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Ms. Ann Cole, Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

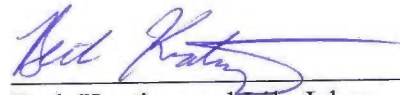
Re: Docket No. 130167- EG-- **Petition for approval of natural gas energy conservation programs for commercial customers, by Associated Gas Distributors of Florida.**

Dear Ms. Cole:

Attached for electronic filing, please find the Associated Gas Distributors of Florida's additional Partial Responses of the AGDF to Commission Staff's First Set of Data Requests in the reference docket ((Requests 15, 16, 17, 18, 19, 21, 23, 24, 26, 27 and 28), regarding the proposed conservation programs for commercial customers.

As always, thank you for your assistance with this filing. If you have any questions whatsoever, please do not hesitate to contact me.

Sincerely,



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Attorneys for the AGDF

Cc:// Staff Counsel (Corbari)
PSC Staff (Brown)

RE: Docket No. 130167-EG- Petition for approval of natural gas energy conservation programs for commercial customers, by Associated Gas Distributors of Florida.

AGDF's Partial Responses to Commission Staff's First Set of Data Requests

AGDF's responses to specific items of the PSC Staff's First Set of Data Requests (Requests 15, 16, 17, 18, 19, 21, 23, 24, 26, 27 and 28), issued August 14, 2013, are as follows:

15. Please refer to page 19 of the "Updating G-RIM and Participants Test Model for the Associated Gas Distributors of Florida," wherein FSEC states the incentives will "be based on the utility company that results in the lowest participants test score for each specific appliance."

- a. Please run an analysis in which the Participant Test scores for the proposed programs assume zero incentives.**

AGDF Response:

When we assumed zero rebate incentives within the cost effectiveness model, our results varied from utility to utility. There was, however, one consistent factor, which was that we saw a consistent decrease in the Participant Test Score when we assumed zero incentives. Because of the differences associated with the rate and cost structure of each AGDF utility, the proposed rebate dollar amounts for the proposed programs consist of a consensus rebate level amount that passed for each AGDF utility (except in the few cases where Indiantown Gas was unable to achieve these consensus levels). By taking this approach, some utilities passed both the G-RIM and Participants Tests more easily than others when each utility's differences in rates and cost structures were also taken into account. Consequently, assuming zero incentives had a greater G-RIM and PT score impact on some AGDF utilities than on others.

The key results associated with the zero incentive analysis requested:

- Uniform decreases in the Participants Score
- Uniform increases in the G-RIM Score
- Commercial Fryers failed the Participants Test for each utility, for all building types
- Commercial Clothes Dryers rebate failed the Participants Test for each utility

b. In addition, please provide the discounted payback periods for each of the appliances with and without incentives.

AGDF Response:

The cost effectiveness model was constructed to weigh the costs and benefits associated with the G-RIM and Participants Test, and to calculate a score for each rebate scenario. The model was built in accordance with the specifications defined with the *Florida Public Service Commission Cost Effectiveness Manual for Natural Gas Demand Side Management Programs*. As specified in page 3 of this manual, the analysis must be conducted over a 20 year period; which is the time period that was built into the model. The model does not have the functionality built into it to provide the payback periods for each appliance with and without incentives, nor was the model required to provide this functionality by the PSC requirements for natural gas conservation programs.

16. Please provide the residential and commercial rate impacts (cents/therm) for each utility, assuming the approval of the proposed commercial programs as submitted for three years.

AGDF Response:

Please see the additional backup documentation for PSC Staff Question 16, attached hereto, wherein a detailed 3-year Commercial Conservation Program ECCR Budget Cost Projection analysis has been provided.

In order to develop AGDF's response, we used the annual Commercial Conservation Program ECCR Budget Cost Projection for the first 3 years of the proposed commercial program (for each utility) to calculate an estimate of the residential and commercial ECCR Impacts for each utility.

Note: The ECCR impacts of the proposed Commercial Conservation Programs were derived by dividing the annual projected Commercial Conservation Program cost by the combined Residential and Commercial customer base for each utility. The ECCR Impacts identified below reflect the amount that the current Residential and Commercial customer ECCR would be **increased** from the current levels. Since the costs associated with proposed Commercial Conservation Programs are spread across Commercial and Residential customers, the increases to each utility's respective ECCR levels are consistent among commercial and residential customers. The projected ECCR increases to both the residential and commercial customer are displayed below to illustrate how the proposed program will add to the current residential and

commercial ECCR charges on a monthly and an annual basis. Also, the ECCR impacts depicted below consist of the total monthly and annual increases in ECCR related expenses, and **do not** reflect ECCR rate increases on a per Therm basis. Instead, only the total ECCR dollar amount paid by each customer is reflected.

FPU	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 2.9143	\$ 5.8286	\$ 8.7428
Monthly	\$ 0.2429	\$ 0.4857	\$ 0.7286

Florida City Gas	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 1.9228	\$ 3.8456	\$ 5.7684
Monthly	\$ 0.1602	\$ 0.3205	\$ 0.4807

TECO	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 1.7424	\$ 3.4848	\$ 5.2271
Monthly	\$ 0.1452	\$ 0.2904	\$ 0.4356

Central Florida Gas	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 1.5731	\$ 3.1462	\$ 4.7193
Monthly	\$ 0.1311	\$ 0.2622	\$ 0.3933

Indiantown	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 3.3420	\$ 6.6840	\$ 10.0261
Monthly	\$ 0.2785	\$ 0.5570	\$ 0.8355

Sebring	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 0.8794	\$ 1.7588	\$ 2.6382
Monthly	\$ 0.0733	\$ 0.1466	\$ 0.2199

St. Joe	Year 1 ECCR Impacts	Year 2 ECCR Impacts	Year 3 ECCR Impacts
Annual	\$ 2.5935	\$ 5.1870	\$ 7.7804
Monthly	\$ 0.2161	\$ 0.4322	\$ 0.6484

17. Did ADGF or FSEC measure and account for “free-riders” in its consideration of the proposed commercial programs? If so, please explain in detail how the concept of free-riders was addressed in the modeling.

AGDF Response:

No, only electric utility DSM Programs are required to address this issue. Free-riders are typically addressed during the DSM goal setting phase. Specifically, as recognized in PSC Rule 25-17.0021 (3), F.A.C., “Goals for Electric Utilities,” free-riders must be accounted for when each electric IOU calculates its 10-year projections for DSM Program participation.

Since PSC Rules do not require that Natural Gas DSM Programs project a 10-year participation forecast, free-riders were not addressed within the design of the cost effectiveness model. As noted previously, the model was designed specifically in accordance with the Florida Public Service Commission Cost Effectiveness Manual for Natural Gas Demand Side Management Programs.

18. Did ADGF or FSEC review the saturation rates, buying habits, and/or any forecast models in terms of commercial appliance spending when building the G-RIM model?

AGDF Response:

No. This type of market-specific data was not addressed in the model, because natural gas conservation programs are not directly analogous to electric utility conservation programs. More specifically, since PSC Rules do not require that Natural Gas DSM Programs project a 10-year participation forecast, this type of market information was not addressed within the design of the cost effectiveness model. While this type of forecasted information was not built into the model, appliance cost information was included. The appliance costs depicted within the cost effectiveness model were developed and entered by FSEC. These costs reflect the typical appliance costs and installation costs for each of the appliances within this petition. These costs and the sources for each cost are depicted within the cost effectiveness model AGDF provided to staff, under the tab titled Equipment Summary, Columns E, I & J.

Additionally, the AGDF Member utilities supplied a piping and venting cost value (derived from piping contractor surveys and illustrated in Appendix C of the petition) for each appliance as well.

19. Did ADGF or FSEC adjust the assumed natural gas savings for the rebound effects that the proposed commercial programs could have on the consumption of natural gas?

AGDF Response:

The rebound effect, as defined within the PSC Report titled *Evaluation of Florida's Energy Efficiency and Conservation Act* states that rebound effects are analogous to take-backs, where gains in energy efficiency as a result of a DSM program are then offset by decreases from other market forces. For example, energy efficiency gains arising from high efficiency light bulbs may be offset by the increase in DVR use. Or, the energy efficiency gains achieved with high performance windows may be offset by a home being built to larger scale and thus, requiring more energy to function.

The rebound effect is more evident in electric DSM programs, where the appliance load is only one of determinants on total electrical use; along with the pluggable load, the lighting load, the HVAC load, and thermal efficiency of the building. The programs within this petition are less impacted by the rebound effect, as the natural gas load on a building differs greatly from the electric load on a building. Since the natural gas load within the commercial buildings depicted within this petition constitutes the majority, if not the entirety of the load, there is far less of a chance that the efficiency gains achieved as a result of installing new natural gas appliances will be offset by increases from other natural loads within the building.

21. Please explain the source of the consumer price index (CPI) used in the proposed commercial appliance program modeling. What effect would a lower CPI have on the cost-effectiveness of the proposed commercial appliance programs?

AGDF Response:

Inflation rates utilized by the model were calculated in accordance with the rules established by the Florida Building Commission pursuant to Rule 9B-13.0071, F.A.C., "Cost Effectiveness of Amendments to Energy Code."

The following specific financial data was factored into the model:

- Discount Rate Specific to each utility (weighted average: 7.20%)
- General Inflation Rate: 3.19%
- Customer Tax Rate Gas: 2.50%
- Customer Tax Rate Electric: 2.56%
- O&M Expense Escalators: 3.19%
- Electric Fuel Rate Escalators: 7.12%
- Gas Fuel Rate Escalators: 6.76%

- Customer Charge Escalators -Gas: 0.00%
- Customer Charge Escalators – Elect: 0.00%
- Gas Base Rate Escalators: 6.76%
- Electric Base Rate Escalators: 7.12%
- Electric Demand Charge Escalators: 7.12%

Although it is difficult to accurately determine how a low CPI would impact all of the costs and escalators within the model, if we directly peg the General Inflation Rate to CPI, we can then run an analysis to determine the impacts of how CPI impacts the G-RIM and Participants Test. In doing so, we learned that a precipitous increase in inflation rate within the model translates into a decrease G-RIM and Participants Test scores, or makes the programs less cost effective. The opposite is true if we assume a lower inflation rate.

23. How does AGDF or its members, intend to evaluate the results of the proposed commercial appliance programs, if approved, to ensure that the programs remain cost-effective?

AGDF Response:

There are several ways in which AGDF member utilities will evaluate the results of the proposed commercial appliance programs. First, each AGDF utility will closely monitor their respective Commercial Energy Conservation budgets to ensure that the labor and the advertising cost per rebate that was assumed within the cost effectiveness model is within a reasonable level accuracy.

Second, each AGDF utility will internally track and log the total number of participants to ensure that the participation levels assumed within the model are reasonably accurate.

Finally, the Commercial Energy Conservation budgets from each AGDF Member utility would be subject to review during each utility's annual energy conservation audit.

24. Please provide a justification for the approval of the “Retention” programs. Please demonstrate how lower therm sales, coupled with higher incentives for existing customers, provides a benefit to the non-participating body of ratepayers.

AGDF Response:

Retaining a customer does not result in lower therm sales unless the customer or a specific gas appliance load is actually lost. The retention programs are designed to ensure that existing customers continue to utilize natural gas equipment, rather than switch to a non-natural gas

energy source. Retaining a customer, particularly a commercial customer load, benefits the entire body of ratepayers because it enables the utility to spread operating costs more evenly across customers, thereby reducing overall impact. In addition, the programs must pass the RIM test, which focuses on the impact on rates. The test also measures benefits and costs from the perspective of the utility's ratepayers who do not participate in the program. If a program does not pass the RIM test, it is not cost-effective and would result in a rate increase. Additionally, the energy conservation programs of each ADGF member utility are paid for based on a cost recovery rider attached to every therm billed to most rate paying customers, therefore nearly every therm retained ensures that the non-participating customer is both contributing revenue to support EC program expenses but at the same time funding future EC program benefits when needed.

26. How does AGDF expect the marketing efforts for the proposed commercial appliance programs to compare to the marketing efforts for the existing residential appliance programs?

AGDF Response: Although each AGDF utility will craft individual marketing campaigns and initiatives designed to promote the proposed programs to their respective customer bases, the list below identifies the similarities and differences between how the residential and commercial would be marketed:

Similarities between residential and commercial appliance programs:

- Information on both the residential and commercial rebate programs would be displayed within the Department of Agriculture and Consumer Services, Energy Office Energy Clearinghouse ;
- Inclusion of both residential and commercial rebates within the Department of Energy's DSIRE Database of State Incentives for Renewable and Efficiency ;
- Residential and commercial rebate programs will both be promoted on each utility's website;
- Direct mailing campaigns would be utilized to promote both residential and commercial programs;
- Retailer outreach would be a tactic to create awareness for both residential and commercial programs;

- Both residential and commercial programs would be featured on the Florida Natural Gas Association website;

Differences between residential and commercial appliance programs:

- Key account managers from each LDC will directly promote the programs to commercial customers;
- Sub-Contractor Training workshops.
- Manufacturer outreach to inform vertical-market supply chain stakeholders;
- Annual Industry group sponsorships of conferences such as the Florida Restaurant & Lodging Association (FRLA) conferences will provide a platform to promote programs;

a. Please provide all data AGDF used to arrive at the assumption that the marketing plan for commercial customers should be the same as residential, including any supporting documentation.

AGDF Response: The marketing plans for commercial customers will be the responsibility of each AGDF utility member. As noted in AGDF's response to question # 26, there will be some instances where the marketing and communication platforms to promote the commercial programs will be similar to that of the residential programs, but each AGDF utility will have the responsibility of determining which of these outreach platforms will be most compatible with the individual utility's own Commercial Conservation Program marketing plans.

b. How do AGDF and its members propose to evaluate the accuracy of the baseline assumption that commercial advertising costs are the same as the existing residential programs?

AGDF Response: Should the proposed Commercial Energy Conservation programs be approved and implemented, each utility should have sufficient data after the first three years of the program to determine the accuracy of the baseline assumptions used within the model. After this 3-year period, an analysis to determine the accuracy of the baseline assumptions could be done by comparing advertising cost relative to rebates processed (basically reversing the methodology that was deployed to in developing the baseline assumptions).

c. How will the marketing costs for the proposed programs compare to the marketing costs of the existing residential appliance programs?

AGDF Response: There will be similar marketing costs between residential and commercial energy conservation programs associated with deploying communication strategies and tactics like direct mailers, retail advertising, website promotion, tradeshow sponsorship and booth displays, sub-contractor workshops (lunch and learns), as well as traditional advertising mediums (Radio &TV).

27. Please describe how the estimates for carbon dioxide equivalent emissions were developed, including the assumed fuel mix and amount of fuel consumed per kilowatt-hour. In addition, please describe whether Florida-specific information was used to develop this generation mix.

AGDF Response:

The cost effectiveness model calculates carbon dioxide reduction as follows:

$$\text{Carbon Reduction [tons CO}_2\text{/year]}^1 = (\text{Annual kWh} * 0.000718) - (\text{Annual Therms} * 0.005)$$

Another way to conduct the CO2 calculation is as follows:

1kWh = 0.0007 metric tons CO2 (number is rounded)

1 Therm = 0.005 metric tons CO2

Additional backup documentation from the EPA website has been included as an Appendix to this response titled, Back Up Documentation for PSC Staff Question # 27

¹ CO2 production based on 0.005 metric tons per therm and 0.000718 metric tons per kWh.

28. Please provide the estimated total annual ECCR rate impact for an average residential customer's monthly bill associated with the proposed programs for each company as a whole and for each program grouping, as outlined in the table below for the next three years.

AGDF Response:

Please see the additional backup documentation for PSC Staff Question 16, where a detailed 3 year Commercial Conservation Program ECCR Budget Cost Projection analysis has been inserted as an Appendix.

Appendix: Commercial Conservation Program ECCR Budget Cost Projection Analysis

Florida Public Utilities												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR (Fully Mature)	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	92	\$ 15,435.25	\$ 11,985.66	\$ 1,891.67	\$ 174,152.19	\$ 201,573.10	\$ 20,157.31	\$ 221,730.41	\$ 55,432.60	\$ 110,865.21	\$ 166,297.81	Annual Increases Monthly Increases
Replacement (E2G)	42	\$ 7,041.70	\$ 5,467.97	\$ 2,237.50	\$ 93,974.76	\$ 106,484.43	\$ 10,648.44	\$ 117,132.88	\$ 29,283.22	\$ 58,566.44	\$ 87,849.66	
Retention (G2G)	120	\$ 20,124.30	\$ 15,626.76	\$ 1,763.33	\$ 211,653.65	\$ 247,404.72	\$ 24,740.47	\$ 272,145.19	\$ 68,036.30	\$ 136,072.59	\$ 204,108.89	
	254	\$ 42,601.26	\$ 33,080.39	\$ 5,892.50	\$ 479,780.60	\$ 555,462.25	\$ 55,546.23	\$ 611,008.48	\$ 152,752.12	\$ 305,504.24	\$ 458,256.36	
Florida City Gas (AGL)												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	121	\$ 16,396.24	\$ 16,155.44	\$ 1,891.67	\$ 229,237.65	\$ 261,789.34	\$ 26,178.93	\$ 287,968.27	\$ 71,992.07	\$ 143,984.14	\$ 215,976.21	Residential Commercial
Replacement (E2G)	55	\$ 7,480.11	\$ 7,370.26	\$ 2,237.50	\$ 123,699.59	\$ 138,549.96	\$ 13,855.00	\$ 152,404.96	\$ 38,101.24	\$ 76,202.48	\$ 114,303.72	
Retention (G2G)	158	\$ 21,377.23	\$ 21,063.28	\$ 1,763.33	\$ 278,601.08	\$ 321,041.58	\$ 32,104.16	\$ 353,145.74	\$ 88,286.44	\$ 176,572.87	\$ 264,859.31	
	334	\$ 45,253.58	\$ 44,588.98	\$ 5,892.50	\$ 631,538.32	\$ 721,380.89	\$ 72,138.09	\$ 793,518.88	\$ 198,379.74	\$ 396,759.49	\$ 595,139.23	
TECO												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	376	\$ 20,703.62	\$ 15,684.50	\$ 1,891.67	\$ 712,176.38	\$ 748,564.49	\$ 74,856.45	\$ 823,420.94	\$ 205,855.24	\$ 411,710.47	\$ 617,565.71	Residential Commercial
Replacement (E2G)	172	\$ 9,445.18	\$ 7,155.41	\$ 2,237.50	\$ 384,289.55	\$ 400,900.14	\$ 40,990.01	\$ 440,990.15	\$ 110,247.54	\$ 220,495.07	\$ 330,742.61	
Retention (G2G)	491	\$ 26,993.13	\$ 20,449.26	\$ 1,763.33	\$ 855,534.54	\$ 912,976.93	\$ 91,297.89	\$ 1,004,274.63	\$ 251,068.66	\$ 502,137.31	\$ 753,205.97	
	1039	\$ 57,141.93	\$ 43,288.16	\$ 5,892.50	\$ 1,952,010.47	\$ 2,062,441.56	\$ 206,244.16	\$ 2,268,685.72	\$ 567,171.43	\$ 1,134,342.86	\$ 1,701,514.29	
Central Florida Gas												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	12	\$ 2,006.97	\$ 4,966.41	\$ 1,891.67	\$ 23,368.55	\$ 30,341.93	\$ 3,034.19	\$ 33,376.12	\$ 8,344.03	\$ 16,688.06	\$ 25,032.09	Residential Commercial
Replacement (E2G)	6	\$ 915.60	\$ 2,265.72	\$ 2,237.50	\$ 12,609.97	\$ 15,791.29	\$ 1,579.13	\$ 17,370.42	\$ 4,342.60	\$ 8,685.21	\$ 13,027.81	
Retention (G2G)	16	\$ 2,616.66	\$ 6,475.14	\$ 1,763.33	\$ 28,400.68	\$ 37,492.48	\$ 3,749.25	\$ 41,241.73	\$ 10,310.43	\$ 20,620.86	\$ 30,931.30	
	34	\$ 5,539.23	\$ 13,707.26	\$ 5,892.50	\$ 64,379.20	\$ 83,625.70	\$ 8,362.57	\$ 91,988.27	\$ 22,997.07	\$ 45,994.13	\$ 68,991.20	
Indiantown												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	1	\$ 167.66	\$ 130.19	\$ 1,891.67	\$ 1,891.67	\$ 2,189.52	\$ 218.95	\$ 2,408.47	\$ 602.12	\$ 1,204.23	\$ 1,806.35	Residential Commercial
Replacement (E2G)	1	\$ 167.66	\$ 130.19	\$ 2,237.50	\$ 2,237.50	\$ 2,535.35	\$ 253.54	\$ 2,788.89	\$ 697.22	\$ 1,394.44	\$ 2,091.66	
Retention (G2G)	2	\$ 335.32	\$ 260.38	\$ 1,763.33	\$ 3,526.67	\$ 4,122.37	\$ 412.24	\$ 4,534.60	\$ 1,133.65	\$ 2,267.30	\$ 3,400.95	
	4	\$ 670.64	\$ 520.76	\$ 5,892.50	\$ 7,655.83	\$ 8,847.23	\$ 884.72	\$ 9,731.96	\$ 2,432.99	\$ 4,865.98	\$ 7,298.97	
Sabring												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	2.7	\$ 102.57	\$ 85.34	\$ 1,891.67	\$ 5,166.40	\$ 5,354.31	\$ 535.43	\$ 5,889.74	\$ 1,472.43	\$ 2,944.87	\$ 4,417.30	Residential Commercial
Replacement (E2G)	1.2	\$ 46.79	\$ 38.93	\$ 2,237.50	\$ 2,787.86	\$ 2,873.58	\$ 287.36	\$ 3,160.94	\$ 790.23	\$ 1,580.47	\$ 2,370.70	
Retention (G2G)	3.5	\$ 133.73	\$ 111.26	\$ 1,763.33	\$ 6,278.92	\$ 6,523.91	\$ 652.39	\$ 7,176.30	\$ 1,794.08	\$ 3,588.15	\$ 5,382.23	
	7.5	\$ 283.09	\$ 235.53	\$ 5,892.50	\$ 14,233.18	\$ 14,751.80	\$ 1,475.18	\$ 16,226.98	\$ 4,056.74	\$ 8,113.49	\$ 12,170.23	
St. Joe												
	Estimated # of Participants	Estimated Advertising Cost	Estimated Labor Cost	Average Cost Per Rebate ¹	Total Projected Commercial Rebate Costs	Subtotal Projected Labor, Advertising & Rebate Costs	Total Projected Commercial Common Costs ²	Total Projected Cost Impacts to ECCR	Total Projected Cost Impacts to ECCR (Year 1 of Program-25% Participation)	Total Projected Cost Impacts to ECCR (Year 2 of Program-50% Participation)	Total Projected Cost Impacts to ECCR (Year 3 of Program-75% Participation)	
									ECCR Rate Impact Year 1	ECCR Rate Impact Year 2	ECCR Rate Impact Year 3	Number of Combined Res & Comm. Customers
New Construction	4.56	\$ 764.18	\$ 593.40	\$ 1,891.67	\$ 8,622.07	\$ 9,979.65	\$ 997.97	\$ 10,977.62	\$ 2,744.40	\$ 5,488.81	\$ 8,233.21	Residential Commercial
Replacement (E2G)	2.08	\$ 348.63	\$ 270.71	\$ 2,237.50	\$ 4,652.58	\$ 5,271.92	\$ 527.19	\$ 5,799.11	\$ 1,449.78	\$ 2,899.56	\$ 4,349.33	
Retention (G2G)	5.94	\$ 996.33	\$ 773.66	\$ 1,763.33	\$ 10,478.73	\$ 12,248.72	\$ 1,224.87	\$ 13,473.59	\$ 3,368.40	\$ 6,736.80	\$ 10,105.19	
	12.58	\$ 2,109.14	\$ 1,637.77	\$ 5,892.50	\$ 23,753.38	\$ 27,500.29	\$ 2,750.03	\$ 30,250.32	\$ 7,562.58	\$ 15,125.16	\$ 22,687.74	

¹Rebate dollar cost derived by taking a multiplying participants by the average rebate dollar amount for each of 4 Building Type Programs

²A 10% Common Cost was added to the ECCR Impact Projections to account for unanticipated expense projections, utilities may increase or decrease % for budgeting purposes

Clean Energy

U.S. ENVIRONMENTAL PROTECTION AGENCY

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Calculations and References

This page describes the calculations used to convert greenhouse gas emission numbers into different types of equivalent units. [Go to the equivalency calculator page for more information.](#)

Electricity Reductions (kilowatt-hours)

The Greenhouse Gas Equivalencies Calculator uses the Emissions & Generation Resource Integrated Database (eGRID) U.S. annual non-baseload CO₂ output emission rate to convert reductions of kilowatt-hours into avoided units of carbon dioxide emissions. Most users of the Equivalencies Calculator who seek equivalencies for electricity-related emissions want to know equivalencies for emissions **reductions** from energy efficiency or renewable energy programs. These programs are not generally assumed to affect baseload emissions (the emissions from power plants that run all the time), but rather non-baseload generation (power plants that are brought online as necessary to meet demand). For that reason, the Equivalencies Calculator uses a non-baseload emission rate.

Emission Factor

7.0555×10^{-4} metric tons CO₂ / kWh

(eGRID2012 Version 1.0, U.S. annual non-baseload CO₂ output emission rate, year 2009 data)

Notes:

- This calculation does not include any greenhouse gases other than CO₂.
- This calculation does not include line losses.
- Individual subregion non-baseload emissions rates are also available on the [eGRID Web site](#).
- To estimate indirect greenhouse gas emissions from electricity use, please use [Power Profiler](#) or use eGRID subregion annual output emission rates as a default emission factor (see [eGRID2012 Version 1.0 Year 2009 GHG Annual Output Emission Rates \(PDF\)](#) (1 p, 312K, [About PDF](#))).

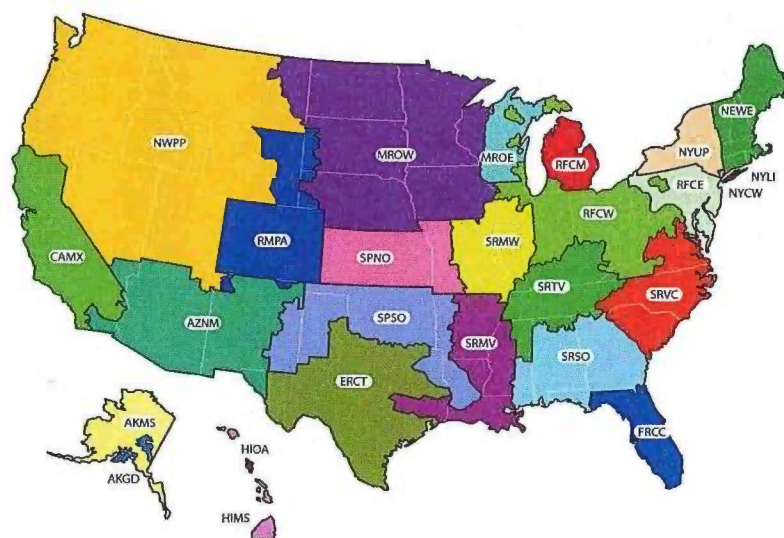
Sources

- (EPA 2012). [eGRID2012 Version 1.0](#), U.S. annual non-baseload CO₂ output emission rate, year 2009 data, U.S. Environmental Protection Agency, Washington, DC.

eGRID2012 Version 1.0 Year 2009 GHG Annual Output Emission Rates

Annual total output emission rates for greenhouse gases (GHGs) can be used as default factors for estimating GHG emissions from electricity use when developing a carbon footprint or emission inventory. Annual non-baseload output emission rates should not be used for those purposes, but can be used to estimate GHG emissions reductions from reductions in electricity use.

eGRID subregion acronym	eGRID subregion name	Annual total output emission rates			Annual non-baseload output emission rates		
		Carbon dioxide (CO ₂) (lb/MWh)	Methane (CH ₄) (lb/GWh)	Nitrous oxide (N ₂ O) (lb/GWh)	Carbon dioxide (CO ₂) (lb/MWh)	Methane (CH ₄) (lb/GWh)	Nitrous oxide (N ₂ O) (lb/GWh)
AKGD	ASCC Alaska Grid	1,280.86	27.74	7.69	1,320.75	33.16	6.34
AKMS	ASCC Miscellaneous	521.26	21.78	4.28	1,469.44	61.53	12.10
AZNM	WECC Southwest	1,191.35	19.13	15.58	1,187.67	22.25	9.12
CAMX	WECC California	658.68	28.94	6.17	993.89	33.52	4.07
ERCT	ERCOT All	1,181.73	16.70	13.10	1,155.44	19.66	7.59
FRCC	FRCC All	1,176.61	39.24	13.53	1,301.40	36.04	11.91
HIMS	HICC Miscellaneous	1,351.66	72.40	13.80	1,615.98	91.06	17.19
HIOA	HICC Oahu	1,593.35	101.74	21.98	1,621.42	107.94	18.73
MROE	MRO East	1,591.65	23.98	27.04	1,868.23	29.40	30.40
MROW	MRO West	1,628.60	28.80	27.79	2,114.93	61.83	37.41
NEWE	NPCC New England	728.41	75.68	13.86	1,157.44	61.72	14.43
NWPP	WECC Northwest	819.21	15.29	12.50	1,404.55	38.56	18.79
NYCW	NPCC NYC/Westchester	610.67	23.75	2.81	1,118.06	22.47	2.31
NYLI	NPCC Long Island	1,347.99	96.86	12.37	1,336.59	30.78	3.51
NYUP	NPCC Upstate NY	497.92	15.94	6.77	1,347.12	41.08	16.87
RFCE	RFC East	947.42	26.84	14.96	1,628.97	32.94	22.46
RFCM	RFC Michigan	1,659.46	31.41	27.89	1,834.66	35.17	29.15
RFCW	RFC West	1,520.59	18.12	25.13	2,001.76	24.56	32.10
RMPA	WECC Rockies	1,824.51	22.25	27.19	1,756.62	23.54	22.51
SPNO	SPP North	1,815.76	21.01	28.89	2,147.53	26.32	31.82
SPSO	SPP South	1,599.02	23.25	21.79	1,513.73	25.22	15.11
SRMV	SERC Mississippi Valley	1,002.41	19.45	10.65	1,201.66	25.72	7.11
SRMW	SERC Midwest	1,749.75	19.57	28.98	2,192.85	25.04	35.89
SRSO	SERC South	1,325.68	22.27	20.78	1,622.00	27.22	23.50
SRTV	SERC Tennessee Valley	1,357.71	17.28	22.09	1,921.12	25.16	30.61
SRVC	SERC Virginia/Carolina	1,035.87	21.51	17.45	1,677.35	38.55	25.56
U.S.		1,216.18	24.03	18.08	1,555.48	30.83	19.76



This is a representational map; many of the boundaries shown on this map are approximate because they are based on companies, not on strictly geographical boundaries.