Community Wide GHG Inventory Report for City of Berkeley

Provided to:	CPUC
from	CPUC
Date:	08/20/2013
Provided by (PG&E Representative):	{Redacted}
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TOTCOUNTY	TOTCITY	YEAR	CATEGORY	RES ELEC AVG(KWH)
ALAMEDA	BERKELEY	2005	NONGOVENT	333
ALAMEDA	BERKELEY	2005	(3) COUNTY	
ALAMEDA	BERKELEY	2005	(4) CITY	
ALAMEDA	BERKELEY	2005	(5) DISTRICT	
ALAMEDA	BERKELEY	2006	NONGOVENT	334
ALAMEDA	BERKELEY	2006	(3) COUNTY	
ALAMEDA	BERKELEY	2006	(4) CITY	
ALAMEDA	BERKELEY	2006	(5) DISTRICT	
ALAMEDA	BERKELEY	2007	NONGOVENT	326
ALAMEDA	BERKELEY	2007	(3) COUNTY	27
ALAMEDA	BERKELEY	2007	(4) CITY	
ALAMEDA	BERKELEY	2007	(5) DISTRICT	
ALAMEDA	BERKELEY	2008	NONGOVENT	318
ALAMEDA	BERKELEY	2008	(3) COUNTY	173
ALAMEDA	BERKELEY	2008	(4) CITY	126
ALAMEDA	BERKELEY	2008	(5) DISTRICT	1
ALAMEDA	BERKELEY	2009	NONGOVENT	317
ALAMEDA	BERKELEY	2009	(3) COUNTY	
ALAMEDA	BERKELEY	2009	(4) CITY	
ALAMEDA	BERKELEY	2009	(5) DISTRICT	117
ALAMEDA	BERKELEY	2010	NONGOVENT	320
ALAMEDA	BERKELEY	2010	(3) COUNTY	
ALAMEDA	BERKELEY	2010	(4) CITY	115
ALAMEDA	BERKELEY	2010	(5) DISTRICT	193
ALAMEDA	BERKELEY	2011	NONGOVENT	314
ALAMEDA	BERKELEY	2011	(3) COUNTY	
ALAMEDA	BERKELEY	2011	(4) CITY	2
ALAMEDA	BERKELEY	2011	(5) DISTRICT	
ALAMEDA	BERKELEY	2012	NONGOVENT	306
ALAMEDA	BERKELEY	2012	(3) COUNTY	
ALAMEDA	BERKELEY	2012	(4) CITY	-
ALAMEDA	BERKELEY	2012	(5) DISTRICT	

RES ELEC USE(KWH)	RES ELEC CO2(metric tonnes)	RES ELEC CLIM USE(KWH)
182,849,274	40,557	
184,361,490	38,133	
182,399,066	52,595	482,142
297	0	
178,376,462	51,864	3,030,725
3,867	1	
1,964	1	
13	0	
177,211,489	46,220	3,583,363
1,403	0	
179,975,466	36,328	3,496,555
69	0	
2,278	0	
178,711,104	31,857	3,353,235
26	0	
174,779,840	35,913	226,123
3	0	

RES ELEC CLIM(lbs)	COM ELEC AVG(KWH)	COM ELEC USE(KWH)
	5,330	314,486,119
	3,746	179,805
	4,176	13,698,084
	11,420	10,076,962
	8,034	478,202,590
	4,006	192,271
	4,274	13,968,776
	10,720	9,699,450
252,642	8,924	534,854,200
	2,877	120,837
	4,317	14,291,148
	12,573	11,135,123
1,588,100	8,820	532,596,762
	3,998	47,971
	4,324	14,314,924
	11,802	10,861,382
1,877,682	8,533	518,277,827
	3,958	47,499
	4,306	14,187,641
	12,267	11,491,130
1,832,195	8,519	520,844,927
	4,254	51,042
	4,332	14,055,461
	11,867	11,406,436
1,757,095	8,513	523,579,376
	5,066	121,594
	4,317	14,174,864
	12,217	11,379,405
118,488	8,488	525,876,225
	4,645	117,060
	4,407	14,748,604
	11,914	11,038,102

COM ELEC CO2(metric tonnes)	COM ELEC CLIM USE(KWH)	COM ELEC CLIM(lbs)
69,755		
40		
3,038		
2,235		
98,911		
40		
2,889		
2,006		
154,225	14,991	7,855
35		
4,121		
3,211		
154,854	105,548	55,307
14		
4,162		
3,158		
135,175	446,398	233,913
12		
3,700		
2,997		
105,132	649,864	340,529
10		
2,837		
2,302		
93,334	691,196	362,187
22		
2,527		
2,029		
108,056	62,920	32,970
24		
3,031		
2,268		

IND ELEC AVG(KWH)	IND ELEC USE(KWH)	IND ELEC CO2(metric tonnes)

IND ELEC CLIM USE(KWH)	IND ELEC CLIM(lbs)	IND ELEC 1515	DA KWH	
		FAIL	ZZZZZ	
		FAIL	ZZZZZ	
		FAIL		24,270,938
		FAIL	ZZZZZ	
		FAIL	ZZZZZ	
		FAIL	ZZZZZ	
		FAIL	ZZZZZ	
		FAIL	ZZZZZ	

RES GAS AVG(THM)	RES GAS USE(THM)	RES GAS CO2(metric tonnes)
41	19,931,761	105,780
42	20,676,587	109,732
41	20,314,431	107,810
8	93	-
40	19,782,474	104,987
21	468	2
10	122	1
40	19,788,278	105,018
30	355	2
42	20,602,338	109,338
-	-	-
61	727	4
43	21,103,614	111,999
-	-	-
40	19,862,432	105,412
-	-	-

RES GAS CLIM USE(THM)	RES GAS CLIM(lbs)	COM GAS AVG(THM)
		1,298
		143
		462
		743
		1,298
		318
		524
		757
56,478	759,403	1,319
		233
		484
		682
313,147	4,210,575	1,301
		67
		498
		628
406,018	5,459,318	1,245
		50
		488
		674
419,226	5,636,913	1,275
		61
		484
		746
417,509	5,613,826	1,302
		130
		542
		830
37,716	507,129	1,267
		102
		547
		781

COM GAS USE(THM)	COM GAS CO2(metric tonnes)	COM GAS CLIM USE(THM)
43,111,748	228,798	
3,318	18	
243,676	1,293	
379,552	2,014	
43,262,224	229,596	
7,628	40	
274,855	1,459	
372,693	1,978	
44,232,957	234,748	16
4,193	22	
266,546	1,415	
351,395	1,865	
43,901,383	232,988	6,312
809	4	
274,210	1,455	
310,815	1,650	
41,851,238	222,108	5,221
605	3	
268,084	1,423	
331,833	1,761	
43,099,394	228,732	8,603
729	4	
268,283	1,424	
376,068	1,996	
44,635,158	236,883	13,068
3,119	17	
290,764	1,543	
412,163	2,187	
43,677,607	231,801	2,182
2,444	13	
302,829	1,607	
375,811	1,994	

COM GAS CLIM(lbs)	IND GAS AVG(THM)	IND GAS USE(THM)
215		
84,871		
70,202		
115,676		
175,712		
29,339		

IND GAS CO2(metric tonnes)	IND GAS CLIM USE(THM)	IND GAS CLIM(lbs)	IND GAS 1515
			FAIL
			FAIL
			FAIL
			FAIL
			FAIL
			FAIL
			FAIL
			FAIL

PG&E Community-Wide GHG Inventory Data Dictionary

Updated 9/24/2011

Field
CITY
YEAR
CATEGORY
RES ELEC AVG(KWH)
RES ELEC USE(KWH)
RES ELEC GHG(tons)
RES ELEC CLIM(lbs)
COM ELEC AVG(KWH)
COM ELEC USE(KWH)
COM ELEC GHG(tons)

COM ELEC CLIM(lbs)
IND ELEC AVG(KWH)
IND ELEC USE(KWH)
IND ELEC GHG(tons)
IND ELEC CLIM(lbs)
IND ELEC 1515
DA KWH
RES GAS AVG(THM)
RES GAS USE(THM)
RES GAS GHG(tons)
RES GAS CLIM(lbs)

COM GAS AVG(THM)
COM GAS USE(THM)
COM GAS GHG(tons)
COM GAS CLIM(lbs)
IND GAS AVG(THM)
IND GAS USE(THM)
IND GAS GHG(tons)
IND GAS CLIM(lbs)
IND GAS 1515

Description
Town or township (TOT) associated with the service address of customer accounts.
Year of usage.
This categorization indicates usage and emissions for accounts owned by local government. There are four categories: (1) City; (2) County, (3) District and (4) Non-government based on PG&E account categorizations. These fields are not included in NAICS manuals issued by the Federal Government - they are specific to PG&E. The District category includes accounts like Bay Area Rapid Transit, School Districts, Hospital Districts, Water or Sewer Districts, Fire Districts, Junior College Districts, District Fairs, Public Utility Districts, Community Service Districts, Cemetery Districts, Mosquito Abatement Districts and Park Districts. Any accounts not included in the City, County or District categories are included in the non-government category (including Federal, State, Foreign Government and Private accounts).
Average normalized monthly residential electricity usage in kWh. Average usage is calculated by dividing total residential usage divided by the number of normalized customer months in the year. Customer months are the number of months in a year that a customer has an active account (e.g., if there are 3 accounts in a category, and one account was active 12 months of the year, the other for 10 months, and the other for 5 months, then the AVG value would represent usage divided by 27 months (12+10+5 = 27)). To normalize months, we compare the time between meter readings to a full billing month (28 to 33 days). Full billing months are weighted as 1 and partial billing months are weighted as a fraction above or below the number 1. By using this methodology the average value represents a more accurate monthly usage average for the group as a whole.
Total annual electricity usage in kWh associated with PG&E residential customers.
Total annual estimated CO2 emissions from electricity usage in metric tons of CO2.
CO2 emission reductions in pounds from residential customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions. See http://www.pge.com/climatesmart for the list and location of ClimateSmart projects.
Average normalized monthly commercial electricity usage in kWh. Average usage is calculated by dividing total commercial usage divided by the number of normalized customer months in the year. Customer months are the number of months in a year that a customer has an active account (e.g., if there are 3 accounts in a category, and one account was active 12 months of the year, the other for 10 months, and the other for 5 months, then the AVG value would represent usage divided by 27 months (12+10+5 = 27)). To normalize months, we compare the time between meter readings to a full billing month (28 to 33 days). Full billing months are weighted as 1 and partial billing months are weighted as a fraction above or below the number 1. By using this methodology the average value represents a more accurate monthly usage average for the group as a whole.
Total annual electricity usage in kWh associated with PG&E commercial customers.
Total annual estimated CO2 emissions from electricity usage in metric tons of CO2. Emission factors for PG&E can be found in the attached reference sheet.

CO2 emission reductions in pounds from commercial customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions. Not that these emissions are not in the same units as electric GHG emissions, which are in tons.
Average normalized monthly industrial electricity usage in kWh. Average usage is calculated by dividing total industrial usage divided by the number of normalized customer months in the year. Customer months are the number of months in a year that a customer has an active account (e.g., if there are 3 accounts in a category, and one account was active 12 months of the year, the other for 10 months, and the other for 5 months, then the AVG value would represent usage divided by 27 months (12+10+5 = 27)). To normalize months, we compare the time between meter readings to a full billing month (28 to 33 days). Full billing months are weighted as 1 and partial billing months are weighted as a fraction above or below the number 1. By using this methodology the average value represents a more accurate monthly usage average for the group as a whole.
Total annual electricity usage in kWh associated with PG&E industrial customers.
Total annual estimated CO2 emissions from electricity usage in metric tons of CO2. Emission factors for PG&E can be found in the attached reference sheet.
CO2 emission reductions in pounds from industrial customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions. Note that these emissions are not in the same units as electric GHG emissions, which are in tons.
This field indicates whether the "1515 rule" passed or failed for the category of industrial electricity usage. The 15/15 Rule was adopted by the CPUC in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 rule requires that any aggregated information provided by the Utilities must be made up of at least 15 customers and a single customer's load must be less than 15 percent of an assigned category. If the number of customers in the complied data is below 15, or if a single customer's load is more than 15 percent of the total data, categories must be combined before the information is released. The Rule further requires that if the 15/15 Rule is triggered for a second time after the data has been screened once already using the 15/15 Rule, the customer be dropped from the information provided
Electricity usage for customers for whom PG&E provides transmission and distribution services, but not electricity generation. If there is Direct Access usage, but the category fails the "1515 Rule", the value field takes the value ZZZZZ.
Average normalized monthly residential electricity usage in therms. Average usage is calculated by dividing total residential usage divided by the number of normalized customer months in the year. Customer months are the number of months in a year that a customer has an active account (e.g., if there are 3 accounts in a category, and one account was active 12 months of the year, the other for 10 months, and the other for 5 months, then the AVG value would represent usage divided by 27 months (12+10+5 = 27)). To normalize months, we compare the time between meter readings to a full billing month (28 to 33 days). Full billing months are weighted as 1 and partial billing months are weighted as a fraction above or below the number 1. By using this methodology the average value represents a more accurate monthly usage average for the group as a whole.
Total annual natural gas usage in therms associated with PG&E residential customers.
Total annual estimated CO2 emissions from natural gas usage in metric tons of CO2.
CO2 emission reductions in pounds from residential customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions

Average normalized monthly commercial natural gas usage in therms. Average usage is calculated by dividing total commercial usage divided by the number of normalized customer months in the year. Customer months are the number of months in a year that a customer has an active account (e.g., if there are 3 accounts in a category, and one account was active 12 months of the year, the other for 10 months, and the other for 5 months, then the AVG value would represent usage divided by 27 months (12+10+5 = 27)). To normalize months, we compare the time between meter readings to a full billing month (28 to 33 days). Full billing months are weighted as 1 and partial billing months are weighted as a fraction above or below the number 1. By using this methodology the average value represents a more accurate monthly usage average for the group as a whole.
Total annual natural gas usage in therms associated with PG&E commercial customers. But this does include other PG&E gas use, such as natural gas vehicle fueling stations owned by PG&E and gas used at pumping stations along the gas pipeline system.
Total annual estimated CO2 emissions from natural gas usage in metric tons of CO2. Emission factors for PG&E can be found in the attached reference sheet.
CO2 emission reductions in pounds from commercial customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions. Not that these emissions are not in the same units as electric GHG emissions, which are in tons.
Average normalized monthly industrial natural gas usage in therms. Average usage is calculated by dividing total industrial usage divided by the number of normalized customer months in the year.
Total annual natural gas usage in therms associated with PG&E industrial customers. But this does include other PG&E gas use, such as natural gas vehicle fueling stations owned by PG&E and gas used at pumping stations along the gas pipeline system. Note that GEG (electric generation) accounts were excluded from this inventory since the greenhouse effect for that gas was accounted for in the emission factor for emissions related to electricity.
Total annual estimated CO2 emissions from natural gas usage in metric tons of CO2. Emission factors for PG&E can be found in the attached reference sheet.
CO2 emission reductions in pounds from industrial customers enrolled in PG&E's ClimateSmart program. These reductions can be subtracted from the total annual estimated emissions. Not that these emissions are not in the same units as electric GHG emissions, which are in tons.
This field indicates whether the "1515 rule" passed or failed for the category of industrial natural gas usage. The 15/15 Rule was adopted by the CPUC in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 rule requires that any aggregated information provided by the Utilities must be made up of at least 15 customers and a single customer's load must be less than 15 percent of an assigned category. If the number of customers in the complied data is below 15, or if a single customer's load is more than 15 percent of the total data, categories must be combined before the information is released. The Rule further requires that if the 15/15 Rule is triggered for a second time after the data has been screened once already using the 15/15 Rule, the customer be dropped from the information provided

PG&E Emission Factors and Other information

Updated 4/1/2013

Conversions

pounds to Metric Tons	2204.6	lbs per MT
kWh to Mmbtu	0.00341	Mmbtu per kWh
therms to Mbtu	0.1	Mmbtu per therm

Emission Factors

More information about Emission Factors available at:
http://www.pge.com/includes/docs/pdfs/mybusiness/energysavingsrebates/incentivesbyindustry/GHG_Emission_Factor_Guidance.pdf

Electricity Emissions Factor

Usage Year	Emission factor	Units
2003	0.6200	lbs CO2 per kWh
2004	0.5660	lbs CO2 per kWh
2005	0.4890	lbs CO2 per kWh
2006	0.4560	lbs CO2 per kWh
2007	0.6357	lbs CO2 per kWh
2008	0.6410	lbs CO2 per kWh
2009	0.5750	lbs CO2 per kWh
2010	0.445	lbs CO2 per kWh
2011	0.393	lbs CO2 per kWh
2012	0.4530	lbs CO2 per kWh

Natural Gas Emissions Factor

Usage Year		
2005	11.70	lbs CO2 per therm
2006	11.70	lbs CO2 per therm
2007	11.70	lbs CO2 per therm
2008	11.70	lbs CO2 per therm
2009	11.70	lbs CO2 per therm
2010	11.70	lbs CO2 per therm
2011	11.70	lbs CO2 per therm
2012	11.70	lbs CO2 per therm

Note 1: PG&E's 2012 emission factor will be available in late December 2013. As the CPUC GHG Calculator does not include a 2012 emission factor, we recommend using the "current" emission factor for 2012. These factors will be reviewed and updated annually

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ysavingsrebates/incentivesbyindustry/GHG_Emission_Factor_Guidance.pdf

Source
PG&E's third-party-verified GHG inventory submitted to the California Climate Action Registry (CCAR)6 (2003-2008) or The Climate Registry (TCR) (2009-12)

e December 2013. As the CPUC GHG Calculator does not include a 2012 emission
n factor for 2012. These factors will be reviewed and updated annually.