13,811	8,190,350
Dec-05	22,858	0	3,060	25,918	10,513,220
Jan-06	34,535	0	3,060	37,595	12,559,087
Feb-06	33,306	0	3,060	36,366	10,934,214
Mar-06	36,461	0	3,060	39,521	11,496,980
Apr-06	34,184	0	3,060	37,244	10,257,987
May-06	6,273	0	3,060	9,332	8,271,980
Jun-06	13,094	0	3,060	16,154	8,373,203
Jul-06	34,620	0	3,060	37,679	11,061,232
Aug-06	9,086	0	3,060	12,146	9,108,777
Sep-06	8,986	0	3,060	12,046	8,400,115
Oct-06	6,062	0	3,060	9,121	8,671,606
Nov-06	39,858	0	3,060	42,917	9,932,479
Dec-06	48,472	0	3,060	51,532	12,703,026
24-Month (Jan'05-Dec'06) Total:	544,261	0	73,430	617,691	234,831,380
As %-of-Receipts:	0.232%	0.000%	0.031%	0.263%	

III. Un-Accounted-For (UAF) as a Percent of Receipts

Annual percentages of SDG&E Un-Accounted-For (UAF) as a percentage of gas receipts is shown in the Table 3, below:

Table 3

SDG&E UAF Annual Percentages

	2004	2005	2006	Average
SDG&E	0.45%	0.95%	1.27%	0.87%

These annual percentages were computed from SDG&E's gas accounting data for each respective year. The data in Table 4, below provide the monthly data. UAF is calculated from this data as:

- (1) Un-Adjusted-UAF = Accounted-For-Deliveries – Gas-Available,
- (2) Adjusted-UAF = Un-Adjusted-UAF + Adjustments-to-UAF.

The percentages in Table 3 are shown as the *negative* of the percentages calculated and shown in Table 4, at the bottom.

Table 4

San Diego Gas & Electric Company

<u>Date</u> (MMM-yy)	Total Gas Available to SDG&E System (Dth)	Total Accounted-For Gas (Dth)	Un-Accounted-For (UAF) Un-Adjusted = Accounted-For less Available (Dth)	Adjustments to UAF (Dth)	Un-Accounted-For (UAF) Adjusted = Un-Adjusted-UAF plus Adjustments-to-UAF (Dth)
Jan-04	12,085,019	11,716,390	-368,628	456,334	87,706
Feb-04	12,556,938	11,616,255	-940,684	374,162	-566,522
Mar-04	12,174,161	11,279,787	-894,374	948,075	53,701
Apr-04	10,537,298	11,693,271	1,155,974	-1,204,739	-48,765
May-04	10,415,987	10,194,810	-221,178	343,973	122,795
Jun-04	9,352,119	10,345,661	993,542	-996,572	-3,030
Jul-04	9,715,587	9,151,237	-564,350	527,638	-36,712
Aug-04	9,710,571	9,478,623	-231,949	169,743	-62,206
Sep-04	10,788,775	9,707,411	-1,081,363	1,210,010	128,647
Oct-04	11,021,541	10,875,310	-146,231	146,026	-205
Nov-04	12,210,588	11,710,066	-500,522	468,555	-31,967
Dec-04	14,191,688	13,170,880	-1,020,808	773,382	-247,426
Jan-05	13,286,350	14,052,962	766,611	-1,220,354	-453,742
Feb-05	11,870,400	12,904,091	1,033,691	-967,838	65,853
Mar-05	11,490,086	10,910,507	-579,579	286,977	-292,602
Apr-05	11,491,438	9,953,640	-1,537,798	1,377,345	-160,454
May-05	9,550,383	11,576,729	2,026,346	-1,950,768	75,578
Jun-05	7,145,170	9,579,384	2,434,214	-2,329,684	104,530
Jul-05	7,894,287	6,972,583	-921,704	892,753	-28,951
Aug-05	8,114,020	7,610,862	-503,157	400,231	-102,927
Sep-05	6,642,989	8,037,041	1,394,052	-1,369,137	24,915
Oct-05	6,872,003	6,739,856	-132,147	40,529	-91,618
Nov-05	8,190,350	6,988,642	-1,201,708	1,373,452	171,743
Dec-05	10,513,220	8,972,193	-1,541,027	1,155,021	-386,006
Jan-06	12,559,087	10,168,351	-2,390,735	1,794,921	-595,815
Feb-06	10,934,214	12,319,469	1,385,256	-824,911	560,345
Mar-06	11,496,980	11,613,700	116,720	-1,063,749	-947,029
Apr-06	10,257,987	11,787,172	1,529,185	-1,613,721	-84,536
May-06	8,271,980	9,509,939	1,237,960	-1,314,313	-76,354
Jun-06	8,373,203	7,138,892	-1,234,311	1,230,231	-4,081
Jul-06	11,061,232	9,135,619	-1,925,613	1,944,996	19,382
Aug-06	9,108,777	11,303,496	2,194,719	-2,371,366	-176,647
Sep-06	8,400,115	8,718,539	318,425	-311,553	6,871
Oct-06	8,671,606	8,019,471	-652,135	407,215	-244,920
Nov-06	9,932,479	9,303,914	-628,566	891,240	262,674
Dec-06	12,703,026	11,139,101	-1,563,925	1,301,561	-262,364
12-Month (Jan'04-Dec'04) Total:	134,760,270	130,939,699	-3,820,572	3,216,587	-603,985
Adj'd UAF as %-of-Gas Available:					-0.45%
12-Month (Jan'05-Dec'05) Total:	113,060,696	114,298,491	1,237,795	-2,311,474	-1,073,679
Adj'd UAF as %-of-Gas Available:					-0.95%
12-Month (Jan'06-Dec'06) Total:	121,770,685	120,157,663	-1,613,022	70,550	-1,542,472
Adj'd UAF as %-of-Gas Available:					-1.27%

IV. Calculations of Company Use and Un-Accounted-For Load

SDG&E prepares forecasts of gas demand—gas received through customers' meters. Consequently, to calculate the projected quantities of Co-Use-Fuel and UAF, the basis for the percentages developed above needs to be changed so they represent gas load as a *percentage of gas demand*—not gas receipts (or gas available for disposition).

The equation below states an identity:

$$(1) \quad Q_{out} = Q_{in} - (\text{Co-Use-Fuel}) - (\text{UAF}), \text{ where}$$

Q_{out} = Gas Demand through customers' meters,

Q_{in} = Gas Available for Disposition ("receipts"),

Co-Use-Fuel = $F \times Q_{in}$,

UAF = $U \times Q_{in}$,

F = Co-Use-Fuel as a proportion (or %) of Q_{in} , and

U = UAF as a proportion (or %) of Q_{in} .

By substituting the relationships for Co-Use-Fuel and UAF into equation (1), the following result yields a relationship between Q_{out} and Q_{in} :

$$(2) \quad Q_{out} = Q_{in} (1 - F - U), \text{ and}$$

$$(3) \quad Q_{in} = Q_{out} [1 / (1 - F - U)].$$

These equations will be used to change the basis of the percentages of Co-Use-Fuel and UAF from a "receipts basis" to a "demand basis."

The total amount of gas load for Co-Use-Fuel or UAF is numerically the same regardless of the basis for the respective percentages:

$$(4) \quad \text{Co-Use-Fuel} = F \times Q_{in} = f \times Q_{out}, \text{ and substituting for } Q_{in} \text{ from (3) yields,}$$

$$(5) \quad F \times Q_{out} [1 / (1 - F - U)] = f \times Q_{out},$$

$$(5') \quad [F / (1 - F - U)] \times Q_{out} = f \times Q_{out}.$$

Consequently, the percentage of gas demand to use to calculate Co-Use-Fuel is:

$$(6) \quad f = [F / (1 - F - U)]; \text{ similarly,}$$

the percentage of gas demand to use to calculate Co-Use-Fuel is:

$$(7) \quad u = [U / (1 - F - U)].$$

Since Co-Use-Fuel is separated into several components (denoted with subscript "c" in the formulas below), the component loads also can be calculated from gas demand using the following formula:

$$(8) \quad f_c = [F_c / (1 - F - U)]; \text{ where } F = \sum_{i=1, \dots, N} (F_i), \text{ or}$$

$$(9) \quad f_c = (F_c / F) \times f.$$

Example: From the Co-Use-Fuel percentages in Table 2 and the UAF percentage, 0.87%, of Table 3, we calculate:

$$f = 0.266\% = [0.263\% / (100\% - 0.263\% - 0.870\%)],$$

$$u = 0.880\% = [0.870\% / (100\% - 0.263\% - 0.870\%)], \text{ and}$$

$$f_c = (F_c / F) \times f = 0.235\% = (0.232\% / 0.263\%) \times 0.266\%,$$

where "c" means the *transmission* fuel component of company use fuel.