

28 February 2014

Stephen Garl
Florida Public Service Commission
2540 Schumard Oak Blvd.
Tallahassee, Florida 32399-0688

Subject: FPUC 2013 Annual Conservation Report

Dear Steve:

Black & Veatch on behalf of Florida Public Utilities Company (FPUC) electronically files FPUC's 2013 Annual Conservation Report as required by 25-17.0021(5) F.A.C. In addition, five bound paper copies are being sent via Federal Express to your attention. If you have any questions, please give us a call.

Very truly yours,
BLACK & VEATCH CORPORATION



Myron Rollins
Director

mrr
Enclosure[s]

cc: Aleida Socarras - FPUC
Cheryl Martin - FPUC
Kira Lake - FPUC
Curtis Young - FPUC
Beth Keating - Gunster

2013 ANNUAL CONSERVATION REPORT

B&V PROJECT NO. 163826

PREPARED FOR

Florida Public Utilities Company

28 FEBURARY 2014

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1 Introduction

This document contains Florida Public Utilities Company's (FPUC) annual report summarizing its demand-side management activities and the total actual achieved results for its approved DSM goals for the 2013 calendar year in accordance with 25-17.0021 (5) FAC. FPUC's 2009 conservation goals were approved in Order No. PSC-09-0855-FOF-EG dated December 30, 2009. In this document, FPUC's conservation plan performance for 2013 is compared to the 2009 goals. FPUC's 2010 Demand-Side Management Plan, which was developed to meet the 2009 conservation goals, significantly changed FPUC's conservation programs. However, these new programs were not implemented until the approval of the 2010 Demand-Side Management Plan on December 7, 2010 with Consummating Order No. PSC-10-0713-CO-EG. This 2013 report represents the third full year in which FPUC utilized its new programs set forth in its 2010 Demand-Side Management Plan.

2 Comparison to 2009 Goals

Tables 2-1 through 2-6 present FPUC's 2012 demand and energy conservation program savings compared to the 2009 goals for residential, commercial/industrial, and total both at the generator and meter. Order No. PSC 09-0855-FOF-EG only specifies goals at the generator. For Tables 2-4 through 2-6 at the meter, the goals from PSC-09-0855-FOF-EG are reduced by losses. Detailed performance of the individual programs is shown in Section 3.0. The 2010 savings and goals are not presented in Tables 2-1 through 2-6 since FPUC's conservation programs for the 2009 goals were not approved until December 7, 2010 and thus the 2010 demand and energy savings were based on the 2005 Demand-Side Management Plan. The 2010 savings and goals are presented in FPUC's 2010 Annual Conservation Report.

Table 2-1 Residential Class Programs (At the Generator)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
	2011	0.47	0.13	265.12%	0.77	0.2	285.59%	1.65	0.51
2012	0.35	0.13	159.58%	0.54	0.2	167.39%	1.16	0.51	127.48%
2013	0.39	0.13	197.50%	0.63	0.2	212.53%	1.34	0.51	163.45%

Table 2-2 Commercial/Industrial Class Programs (At the Generator)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
	2011	0.08	0.06	39.40%	0.12	0.23	-46.67%	0.41	0.78
2012	0.05	0.06	-23.36%	0.07	0.23	-69.44%	0.2	0.78	-74.20%
2013	0.04	0.06	-31.92%	0.06	0.23	-72.60%	0.18	0.78	-77.26%

Table 2-3 Total Savings Across All Programs and Classes (At the Generator)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
2011	0.56	0.19	193.84%	0.89	0.43	107.87%	2.07	1.29	60.18%
2012	0.38	0.19	101.65%	0.61	0.43	40.70%	1.36	1.29	5.50%
2013	0.43	0.19	125.06%	0.69	0.43	60.02%	1.52	1.29	17.90%

Table 2-4 Residential Class Programs (At the Meter)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
2011	0.45	0.11	323.30%	0.74	0.2	268.14%	1.58	0.48	227.76%
2012	0.32	0.11	192.90%	0.51	0.2	155.29%	1.11	0.48	130.75%
2013	0.37	0.11	235.68%	0.60	0.2	198.39%	1.28	0.48	167.24%

Table 2-5 Commercial/Industrial Class Programs (At the Meter)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
2011	0.08	0.05	52.10%	0.12	0.2	-41.81%	0.39	0.75	-47.45%
2012	0.04	0.05	-12.20%	0.07	0.2	-65.00%	0.19	0.75	-74.39%
2013	0.04	0.05	-22.00%	0.06	0.2	-71.52%	0.17	0.75	-77.42%

Table 2-6 Total Savings Across All Programs and Classes (At the Meter)

Year	Winter Peak (MW) Reduction			Summer Peak (MW) Reduction			GWh Energy Reduction		
	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance	Total Achieved	Commission Approved Goal	% Variance
2011	0.53	0.16	237.79%	0.85	0.41	105.81%	1.97	1.23	60.99%
2012	0.37	0.16	128.80%	0.58	0.41	40.91%	1.3	1.23	5.67%
2013	0.41	0.16	155.16%	0.65	0.41	59.45%	1.45	1.23	18.06%

In 2013, FPUC significantly exceeded the residential winter peak, summer peak, and energy reduction goals by 198 percent, 213 percent, and 163 percent, respectively. The main reason for this level of exceedence is due to higher than projected participation in the Residential Heating and Cooling Upgrade Program. Individual residential program participation is discussed further in Section 3.

In 2013, FPUC missed the commercial/industrial winter peak demand goal, the summer peak demand goal, and energy goal by 32, 73 and 77 percent, respectively. FPUC was not able to achieve projected participation in any commercial/industrial programs in 2013; the commercial energy survey program reached 98 percent of its goal, but Commercial Indoor Efficient Lighting, Heating and Cooling, Window Film, Commercial Chiller, and Solar Water Heater programs each fell well short of projections. Individual commercial/industrial program participation is discussed further in Section 3.

FPUC exceeded all three of its overall goals for 2013. FPUC exceeded the total winter peak demand goal by 125 percent, the total summer peak demand by 60 percent, and energy reduction goal by 18 percent.

3 Existing Programs and 2009 Goals

Since FPUC's 2010 Demand-Side Management Plan was not approved until December 2010, participation in the new programs did not begin until 2011.

Under the 2010 Demand-Side Management Plan, FPUC implemented the following quantifiable programs.

- Residential Energy Survey
- Residential Heating and Cooling Upgrade
- Commercial Energy Survey
- Commercial Indoor Efficient Lighting Rebate
- Commercial Heating and Cooling Upgrade
- Commercial Window Film
- Commercial Chiller

In addition, FPUC provided the following Solar Pilot Programs.

- Solar Photovoltaic
- Solar Hot Water Heaters

Tables 3-1 through 3-9 present the program performance for each of the programs. The Conservation Goal Docket is currently in process which will revised FPUC's conservation goals. FPUC believes it is prudent to wait until revised goals are available to make adjustments to the conservation programs.

Table 3-1 Residential Energy Survey Historical Participation and Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	23,597	23,597	272	272	1.15%		
2012	23,670	23,670	231	503	2.13%		
2013	23,743	23,743	234	737	3.10%		
2014	23,938	23,938	250	987	4.12%		
2015	24,134	24,134	250	1237	5.13%		
2016	24,332	24,332	250	1487	6.11%		
2017	24,531	24,531	250	1737	7.08%		
2018	24,733	24,733	250	1987	8.03%		
2019	24,935	24,935	250	2237	8.97%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	272	1,229	0.451	0.451	334,288	123	123
2012	231	1,229	0.451	0.451	283,899	104	104
2013	234	1,229	0.451	0.451	287,586	106	106
2014	250	1,229	0.451	0.451	307,250	113	113
2015	250	1,229	0.451	0.451	307,250	113	113
2016	250	1,229	0.451	0.451	307,250	113	113
2017	250	1,229	0.451	0.451	307,250	113	113
2018	250	1,229	0.451	0.451	307,250	113	113
2019	250	1,229	0.451	0.451	307,250	113	113
At The Generator							
2011	272	1,287	0.472	0.472	350,136	128	128
2012	231	1,287	0.472	0.472	297,358	109	109
2013	234	1,287	0.472	0.472	301,220	111	111
2014	250	1,287	0.472	0.472	321,816	118	118
2015	250	1,287	0.472	0.472	321,816	118	118
2016	250	1,287	0.472	0.472	321,816	118	118
2017	250	1,287	0.472	0.472	321,816	118	118
2018	250	1,287	0.472	0.472	321,816	118	118
2019	250	1,287	0.472	0.472	321,816	118	118

Table 3-2 Residential Heating & Cooling Upgrade Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	23,597	23,597	323	323	1.37%		
2012	23,670	23,670	213	536	2.26%		
2013	23,743	23,743	258	794	3.34%		
2014	23,938	23,938	150	944	3.94%		
2015	24,134	24,134	150	1,094	4.53%		
2016	24,332	24,332	150	1,244	5.11%		
2017	24,531	24,531	150	1,394	5.68%		
2018	24,733	24,733	150	1,544	6.24%		
2019	24,935	24,935	150	1,694	6.79%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	323	3,778	1.02	1.86	1,220,294	329	601
2012	213	3,778	1.02	1.86	804,714	217	396
2013	258	3,778	1.02	1.86	974,724	263	480
2014	150	3,778	1.02	1.86	566,700	153	279
2015	150	3,778	1.02	1.86	566,700	153	279
2016	150	3,778	1.02	1.86	566,700	153	279
2017	150	3,778	1.02	1.86	566,700	153	279
2018	150	3,778	1.02	1.86	566,700	153	279
2019	150	3,778	1.02	1.86	566,700	153	279
At The Generator							
2011	323	3,957	1.068	1.948	1,278,145	345	629
2012	213	3,957	1.068	1.948	842,863	228	415
2013	258	3,957	1.068	1.948	1,020,933	276	503
2014	150	3,957	1.068	1.948	593,566	160	292
2015	150	3,957	1.068	1.948	593,566	160	292
2016	150	3,957	1.068	1.948	593,566	160	292
2017	150	3,957	1.068	1.948	593,566	160	292
2018	150	3,957	1.068	1.948	593,566	160	292
2019	150	3,957	1.068	1.948	593,566	160	292

Table 3-3 Commercial Energy Survey Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	4,407	4,407	65	65	1.47%		
2012	4,352	4,352	54	119	2.73%		
2013	4,372	4,372	49	168	3.84%		
2014	4,412	4,412	50	218	4.94%		
2015	4,453	4,453	50	268	6.02%		
2016	4,494	4,494	50	318	7.08%		
2017	4,535	4,535	50	368	8.11%		
2018	4,577	4,577	50	418	9.13%		
2019	4,619	4,619	50	468	10.13%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	65	1,861	0.534	0.534	120,965	35	35
2012	54	1,861	0.534	0.534	100,494	29	29
2013	49	1,861	0.534	0.534	91,189	26	26
2014	50	1,861	0.534	0.534	93,050	27	27
2015	50	1,861	0.534	0.534	93,050	27	27
2016	50	1,861	0.534	0.534	93,050	27	27
2017	50	1,861	0.534	0.534	93,050	27	27
2018	50	1,861	0.534	0.534	93,050	27	27
2019	50	1,861	0.534	0.534	93,050	27	27
At The Generator							
2011	65	1,949	0.559	0.559	126,700	36	36
2012	54	1,949	0.559	0.559	105,258	30	30
2013	49	1,949	0.559	0.559	95,512	27	27
2014	50	1,949	0.559	0.559	97,461	28	28
2015	50	1,949	0.559	0.559	97,461	28	28
2016	50	1,949	0.559	0.559	97,461	28	28
2017	50	1,949	0.559	0.559	97,461	28	28
2018	50	1,949	0.559	0.559	97,461	28	28
2019	50	1,949	0.559	0.559	97,461	28	28

Table 3-4 Commercial Indoor Efficient Lighting Rebate Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	4,407	4,407	2	2	0.05%		
2012	4,352	4,350	1	3	0.07%		
2013	4,372	4,369	1	4	0.09%		
2014	4,412	4,408	12	16	0.36%		
2015	4,453	4,437	12	28	0.63%		
2016	4,494	4,466	12	40	0.89%		
2017	4,535	4,495	12	52	1.15%		
2018	4,577	4,525	12	64	1.40%		
2019	4,619	4,555	12	76	1.65%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	2	16,259	2.08	3.2	32,518	4	6
2012	1	16,259	2.08	3.2	16,259	2	3
2013	1	16,259	2.08	3.2	16,259	2	3
2014	12	16,259	2.08	3.2	195,108	25	38
2015	12	16,259	2.08	3.2	195,108	25	38
2016	12	16,259	2.08	3.2	195,108	25	38
2017	12	16,259	2.08	3.2	195,108	25	38
2018	12	16,259	2.08	3.2	195,108	25	38
2019	12	16,259	2.08	3.2	195,108	25	38
At The Generator							
2011	2	17,030	2.179	3.352	34,060	4	7
2012	1	17,030	2.179	3.352	17,030	2	3
2013	1	17,030	2.179	3.352	17,030	2	3
2014	12	17,030	2.179	3.352	204,358	26	40
2015	12	17,030	2.179	3.352	204,358	26	40
2016	12	17,030	2.179	3.352	204,358	26	40
2017	12	17,030	2.179	3.352	204,358	26	40
2018	12	17,030	2.179	3.352	204,358	26	40
2019	12	17,030	2.179	3.352	204,358	26	40

Table 3-5 Commercial Heating & Cooling Upgrade Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	4,345	4,345	0	0	0.00%		
2012	4,350	4,350	12	12	0.28%		
2013	4,370	4,370	10	22	0.50%		
2014	4,410	4,410	50	72	1.63%		
2015	4,451	4,451	50	122	2.74%		
2016	4,492	4,492	50	172	3.83%		
2017	4,533	4,533	50	222	4.90%		
2018	4,575	4,575	50	272	5.95%		
2019	4,617	4,617	50	322	6.97%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	0	3,778	1.02	1.86	0	0	0
2012	12	3,778	1.02	1.86	45,336	12	22
2013	10	3,778	1.02	1.86	37,780	10	19
2014	50	3,778	1.02	1.86	188,900	51	93
2015	50	3,778	1.02	1.86	188,900	51	93
2016	50	3,778	1.02	1.86	188,900	51	93
2017	50	3,778	1.02	1.86	188,900	51	93
2018	50	3,778	1.02	1.86	188,900	51	93
2019	50	3,778	1.02	1.86	188,900	51	93
At The Generator							
2011	0	3,957	1.068	1.948	0	0	0
2012	12	3,957	1.068	1.948	47,485	13	23
2013	10	3,957	1.068	1.948	39,571	11	19
2014	50	3,957	1.068	1.948	197,855	53	97
2015	50	3,957	1.068	1.948	197,855	53	97
2016	50	3,957	1.068	1.948	197,855	53	97
2017	50	3,957	1.068	1.948	197,855	53	97
2018	50	3,957	1.068	1.948	197,855	53	97
2019	50	3,957	1.068	1.948	197,855	53	97

Table 3-6 Commercial Window Film Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	4,407	4,407	0	0	0.00%		
2012	4,352	4,352	3	3	0.07%		
2013	4,372	4,372	1	4	0.09%		
2014	4,412	4,412	12	16	0.36%		
2015	4,453	4,453	12	28	0.63%		
2016	4,494	4,494	12	40	0.89%		
2017	4,535	4,535	12	52	1.15%		
2018	4,577	4,577	12	64	1.40%		
2019	4,619	4,619	12	76	1.65%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	0	3,670	0	0.84	0	0	0
2012	3	3,670	0	0.84	11,010	0	3
2013	1	3,670	0	0.84	3,670	0	1
2014	12	3,670	0	0.84	44,040	0	10
2015	12	3,670	0	0.84	44,040	0	10
2016	12	3,670	0	0.84	44,040	0	10
2017	12	3,670	0	0.84	44,040	0	10
2018	12	3,670	0	0.84	44,040	0	10
2019	12	3,670	0	0.84	44,040	0	10
At The Generator							
2011	0	3,844	0.000	0.880	0	0	0
2012	3	3,844	0.000	0.880	11,532	0	3
2013	1	3,844	0.000	0.880	3,844	0	1
2014	12	3,844	0.000	0.880	46,128	0	11
2015	12	3,844	0.000	0.880	46,128	0	11
2016	12	3,844	0.000	0.880	46,128	0	11
2017	12	3,844	0.000	0.880	46,128	0	11
2018	12	3,844	0.000	0.880	46,128	0	11
2019	12	3,844	0.000	0.880	46,128	0	11

Table 3-7 Commercial Chiller Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	4,407	4,407	1	1	0.02%		
2012	4,352	4,352	0	1	0.02%		
2013	4,372	4,372	0	1	0.02%		
2014	4,412	4,412	1	2	0.05%		
2015	4,453	4,453	1	3	0.07%		
2016	4,494	4,494	1	4	0.09%		
2017	4,535	4,535	1	5	0.11%		
2018	4,577	4,577	1	6	0.13%		
2019	4,619	4,619	1	7	0.15%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	1	216,545	39.94	63.17	216,545	40	63
2012	0	216,545	39.94	63.17	0	0	0
2013	0	216,545	39.94	63.17	0	0	0
2014	1	216,545	39.94	63.17	216,545	40	63
2015	1	216,545	39.94	63.17	216,545	40	63
2016	1	216,545	39.94	63.17	216,545	40	63
2017	1	216,545	39.94	63.17	216,545	40	63
2018	1	216,545	39.94	63.17	216,545	40	63
2019	1	216,545	39.94	63.17	216,545	40	63
At The Generator							
2011	1	226,811	41.833	66.165	226,811	42	66
2012	0	226,811	41.833	66.165	0	0	0
2013	0	226,811	41.833	66.165	0	0	0
2014	1	226,811	41.833	66.165	226,811	42	66
2015	1	226,811	41.833	66.165	226,811	42	66
2016	1	226,811	41.833	66.165	226,811	42	66
2017	1	226,811	41.833	66.165	226,811	42	66
2018	1	226,811	41.833	66.165	226,811	42	66
2019	1	226,811	41.833	66.165	226,811	42	66

Table 3-8 Solar Photovoltaic Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	28,004	28,004	10	10	0.04%		
2012	28,022	28,012	8	18	0.06%		
2013	28,115	28,097	9	27	0.10%		
2014	28,346	28,319	8	35	0.12%		
2015	28,578	28,543	8	43	0.15%		
2016	28,812	28,769	8	51	0.18%		
2017	29,049	28,998	8	59	0.20%		
2018	29,287	29,228	8	67	0.23%		
2019	29,527	29,460	8	75	0.25%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	10	4,380	0.07	2.50	43,800	1	25
2012	8	4,380	0.07	2.50	35,040	1	20
2013	9	4,380	0.07	2.50	39,420	1	23
2014	8	4,380	0.07	2.50	35,040	1	20
2015	8	4,380	0.07	2.50	35,040	1	20
2016	8	4,380	0.07	2.50	35,040	1	20
2017	8	4,380	0.07	2.50	35,040	1	20
2018	8	4,380	0.07	2.50	35,040	1	20
2019	8	4,380	0.07	2.50	35,040	1	20
At The Generator							
2011	10	4,588	0.08	2.62	45,876	1	26
2012	8	4,588	0.08	2.62	36,701	1	21
2013	9	4,588	0.08	2.62	41,289	1	24
2014	8	4,588	0.08	2.62	36,701	1	21
2015	8	4,588	0.08	2.62	36,701	1	21
2016	8	4,588	0.08	2.62	36,701	1	21
2017	8	4,588	0.08	2.62	36,701	1	21
2018	8	4,588	0.08	2.62	36,701	1	21
2019	8	4,588	0.08	2.62	36,701	1	21

Table 3-9 Solar Water Heater Historical Participation and Future Savings

Year	Number of Customers	Number of Eligible Customers	Annual Program Participants	Cumulative Program Participants	Total Penetration Level		
2011	28,004	28,004	3	3	0.01%		
2012	28,022	28,019	2	5	0.02%		
2013	28,115	28,110	1	6	0.02%		
2014	28,346	28,340	12	18	0.06%		
2015	28,578	28,560	12	30	0.10%		
2016	28,812	28,782	12	42	0.15%		
2017	29,049	29,007	12	54	0.19%		
2018	29,287	29,233	12	66	0.23%		
2019	29,527	29,461	12	78	0.26%		
Year	Actual/ Projected Participants	Reduction Per Installation			Total Annual Reduction		
		kWh	Winter kW	Summer kW	kWh	Winter kW	Summer kW
At The Meter							
2011	3	1,482	0.45	0.22	4,446	1	1
2012	2	1,482	0.45	0.22	2,964	1	0
2013	1	1,482	0.45	0.22	1,482	0	0
2014	12	1,482	0.45	0.22	17,784	5	3
2015	12	1,482	0.45	0.22	17,784	5	3
2016	12	1,482	0.45	0.22	17,784	5	3
2017	12	1,482	0.45	0.22	17,784	5	3
2018	12	1,482	0.45	0.22	17,784	5	3
2019	12	1,482	0.45	0.22	17,784	5	3
At The Generator							
2011	3	1,552	0.471	0.230	4,657	1	1
2012	2	1,552	0.471	0.230	3,105	1	0
2013	1	1,552	0.471	0.230	1,552	0	0
2014	12	1,552	0.471	0.230	18,627	6	3
2015	12	1,552	0.471	0.230	18,627	6	3
2016	12	1,552	0.471	0.230	18,627	6	3
2017	12	1,552	0.471	0.230	18,627	6	3
2018	12	1,552	0.471	0.230	18,627	6	3
2019	12	1,552	0.471	0.230	18,627	6	3

As shown in Table 3-1 and 3-2 above, the number of residential energy surveys missed projections by 6 percent, and the number of participants in the heating and cooling upgrade program significantly exceeded projections. The high participation in the heating and cooling upgrade program was responsible for significantly exceeding the program goal and residential goals.

As shown in Tables 3-3 through 3-7 above, the commercial programs varied in their level success, though none fully achieved their participation goals. The commercial energy survey program was the most successful, and only missed its annual goal of 50 participants by 2 percent. The commercial heating and cooling upgrade program reported 10 participants, achieving 20 percent of its annual goal of 50 participants. The commercial chiller upgrade program did not report any participation. The commercial indoor efficient lighting rebate and window film programs only achieved one participant, falling short of their annual goal of 12 participants.

As shown in Tables 3-8 and 3-9, the number of participants in the solar photovoltaic pilot program slightly exceeded the goal of 8 participants, while the number of participations in the solar water heater program did not meet the goal of 12 participants. The direct cost of the solar pilot programs reached the cap of \$47,233.

3.1 PROGRAM COSTS

The per installation cost and total program cost for FPUC for each program for 2013 are presented in Table 3-10 for each program. The total program costs are based on the actual 2013 costs and are a function of actual participation and actual administrative and general costs. The exact date the programs started is December 7, 2010, when the consummating order approving the Demand-Side Management plan was issued.

Table 3-10 Program Costs

PROGRAM	2013 PER INSTALLATION COST	2013 TOTAL PROGRAM COST
Residential Energy Survey	\$866	\$202,531
Residential Heating and Cooling Upgrade	\$537	\$138,558
Commercial Energy Survey	\$882	\$43,227
Commercial Indoor Efficient Lighting Rebate	\$5,205	\$5,205
Commercial Heating and Cooling Upgrade	\$718	\$7,184
Commercial Window Film	\$1,212	\$1,212
Commercial Chiller	-	\$851
Solar Photovoltaic	\$5,273	\$47,461
Solar Water Heater	\$971	\$971

3.2 NET BENEFITS

The annual net benefits for each program are shown in Table 3-11 based on the 2013 actual program cost and the savings provided in the 2010 Demand-Side Management Plan for the emissions total resource test (E-TRC). The negative net benefits for the Residential Energy Survey are a result of the actual 2013 program costs per survey exceeding the estimated survey program costs in part due to participation being below projections. The negative annual net benefit for the Commercial Chiller program is due to their not being any participants in the program in 2013. The annual net benefits will increase with increased program participation.

Table 3-11 Annual Net Benefits

PROGRAM	ANNUAL NET BENEFITS
Residential Energy Survey	(\$406)
Residential Heating and Cooling Upgrade	\$423,532
Commercial Energy Survey	\$6,083
Commercial Indoor Efficient Lighting Rebate	\$2,131
Commercial Heating and Cooling Upgrade	\$14,731
Commercial Window Film	\$335
Commercial Chiller	(\$791)
Solar Photovoltaic	NA
Solar Water Heater	NA

3.3 OTHER CONSERVATION ACTIVITIES

FPUC emphasizes activities where they can reach many of their customers at one time with their conservation message. FPUC’s small size and proportionate resources necessitate this approach to obtain cost effective conservation in their service area. FPUC was very effective with this approach in 2013. FPUC held or attended 11 events with a total attendance of 13,120.

These events are generally at the community level. The purpose of participating in these events is to educate FPUC’s customers about energy efficiency and to offer energy conservation surveys and measures as a way to combat high electrical usage and the rising costs of energy. Conservation kits (containing compact fluorescent light bulbs, weather stripping, etc.), energy saving tips, and conservation brochures are distributed to FPUC’s customers during these events and contribute to conservation by stressing the importance of using energy efficiency as a means to reduce high energy bills. Events provide FPUC a great opportunity to efficiently distribute FPUC’s conservation kits which have a direct impact on energy consumption.

One of FPUC’s recent conservation projects was the Light Emitting Diode (LED) Street Lighting Research Program in partnership with the City of Fernandina Beach. The Program was a Conservation, Demonstration, and Development (CDD) program to research LED Street Lighting to evaluate the benefits regarding energy efficiency and conservation and further identify specific applications and types of lights. The CDD program was conducted over a three year period which began in 2011 and was completed in 2013.

The goal of the program was to determine if new LED Street Light technology can provide efficient, safe and aesthetically pleasing light that will reduce overall energy consumption while providing customers with a lighting option with cost that is equivalent or less than the currently available lights. An additional goal of the program was to establish a working relationship with the City of Fernandina that will allow FPUC and the City to jointly find additional ways to conserve energy and lower energy costs.

The program was conducted using the following steps:

- Obtain LED lights for use in the study. The lights had similar lighting levels (lumens) to the existing 100 watt and 200 watt High Pressure Sodium (HPS) street lights currently in service on the FPUC system. Lights used were from separate manufacturers and should be readily available from separate sources.
- Determine suitable locations for the installation of LED Lights. The installations were along highly traveled roads within the City and reasonably adhered to typical design standards of the lights. The locations allowed for visual comparison of nearby HPS lighting installations.
- Install the LED lights at the designated locations. The LED lights were installed and evaluated by installation personnel regarding ease of installation. Installation personnel were asked to provide initial opinions on the anticipated long term integrity of each light and the efficiency of future maintenance operations. Initial lumen level readings were obtained by the engineering department.
- Obtain customer input regarding the new light installations and other conservation issues. Surveys were mailed to customers in the area of light installations to solicit feedback regarding the lights and other similar topics. The surveys contained different types of lighting and energy efficiency questions and were easily completed by customers. Surveys were returned by customers using the postage paid envelopes. Customer feedback was used to gauge customers' reaction to LED lights and other energy conservation measures. Program modifications may be made based on customer input. Surveys were conducted at the initiation of this program and after twelve months.
- Inform the community of this program through press releases and through City publications.
- Evaluate lumen level output of each of the lights. During the program, lumen level output was measured every six months and was compared to the initial readings at the time of installations. Standard measuring techniques and locations were developed and used during each subsequent measurement.
- Evaluate energy consumption of lights. During the program, energy consumption of randomly selected lights was determined and compared to manufacturer provided information. The intent was to confirm the typical energy consumption of lights and determine if they match manufacturer provided information and if the consumption changes during the term of the program.
- Determine the appropriate specifications for LED wattage and lumen level lights to be used on the FPUC system. Initially these lights were used as an alternative or replacement for the 100 watt and 200 watt HPS lights currently in use on the FPUC system.
- Provide new LED Street Lighting options to any City throughout the FPUC service territory. Specifics on how replacements will be conducted is being developed.