



ANNUAL REPORT ON  
Activities Pursuant to the

Florida  
Energy  
Efficiency &  
Conservation  
Act

As Required by  
Sections 366.82(10), and 377.703(2)(f),  
and 553.975, Florida Statutes

FEBRUARY 2014

# Florida Public Service Commission

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February 2014



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## **Executive Summary**

Reducing Florida's peak electric demand and energy consumption became a statutory objective in 1980, when the Florida Energy Efficiency and Conservation Act (FEECA) was enacted. Codified in Sections 366.80 through 366.85 and Section 403.519, Florida Statutes (F.S.), FEECA emphasizes reducing the growth rates of weather-sensitive peak demand, reducing and controlling the growth rates of electricity consumption, and reducing the consumption of scarce resources, such as petroleum fuels. Section 366.82(2), F.S., requires the Public Service Commission (Commission or PSC) to set appropriate goals for the seven electric utilities subject to FEECA at least every five years. Commission rules have defined goals with respect to annual electric peak demand and energy savings over a ten-year period, with a reset every five years. The seven utilities currently subject to FEECA are Florida Power & Light Company (FPL), Duke Energy Florida, Inc. (DEF), Tampa Electric Company (TECO), Gulf Power Company (Gulf), Florida Public Utilities Company (FPUC), Orlando Utilities Company (OUC), and JEA. Once goals are established, the utilities must submit for Commission approval, cost-effective demand-side management (DSM) plans, which contain the DSM programs designed to meet these goals.

This report fulfills three Commission statutory obligations. The Commission is required by Section 366.82(10), F.S., to provide an annual report to the Legislature and the Governor summarizing the adopted goals and progress achieved toward those goals. Section 377.703(2)(f), F.S., requires the Commission to file information on electricity and natural gas energy programs with the Department of Agriculture and Consumer Services. Section 553.975, F.S., requires the Commission to submit a biennial report to the Governor, President of the Senate and Speaker of the House regarding the effect of state energy standards on conservation.

Section 1 of this report provides a history of FEECA, highlights savings produced by utility programs since 1980, and provides a description of existing tools for increasing conservation throughout the state. Section 2 discusses current goals and achievements of the FEECA utilities. For context, Section 3 provides an overview of Florida's electricity market. Section 4 discusses methods the Commission has used to educate consumers about conservation and provides a list of related web sites. Finally, Appendix 1 provides a description of the conservation programs currently offered by the FEECA utilities.

### **Conservation Achievements**

Over the last thirty-three years, the FEECA utilities' DSM programs in total have reduced winter peak demand by an estimated 6,465 megawatts (MW) and summer peak demand by an estimated 6,737 MW. The demand savings from these programs have resulted in the deferral or avoidance of a substantial fleet of baseload, intermediate, and peaking power plants. These programs have also reduced total electric energy consumption by an estimated 8,937 gigawatt-hours (GWh).

Since 1981, Florida's investor-owned electric utilities have recovered over \$5.7 billion of conservation expenditures for DSM programs through the Energy Conservation Cost Recovery (ECCR) clause. Approximately \$2.9 billion of the total conservation program expenditures

recovered have occurred in the last ten years. In 2012, Florida's investor-owned electric utilities recovered over \$387 million in conservation program expenditures, performed more than 206,000 residential audits, and offered over 100 conservation programs for residential and commercial customers.

Consumer choice plays an important role in reducing the growth rates of electrical demand and energy in Florida. Consumers may support electric energy conservation through a variety of actions including constructing smaller, more efficient homes, buying energy-efficient appliances, installing energy-efficiency upgrades to existing homes and increasing the use of the most cost-effective demand-side renewable systems. The Commission's consumer education program offers several tools to promote consumer awareness of conservation and energy efficiency opportunities.

Conversely, prescriptive mandates play a major role in conservation. Building code requirements established by the Florida Building Commission in 2008, per legislative directive, have increased the energy performance of new buildings by at least 20 percent compared to the 2007 Energy Efficiency Code. State and Federal minimum efficiency standards for residential appliances and commercial equipment, along with building construction standards, complement state level utility-sponsored DSM programs that consumers may participate in on a voluntary basis. For example, in 2013, the U.S. Department of Energy (DOE) issued an update for the energy conservation standards for residential microwave ovens which could reduce energy consumption by up to 75 percent in standby mode and revised energy conservation standards for residential room air conditioners. The DOE also initiated rulemaking to amend testing procedures for residential refrigerators and freezers to account for ice-making energy use and to update energy use for other features. Once finalized, the new standards for Energy Star certified refrigerators and freezers would use approximately 10 percent less energy than models meeting the current 2014 standards. Lighting standards have changed as well, with various watts of incandescent bulbs being phased out and becoming no longer available for purchase. On January 1, 2012, traditional 100 watt incandescent light bulbs were phased out. Similarly, 75 watt incandescent bulbs were phased out as of January 1, 2013, and as of January 1, 2014, 60 watt and 40 watt incandescent bulbs are no longer available.

Section 2 of this report compares the FEECA utilities' demand and energy savings to the goals set by the Commission. In 2010, the Commission approved DSM plans for OUC, JEA, FPUC, and TECO. Gulf's DSM plan was approved in February 2011. The Commission voted to modify the proposed DSM plans of FPL and DEF on June 26, 2011. The modification included the notation that the approved plans for FPL and DEF would consist of the existing programs in effect on the date of the Orders.

Section 366.82(8), F.S., also provides authority for the Commission to assign financial rewards and penalties to investor-owned utilities (IOUs). The Commission was authorized by 2008 legislation to allow an IOU to receive an additional return on equity of up to 50 basis points for exceeding 20 percent of its annual load growth through energy efficiency and conservation measures. Specifically, to FPL and DEF, the Commission ruled that if their achievements surpassed their established goals, the utilities could be eligible for a financial award. Conversely, if FPL and DEF's achievements fell below the savings projected under their modified DSM plans, the utilities could be financially penalized. To date, the Commission has

not awarded financial awards or assessed penalties for IOUs subject to FEECA. Such actions could be decided in a limited proceeding as established by the Commission in Order No. PSC-09-0855-FOF-EG.

On July 26, 2013, the Commission opened dockets for each of the seven FEECA utilities to file new goals.<sup>1</sup> The utilities will submit testimony beginning April 2014. FPUC and OUC received approval to submit goals based on proxy methodologies of Gulf (FPUC) and TECO (OUC). Both FPUC and OUC are required to file their goal calculations within ten days of the Commission's approval of the goals for the respective proxy utility. Both FPUC and OUC will also be excused from participating in the hearing of the new goals proceedings.

An assessment of the 2012 annual goals compared to each utility's annual achievements during 2012 reveals that Gulf, OUC, and JEA exceeded their demand and energy savings goals in every category. FPL, DEF, TECO, and FPUC did not surpass their demand and annual goals in some categories for at least one customer sector during 2012. The primary reasons given by these utilities for not meeting their goals included lower than expected consumer participation due to weak economic conditions, unexpected delays in implementing new programs, and the need for increased marketing efforts.

## **Conclusion**

The potential demand and energy savings from utility-sponsored conservation programs are affected by consumer education and behavior, building codes, and appliance efficiency standards. Consumer actions to implement energy efficiency measures outside of utility programs as well as codes and efficiency standards, create a baseline for a new program's cost-effectiveness and reduce the amount of incremental energy savings available from utility programs. Utility programs are designed to incent behavior that exceeds current building codes and minimum efficiency standards. It should be noted that the savings from these programs are somewhat uncertain because they depend on voluntary participation from customers. However, the expense is shared by all customers. As such, customer participation in utility-offered DSM and energy conservation programs, along with individual efforts to use electrical energy wisely, remain fundamental elements for reducing the demand for energy.

Conservation and renewable energy are expected to continue to play an important role in Florida's energy future. The Commission will continue its efforts to encourage cost-effective conservation and renewable energy to reduce the use of fossil fuels and defer the need for new generating capacity to ensure a balanced mix of resources that reliably and cost-effectively meet the needs of Florida's ratepayers.

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<sup>1</sup> See Docket Nos. 130199-EI through 130205-EI.



# **Section 1. The Florida Energy Efficiency and Conservation Act**

## **1.1 History of Florida Energy Efficiency Conservation Act**

The Florida Energy Efficiency and Conservation Act (FEECA) has emphasized three key areas in reducing the growth rates of weather-sensitive peak demand, reducing the growth rates of electricity consumption and reducing the consumption of limited resources such as petroleum fuels since it was enacted in 1980. The Commission is required to establish goals, to which electric utilities are required to respond via DSM programs, with an aim of accomplishing these statutory requirements.

Originally, all electric utilities in Florida were subject to FEECA. However, in 1989, two key changes were made to the law. The first change limited the required electric utilities subject to the law to those with more than 500 gigawatt-hours (GWh) of annual retail sales. During that period, the requirement included 12 utilities which produced 94 percent of Florida's retail electricity sales combined. The second change to the law included language which encouraged cogeneration.

In 1996, municipal and cooperative utilities' minimum retail sales thresholds were raised by the Legislature to 2,000 GWh. Retail sales for these utilities were measured as of July 1, 1993, and two municipal utilities' sales fell within the boundaries of the new law: JEA and OUC. In addition to these two utilities, all five Florida investor-owned utilities (IOU) must comply with FEECA regardless of sales. No rural electric cooperatives are subject to FEECA.

FEECA utilities currently account for more than 90 percent of all Florida energy sales as shown below in Table 1. The table reflects 2012 energy sales by each FEECA utility, as well as all non-FEECA utilities. In addition, the table also includes the percentage of Florida’s total energy sales for each FEECA utility along with a total percentage allocation for the non-FEECA utilities.

**Table 1. Energy Sales by Florida's FEECA Utilities in 2012**

<b>Florida's FEECA Utilities</b>	<b>Energy Sales GWh</b>	<b>% of Total Energy Sales</b>
Florida Power & Light Company	102,226	48.1
Duke Energy Florida	36,381	17.9
Tampa Electric Company	18,412	8.8
Gulf Power Company	10,663	5.2
Florida Public Utilities Company	661	0.3
JEA	11,663	5.9
Orlando Utilities Commission	5,916	2.8
<b>FEECA Utilities' Total</b>	<b>185,922</b>	<b>90.4</b>
Non-FEECA Utilities' Total	29,969	9.6
<b>Total Statewide Energy Sales</b>	<b>215,891</b>	<b>100.0</b>

Source: FEECA Utility’s Ten Year Site Plans and responses to staff’s data requests

In March 2012, the Florida Legislature tasked the Commission, in collaboration with the Florida Department of Agriculture and Consumer Services (DACCS), to evaluate whether the Act was still in the public interest. Academic institutions were identified as being best able to meet the criterion that the evaluation be conducted via independent contract. Of 19 potential academic contractors with expertise in energy, the electric utility industry, and energy efficiency and conservation, a team of researchers from the University of Florida and the National Regulatory Research Institute was ultimately selected to perform the study. Results were distributed to the Governor and the Legislature on January 7, 2013. The research team concluded that FEECA remains in the public interest for the following reasons:

- Customer contributions to FEECA utility-sponsored conservation programs provide a positive net benefit. Florida’s conservation program costs are in line with costs in similarly situated states;
- Conservation programs which use information and financial incentives to encourage less consumption act to offset imperfect price signals inherent in traditional rate structures;

- The PSC applies appropriate and commonly used cost-effectiveness tests to evaluate the costs and benefits of conservation programs. The cost of conservation programs does not appear to be an undue burden on consumers; and
- The utilities' roles in promoting energy conservation are appropriate.

A copy of the report can be found using the following link: [http://warrington.ufl.edu/centers/purc/docs/FEECA\\_FinalReport2012.pdf](http://warrington.ufl.edu/centers/purc/docs/FEECA_FinalReport2012.pdf). The Legislature also required the Commission to serve as consultants to the DACS Office of Energy along with the Florida Building Commission, and the Florida Energy System Consortium to develop information regarding cost savings associated with various energy efficiency and conservation measures. This information is posted on the DACS website to facilitate consumers' energy efficiency decisions.

In May 2013, the Commission's Office of Auditing and Performance Analysis completed a report titled *Review of Administrative Efficiency of Utility Demand-Side Management Programs*. As the title implies, an audit was performed to examine the administrative efficiency of the DSM programs of the four major investor-owned electric utilities in Florida: FPL, DEF, TECO, and Gulf. The purpose of the audit was to review each utility's processes to efficiently develop, measure, analyze and improve its DSM programs. Staff also examined how each utility evaluates DSM program efficiencies and cost-effectiveness, including how each utility tracks costs associated with implementing the DSM programs, how each utility evaluates programs for modification or replacement, and how each utility utilizes industry or peer-to-peer analysis to evaluate or improve its DSM programs. The audit revealed that no major causes for concern exist regarding the manner in which the IOUs utilize their resources towards running their DSM programs. A copy of the report is available on the Commission's website at <http://www.floridapsc.com/publications/pdf/electricgas/DSMReviewReport.pdf>.

## **1.2 Conservation Tools and DSM Savings**

As potential sites for power plants and transmission corridors become more scarce, the need to defer future generating units and transmission units grows in importance. Though utility-sponsored DSM programs are unquestionably important, consumer choice and mandatory efficiency standards are keys to reducing demand and energy growth rates in Florida. Consumers respond to price signals by buying smaller, more energy-efficient homes, installing efficiency upgrades, using more cost-effective demand-side renewable systems, behavioral changes, and a host of other actions. The Commission's actions to educate Florida's consumers on conservation opportunities are discussed further in Section 4 of this report.

Home and business energy audits serve as the basis for all DSM and conservation programs by allowing utilities the opportunity to evaluate conservation opportunities for their customers. Pursuant to 366.82(11), F.S., all FEECA utilities are required to offer energy audits to residential customers. During 2012, Florida's investor-owned utilities performed more than 206,000 residential energy audits. Through their DSM plans the FEECA utilities currently offer more than 100 conservation programs for residential, commercial, and industrial customers.

Table 2 illustrates that since FEECA’s enactment in 1980, DSM programs are estimated to have reduced winter peak demand by an estimated 6,465 MW and reduced annual energy consumption by an estimated 8,937 GWh. The demand savings from these programs have resulted in the deferral or avoidance of a substantial fleet of baseload, intermediate and peaking power plants.

**Table 2. Estimated Cumulative DSM Savings Since 1980**

	<b>Savings</b>
Summer Peak Demand	6,737 MW
Winter Peak Demand	6,465 MW
Annual Energy Reduction	8,937 GWh

Source: Florida Reliability Coordinating Council Load and Resource Plan

Utility programs are designed to incent behavior that exceeds current building codes and minimum efficiency standards. The potential demand and energy savings from utility-sponsored conservation programs are affected by consumer education and behavior, building codes, and appliance efficiency standards. Consumer actions to implement energy efficiency measures outside of utility programs as well as codes and efficiency standards, create a baseline for a new program’s cost-effectiveness and reduce the amount of incremental energy available to count towards savings. At the state level, building code requirements established by the Florida Building Commission in 2008, per legislative directive, have increased the energy performance of new buildings by at least 20 percent compared to the 2007 Energy Efficiency Code. State and Federal minimum efficiency standards for residential appliances and commercial equipment, along with building construction standards, complement state level utility-sponsored DSM programs for which consumer participation is voluntary.<sup>2</sup>

At the federal level, the U.S. Department of Energy (DOE) establishes minimum energy efficiency standards for more than 50 categories of appliances and equipment representing approximately 90 percent of home energy use, 60 percent of commercial building use, and 29 percent of industrial energy use. Throughout 2013, the DOE completed more than 30 rulemaking actions, including four final rules on new energy efficiency standards.

The DOE’s final rules issued in 2013 included an update for the energy conservation standards for residential microwave ovens in standby mode and off mode and revised energy conservation standards for residential room air conditioners. The DOE also initiated rulemaking to amend testing procedures for residential refrigerators and freezers to account for ice making energy use and to update energy use for other features. Once finalized, the new standards for Energy Star certified refrigerators and freezers would use approximately 10 percent less energy than models meeting the current 2014 standards.

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<sup>2</sup> Pursuant to Section 553.975, F.S., the Commission must report the effectiveness of state energy conservation standards established by Sections 553.951 – 553.973, F.S. Florida’s appliance efficiency standards are mandatory efficiency improvements but have not been updated since 1993, and therefore have likely been superseded by more recent federal efficiency standards.

The new standards for microwave ovens will go into effect starting in 2016, and are expected to save U.S. households approximately \$3 billion on their energy bills through 2030. The DOE estimates that the changes in the energy efficiency standards for microwave ovens will reduce energy consumption in standby mode by 75 percent in countertop microwave ovens and over-the-range microwave ovens without convection features, and by 51 percent for over-the-range microwave ovens with convection.

Lighting standards have changed as well, with various watts of incandescent bulbs being phased out and becoming no longer available for purchase. Beginning January 1, 2012, traditional 100 watt incandescent light bulbs were phased out. Similarly, 75 watt incandescent bulbs were phased out as of January 1, 2013 and as of January 1, 2014, 60 watt and 40 watt incandescent bulbs will no longer be available. Table 3 outlines the expected timeframes for changes in appliance standards for those appliances where rulemaking has begun.

**Table 3. Federal Appliance Standards**

<b>Product Category</b>	<b>Approximate Rule Initiation Date</b>	<b>Final Action Date</b>
<b>Heating Products Rulemaking</b>		
Furnace Fans	Fiscal Year (FY) 2013, Quarter (Q)2	Dec. 2013
Single-Package Vertical Air Conditioner (AC) and Heat Pump (HP)	FY 2012, Q1	Apr. 2014
Commercial and Industrial Fans and Blowers	FY 2011, Q3	Sept. 2015
Commercial Warm Air Furnaces	FY 2013, Q1	Dec. 2015
Residential Boilers	FY 2013, Q1	Jul. 2016
Commercial Packaged Boilers	FY 2013, Q2	Dec. 2016
Residential Water Heaters	FY 2013, Q2	Mar. 2018
Residential Direct Heating Equipment and Pool Heaters	FY 2014, Q1	Mar. 2018
Residential Furnace	FY 2015, Q1	Jun. 2019
<b>Transformers, Motors, and Pumps Rulemaking</b>		
Electric Motors	FY 2010, Q2	May 2014
Commercial and Industrial Pumps	FY 2011, Q2	Aug. 2015
<b>Lighting Rulemaking</b>		
General Service Fluorescent Lamps and Incandescent Reflector Lamps*	FY 2011, Q2	Sept. 2014
Metal Halide Lamp Fixtures	FY 2009, Q2	May 2014
High-Intensity Discharge Lamps	FY 2010, Q3	Jul. 2014
General Service Incandescent Lamps and Compact Fluorescent Lamps, General Service LEDs, and General Service Organic Light-Emitting Diodes (OLEDs)	FY 2014, Q2	Dec. 2016
Ceiling Fans and Ceiling Fan Light Kits	FY 2012, Q4	Dec. 2016
Elliptical Reflector (ER), Bulge Reflector (BR), and Small-Diameter Incandescent Reflector Lamp**	FY 2010, Q1	TBD
<b>Home Appliance Rulemaking</b>		
Commercial Clothes Washers	FY 2012, Q2	Jan. 2015
Wine Chillers and Miscellaneous Refrigeration Products	FY 2011, Q3	Jan. 2016
Kitchen Ranges and Ovens	FY 2014, Q1	Mar. 2017
Dehumidifiers	FY 2013, Q1	Mar. 2017
<b>Space Cooling Rulemaking</b>		
Commercial Packaged Air Conditioning and Heating Equipment	FY 2013, Q1	Dec. 2015
Packaged Terminal Air Conditioners and Heat Pump	FY 2013, Q2	Sept. 2016
<b>Commercial Refrigeration Rulemaking</b>		
Walk-In Coolers and Walk-In Freezers	FY 2009, Q1	Jan. 2014
Commercial Refrigeration Equipment	FY 2010, Q2	Feb. 2014
Commercial Automatic Ice Makers	FY 2011, Q3	May 2014
<b>Electronics Rulemaking</b>		
Battery Chargers and External Power Supply	FY 2008, Q2	Dec. 2013
<b>Enforcement Rulemaking</b>		
Enforcement of Regional Standards for Furnaces and Central Air Conditioners	FY 2012, Q1	Dec. 2013

\* DOE has revised the scope of this rulemaking activity.

\*\*DOE has ceased work on this rulemaking activity.

Utility programs offer rebates and incentives for appliances that exceed federally established minimum efficiency standards, thereby avoiding duplicate savings estimates. Increases in federal efficiency standards, independent conservation efforts by consumers, and general conservation practices may increase utilities' challenges in achieving enough increased savings through DSM programs to meet the rising goal levels. Moreover, participation rates in utility programs are driven by the anticipated payback to the participating customer. While utility incentives will tend to increase the customers "take rate" in programs, the cost of electricity is included in each customer's calculations to participate. Thus low or declining electric prices reduce the market participation in DSM programs.

### 1.3 Conservation Cost Recovery

Administrative costs, equipment, and incentive payments to participants all are costs of implementing a DSM program. IOUs are allowed to recoup prudent and reasonable expenses for DSM programs approved by the Commission through the Energy Conservation Cost Recovery (ECCR) clause. Before attempting to recover costs through the ECCR, utilities must prove their DSM programs are cost-effective and therefore benefit ratepayers in general. Utilities must also obtain Commission approval for program modifications before seeking cost recovery.

IOUs have recovered more than \$5.7 billion in conservation expenditures via the ECCR clause since 1981; approximately \$2.9 billion of these funds have been recovered in the last 10 years. Table 4 shows the annual DSM expenditures recovered from customers by Florida's IOUs. As shown in Table 4, the IOUs' annual expenditures demonstrated general stability from 2003 to 2007, primarily because DSM programs reached saturation in participation levels and became less cost-effective due to reduced cost of new generating units. From 2008 through 2011, IOUs saw growth in DSM expenditures due to adding and/or changing some programs, including programs designed to encourage consumers to install new energy efficiency technology, and increased incentive levels.

**Table 4. DSM Expenditures Recovered Through the ECCR Clause**

	<b>FPL</b>	<b>DEF</b>	<b>TECO</b>	<b>Gulf</b>	<b>FPUC</b>	<b>Total</b>
<b>2003</b>	\$150,026,657	\$62,156,585	\$17,518,874	\$7,313,033	\$381,563	\$237,396,712
<b>2004</b>	\$145,679,192	\$60,072,362	\$16,357,137	\$7,619,637	\$382,504	\$230,110,832
<b>2005</b>	\$144,192,696	\$59,143,076	\$15,583,727	\$8,826,754	\$473,610	\$228,219,863
<b>2006</b>	\$146,205,249	\$59,543,107	\$14,099,638	\$9,562,098	\$456,162	\$229,866,254
<b>2007</b>	\$146,204,978	\$67,109,815	\$13,652,585	\$9,107,952	\$515,022	\$236,589,592
<b>2008</b>	\$180,016,994	\$77,593,960	\$16,989,411	\$9,257,740	\$534,350	\$284,392,455
<b>2009</b>	\$186,051,381	\$80,954,071	\$32,243,415	\$10,576,197	\$540,433	\$310,365,497
<b>2010</b>	\$216,568,331	\$85,354,923	\$43,371,442	\$9,859,407	\$693,331	\$355,847,434
<b>2011</b>	\$228,293,641	\$91,738,039	\$43,349,092	\$15,003,596	\$941,462	\$379,325,830
<b>2012</b>	\$224,033,740	\$93,728,108	\$46,593,831	\$22,925,503	\$651,145	\$387,932,327
<b>Total</b>						<b>\$2,880,047,556</b>

Source: Energy Conservation Cost Recovery Schedules CT-3

During the annual ECCR proceedings, the Commission decides on an energy conservation cost recovery factor for application to the energy portion of each customer’s bill for the following calendar year. These factors are set based on each utility’s estimated conservation costs for the next calendar year, along with a reconciliation for any actual conservation cost under- or over-recovery for the previous year. The Commission most recently set conservation cost recovery factors in November 2013.<sup>3</sup> These factors take effect with the first billing cycle of 2014.

Table 5 illustrates the IOUs’ conservation cost recovery factors for application to residential customer bills. These factors were applied to a bill based on 1,200 kilowatt-hour (kWh) energy usage to estimate the impact on a typical residential customer’s monthly bill.

**Table 5. Residential Conservation Cost Recovery Factors in 2014**

<b>Utility</b>	<b>Residential ECCR Factor (cents/kWh)</b>	<b>Monthly Bill Impact (based on 1,200 kWh)</b>
FPL	0.337	\$4.04
DEF	0.402	\$4.82
TECO	0.295	\$3.54
Gulf	0.226	\$2.71
FPUC	0.100	\$1.20

Source: Order No. PSC-13-0614-FOF-EG

Natural gas local distribution companies (LDC) also offer conservation programs to their customers although currently, the Commission does not set goals for these companies. Natural gas programs typically include the provision of incentives for the replacement of less efficient appliances with more efficient versions. As a result, LDCs have historically spent the majority of their conservation program costs promoting the use of natural gas to residential home builders and home owners. These actions are achieved by providing rebates that support the installation of energy efficient appliances. Recently, the natural gas LDCs received approval from the Commission to offer natural gas programs to their commercial customers.<sup>4</sup> The programs will allow the LDCs to incentivize new construction, retrofit, or retention by commercial customers who use efficient end-use natural gas appliances, similar to what is offered to residential customers. During the analysis of the LDC’s petition seeking to offer new commercial natural gas conservation programs, staff noted that the Commission’s electric rules on energy conservation contain more guidelines than those currently encompassed in the natural gas conservation rules. The Commission has authorized staff to conduct workshops in the near future to initiate discussions with the industry to determine whether the current natural gas

<sup>3</sup> See Order No. PSC-13-0614-FOF-EG, issued November 20, 2013, in Docket No. 130002-EG, In re: Energy Conservation Cost Recovery Clause.

<sup>4</sup> See Docket No. 130167-EG; Petition for approval of natural gas energy conservation programs for commercial customers, by Associated Gas Distributors of Florida.

conservation rules should be revised in order to be more consistent with the filing requirements for the electric utilities.

Commission Rule 25-17.015, Florida Administrative Code (F.A.C.), permits natural gas distribution companies to seek recovery for their conservation programs. The Commission most recently set conservation cost recovery factors in November 2013.<sup>5</sup> These factors took effect with the first billing cycle of 2014. Table 6 displays the LDCs' conservation cost recovery factors which will be applied to a typical residential customer's bill using 20 therms of natural gas per month.

**Table 6. Residential Natural Gas Cost Recovery Factors in 2014**

<b>Utility</b>	<b>ECCR Factor (cents/therm)</b>	<b>Monthly Bill Impact (based on 20 therms)</b>
Chesapeake Utilities	21.947	\$4.39
Florida City Gas	13.084	\$2.62
Florida Public Utilities	9.256	\$1.85
Peoples Gas System	8.253	\$1.65
St. Joe Natural Gas	23.774	\$4.75
Indiantown Gas Company	2.4690	\$0.49
Sebring Gas System	11.993	\$2.40

Source: Order No. PSC-13-0613-FOF-GU

<sup>5</sup> See Order No. PSC-13-0613-FOF-GU; issued November 20, 2013; in Docket No. 130004-GU; In re: Natural Gas Conservation Cost Recovery.



## Section 2. Analytics for Setting Demand-Side Management Goals

### 2.1 Cost-Effectiveness

In general, utility-sponsored DSM programs can benefit the general body of electric ratepayers because of the programs' ability to offset the need for future power plant construction. These programs therefore can reduce costs to ratepayers by postponing capital expenditures and reducing current energy production costs, including fuel and variable operating and maintenance-related costs, and by improving reliability. On the other hand, the deferral of new power plants can forgo the benefits of more efficient power production and lower emission rates for certain regulated pollutants.

Section 366.82, F.S., requires utility-sponsored conservation programs to be cost-effective. This requirement is codified in Rule 25-17.008, F.A.C., which identifies cost-effective methodologies to be used, as well as cost and benefit information utilities must provide the Commission whenever an assessment of an existing, new or modified conservation program is requested. In order to be eligible to qualify for cost-recovery, utilities are required to provide a cost-effectiveness analysis of each program. This analysis is done via three tests: the Participants test, the Ratepayer Impact Measure (RIM) test, and the Total Resource Cost (TRC) test. The tests are summarized below.

***Participants test.*** The Participants test analyzes costs and benefits from a program participant's point of view and ignores the impact on the utility and other ratepayers not participating in the program. The costs customers pay for equipment and maintenance are considered under the Participants test. Benefits considered in the test include incentives that are paid by the utility to the customers and a reduction in customer bills.

***RIM test.*** The RIM test includes the costs associated with incentive payments to participants and decreased revenues to the utility which typically must be recovered from the general body of ratepayers at the time of a rate case. In particular, the RIM test is designed to ensure that all ratepayers, not just the program's participants, will benefit from a proposed DSM program. A DSM program that passes the RIM test ensures that all customer rates are lower than they otherwise would have been without the DSM program.

***TRC test.*** The TRC test measures the overall economic efficiency of a DSM program from a social perspective. This test measures the net costs of a DSM program based on its total costs, including both the participant's and the utility's costs. Unlike the RIM test, customer incentives and decreased revenues are not included as costs in the TRC test; instead, these factors are treated as transfer payments among ratepayers. Moreover, certain external costs and benefits such as environmental impacts are appropriate for inclusion under the TRC test.

Table 7 below further illustrates the costs and benefits considered in the three Commission-approved cost-effectiveness methodologies:

**Table 7. Summary of Cost-Effectiveness Methodologies**

	<b>Participants</b>	<b>RIM</b>	<b>TRC</b>
<b><i>Benefits</i></b>			
Bill Reduction	<b>X</b>		
Incentives Received	<b>X</b>		
Avoided Generation (Capital and O&M)		<b>X</b>	<b>X</b>
Avoided Transmission (Capital and O&M)		<b>X</b>	<b>X</b>
Fuel savings		<b>X</b>	<b>X</b>
<b><i>Costs</i></b>			
Program Costs		<b>X</b>	<b>X</b>
System Fuel Cost Increase		<b>X</b>	<b>X</b>
Incentives Paid		<b>X</b>	
Lost Revenues		<b>X</b>	
Participant's Costs (Capital and O&M)	<b>X</b>		<b>X</b>

Source: Staff created chart

IOUs also are required by the Commission to assess programs regularly. When programs prove no longer cost-effective, utilities must petition the Commission for modification or discontinuation of the program. In contrast, if new efficiency measures become available which are cost-effective, the utility may petition the Commission for approval of a new program.

Legislation enacted in 2008 amended the FEECA statute, placing upon the Commission additional responsibilities when adopting goals. These responsibilities include the consideration of benefits and costs to program participants and ratepayers as a whole as well as the need for energy efficiency incentives for customers and utilities. The Commission must also evaluate the costs imposed by state and federal regulations on greenhouse gas emissions. The Commission is also responsible for assessing the cost-effectiveness of all demand-side and supply-side energy conservation measures, including demand-side renewable energy systems. The Commission's most recent goal-setting proceeding, initiated in 2008, was the first implementation of these modifications. Additionally, the statute was amended to allow the Commission to provide appropriate financial rewards and/or penalties to the utilities over which it has rate-setting authority. Finally, the 2008 legislation authorized the Commission to allow an IOU to receive an additional return on equity of up to 50 basis points for exceeding 20 percent of its annual load

growth through energy efficiency and conservation measures. To date, the Commission has not awarded financial awards or assessed penalties for IOUs subject to FEECA.

## 2.2 Commission-Established Goals

In Order No. PSC-09-0855-FOF-EG,<sup>6</sup> issued December 30, 2009, the Commission established annual numeric goals for FEECA utilities for reductions in summer peak demand, winter peak demand, and annual energy for the period from 2010 through 2019. The Commission based the annual numeric DSM goals for the IOUs (FPL, DEF, TECO, Gulf, and FPUC) on the enhanced TRC test and the top ten residential energy savings measures with a two-year or less payback. The enhanced TRC, like the TRC test, measures the overall economic efficiency of a DSM program from a social perspective and also includes the addition of projected future carbon costs. The Commission found that OUC's and JEA's annual numeric goals were to be based on their current program levels so their general body of ratepayers are not subjected to increased rates. DSM goals of DEF and JEA subsequently were amended based on updated information provided through the utilities' discovery responses.<sup>7</sup> Table 8 shows the summer demand, winter demand, and annual reduction energy goals ultimately approved for FEECA utilities by the Commission.

**Table 8. Commission-Approved DSM Goals (2010-2019)**

	<b>Summer Demand Goals (MW)</b>	<b>Winter Demand Goals (MW)</b>	<b>Annual Energy Goals (GWH)</b>
<b>FPL</b>	1,498	605	3,082
<b>DEF</b>	1,134	1,058	3,205
<b>TECO</b>	138	109	360
<b>Gulf</b>	144	110	574
<b>FPUC</b>	4	2	13
<b>OUC</b>	12	9	36
<b>JEA</b>	18	14	155
<b>Total</b>	<b>2,948</b>	<b>1,907</b>	<b>7,425</b>

Source: PSC Order Nos. PSC-09-0855-FOF-EG and PSC-10-0198-FOF-EG

The Commission's last goal-setting process occurred during 2009. After setting the annual numeric goals, the Commission directed utilities to file DSM plans designed to meet their goals as outlined by Section 366.82(7), F.S. On March 30, 2010, the FEECA utilities filed petitions requesting approval of their respective DSM plan for the 10-year period from 2010 to 2019. OUC, JEA, FPUC, and TECO's proposed plans were approved by the Commission in

<sup>6</sup> See Order No. PSC-09-0855-FOF-EG, in Docket Nos. 080407-EG, 080408-EG, 080409-EG, 080410-EG, 080411-EG, 080412-EG, and 080413-EG, issued December 30, 2009.

<sup>7</sup> See Order No. PSC-10-0198-FOF-EG, in Docket Nos. 080408-EG and 080413-EG, issued March 31, 2010.

2010.<sup>8</sup> Gulf's proposed plan was approved in February 2011.<sup>9</sup> The Commission modified and approved the plans of FPL and DEF in 2011. The Commission determined that FPL and DEF should continue existing programs due to the determination that these programs would still produce significant energy savings while minimizing the overall increase in the bills of all ratepayers.<sup>10</sup> These orders also clarified how the Commission would view FPL's and DEF's future performance with regard to potential rewards and penalties contemplated under Section 366.82(8), F.S. The Commission decided that neither FPL nor DEF would be eligible for any financial reward unless it exceeds the established goals, nor would either utility be subject to any financial penalty barring failure to achieve savings projected in their approved DSM plans.

### **2.3 Assessing Goal Achievement**

Commission rules require separate goals be set for residential and commercial/industrial (C/I) customers, assigning context to measuring goal achievement within these two primary customer categories. Each utility's achievements in these categories are also combined and compared against total goals as the value of a system's demand and energy savings has no relation to the sector—business or residential—in which the savings occur.

FEECA utilities are required by Rule 25-17.0021, F.A.C., to file annual reports that summarize their individual demand and energy savings for approved DSM plans. Year 2010, was the first year in which goals were revised and the Commission concluded that achievement should be viewed on an annual basis. In a separate analysis, staff used data collected from the utilities through staff data requests to assess the success of cumulative achievements from the 2004 goal setting process combined with annual achievements from the 2009 goal setting process.

Monitoring annual achievements enables the Commission to enhance understanding of which utility programs are working and which may need to be modified. Staff submitted data requests relating to FEECA utilities' ability to meet performance levels; these requests asked utilities to include explanations about factors that prevented them from achieving participation levels, including information specific to which programs in the residential and commercial/industrial sectors contributed to their achieving or falling short of projected participation levels.

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<sup>8</sup> See Order No. PSC-10-0554-PAA-EG, in Docket No. 100161-EG, issued September 3, 2010; Order No. PSC-10-0609-PAA-EG, in Docket No. 100157-EG, issued October 4, 2010; Order No. PSC-10-0678-PAA-EG, in Docket No. 100158-EG, issued November 12, 2010; Order No. PSC-10-0736-PAA-EG, in Docket No. 100159-EG, issued December 20, 2010.

<sup>9</sup> See Order No. PSC-11-0114-PAA-EG, in Docket No. 100159-EG, issued February 11, 2011.

<sup>10</sup> Order No. PSC-11-0346-PAA-EG, in Docket No. 100155-EG, issued August 16, 2011; and Order No. PSC-11-0347-PAA-EG, in Docket No. 100160-EG, issued August 16, 2011.

Table 9 illustrates 2012 annual residential, C/I and total goal and savings figures for each FEECA utility. The bold numbers indicate instances in which a corresponding utility did not achieve its goals in a particular category.

**Table 9. DSM Goals Compared to Annual (2012) Achievements**

Utility	Winter (MW)		Summer (MW)		Annual (GWh)	
	Goals	Reduction	Goals	Reduction	Goals	Reduction
<b>FPL</b>						
Residential	50.3	<b>40.7</b>	90.2	<b>88.5</b>	168.8	140.9
Commercial/Industrial	11.6	30.3	76.3	<b>51.4</b>	191.5	<b>70.1</b>
Total	61.9	71.0	166.5	<b>139.9</b>	360.3	<b>211.0</b>
<b>DEF</b>						
Residential	91.0	<b>73.0</b>	85.0	<b>35.0</b>	277.0	<b>48.0</b>
Commercial/Industrial	11.0	21.0	26.0	28.0	36.0	67.0
Total	102.0	<b>95.0</b>	111.0	<b>63.0</b>	313.0	<b>115.0</b>
<b>TECO</b>						
Residential	10.2	10.9	8.4	9.7	17.7	21.0
Commercial/Industrial	1.4	3.6	4.3	6.3	15.4	<b>10.5</b>
Total	11.6	14.5	12.7	16.0	33.1	<b>31.5</b>
<b>Gulf</b>						
Residential	7.4	19.5	9.4	19.3	40.6	63.7
Commercial/Industrial	0.8	7.6	2.1	14.5	7.7	12.6
Total	8.2	27.1	11.5	33.8	48.3	76.3
<b>FPUC</b>						
Residential	0.1	0.3	0.2	0.5	0.5	1.2
Commercial/Industrial	0.1	0.1	0.2	<b>0.1</b>	0.8	<b>0.2</b>
Total	0.2	0.4	0.4	0.6	1.3	1.4
<b>JEA</b>						
Residential	1.0	3.1	1.2	2.5	5.3	19.2
Commercial/Industrial	0.4	2.1	0.6	1.6	10.1	18.7
Total	1.4	5.2	1.8	4.1	15.4	37.9
<b>OUC</b>						
Residential	0.2	0.5	0.5	0.6	1.8	1.9
Commercial/Industrial	0.7	1.8	0.7	1.7	1.8	7.3
Total	0.9	2.3	1.2	2.3	3.6	9.2

\*Bold numbers indicate the utility did not meet its annual goals.

Source: FEECA utility Demand-side management annual reports

The results of the 2012 achievements towards the 2010 goals illustrated that Gulf, JEA, and OUC surpassed all demand and energy savings goals in every category. FPL, DEF, TECO, and FPUC did not meet goals in every category in 2012. Of the utilities that did not achieve their annual Commission approved goals, most noted that while they failed to meet the goal requirements on an annual level, they were able to meet the requirements on a cumulative level when using both the 2004 and 2009 goal proceeding requirements. The Commission must establish new goals for the FEECA utilities by the end of December 2014. During the new proceedings the Commission will evaluate the FEECA utilities' proposed energy saving targets. These proposed targets may or may not change, but should reflect what the utilities learned from the prior five-year period. Each utility's performance in 2012 is discussed below.

On a system-wide basis, FPL did not meet annual goals in most categories with the exception of its C/I demand goals and its residential annual energy goals. It should be noted that in Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket No. 080407-EG, the Commission established annual numeric goals for FPL. FPL's March 30, 2010, initial DSM filing to meet the established goals was insufficient. As a result, the Commission directed FPL to file specific program modifications or additions needed for the company's DSM Plan to comply with the goals established in the Order. FPL filed a modified plan on March 25, 2011, that would modify certain programs to comply with the goals set by the Commission. However, the modified plan, while complying with the Order, would cause a significant increase in the rates paid by FPL customers. Consequently, the Commission directed FPL to continue with approved programs based on its 2004 DSM plan, which yielded significant increases in conservation and decreases in the growth of energy and peak demand. The Commission will set new goals for FPL and the remaining FEECA utilities before the end of December 2014.

DEF did not meet annual goals in most categories with the exception of winter and summer C/I demand reduction and its C/I annual energy goals. In the residential sector, DEF was not able to meet its goals in any category due to lower participation levels, specifically in the Home Energy Check and Home Improvement Programs. In Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket No 080408-EG, the Commission established annual numeric goals for DEF. DEF's March 30, 2010, initial DSM filing to meet the established goals was insufficient. As a result, the Commission directed DEF to file specific program modifications or additions needed for the company's DSM Plan to reduce the consumer rate impact in addition to the DSM plan to meet the original goals set by the Commission. DEF's modified plan also failed to meet the goals established by the Commission and caused a significant increase in DEF's customer rates. Consequently, the Commission directed DEF to continue with approved programs based on its 2004 DSM plan, which yielded significant increases in conservation and decreases in the growth of energy and peak demand.

TECO surpassed its annual winter demand and summer demand goals. TECO failed to meet its C/I annual energy goal. In response to staff data requests, TECO states that participation in a commercial/industrial program hinges on the need for equipment to be replaced due to failure or planned replacement as a matter of planned retirement. Thus, business decisions will dictate when participation occurs in the commercial/industrial sector. Such decisions could have an effect on whether or not projected goals are achieved. Lastly, TECO explains that the actual savings per participant can vary from one year to the next depending on the size of the

commercial/industrial customer. TECO further explains that the number of participants in the commercial/industrial sector is not the only factor for DSM goal achievement. It is the savings per participant that is critical and it is TECO's opinion that the more reasonable approach for evaluating goals is on a cumulative basis, rather than on an annual basis.

Table 9 reflects that Gulf exceeded its winter demand, summer demand, and annual energy goals in every category for both the residential and commercial/industrial sectors. Gulf's DSM achievements have improved compared to previous years. Furthermore, as shown in Table 4, Gulf's expenditures on DSM have increased significantly since 2010.

FPUC was able to meet its residential winter demand, summer demand and annual energy goals, but fell short of C/I goals in the summer demand and failed to meet its C/I annual energy goals. FPUC explains the lack of participation in some of its commercial programs contributed to its inability to meet its C/I goals. FPUC stated that it will place additional marketing efforts in programs where goals were not achieved.

JEA and OUC exceeded their winter demand, summer demand and annual energy goals on a system-wide basis and exceeded the goals in every category for both residential and C/I customers, as shown in Table 9.

## **2.4 Additional DSM and Goal Setting Activities**

On July 26, 2013, the Commission opened a docket for each FEECA utility to set new goals.<sup>11</sup> To meet the statutory requirement that specifies goals are set at least every five years, the Commission must establish goals for the FEECA utilities by December 2014. Once the new goals and plans are approved by the Commission, the IOUs will be required to submit program standards providing detailed descriptions of how each DSM plan is administered; the Commission must approve standards before implementation begins.

On August 23, 2013, FPUC filed a petition requesting to establish its numeric goals by use of a proxy methodology and to waive the filing requirements of the Commission's Order Establishing Procedure (OEP) and be excused from participating in the hearing regarding establishing new goals. FPUC proposed using Gulf as its proxy utility because the two utilities share similar geographic territories and customer bases.

On August, 28, 2013, OUC filed a petition for temporary waiver of Rules 25-17.0021(2) and (3), F.A.C., and stipulation to conservation goals. OUC later withdrew its petition for rule waiver on October 2, 2013, and filed a petition requesting to establish its numeric goals by use of a proxy methodology, similar to the request filed by FPUC. OUC also requested permission to waive the filing requirements of the OEP and to be excused from participating in the hearing regarding establishing new goals.

Both FPUC and OUC stated that costs associated with updating the 2009 Technical Potential Study, performing the subsequent analyses required by the Order Establishing Procedure, and putting on testimony in support of the analyses would represent a hardship to

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<sup>11</sup> See Docket Nos. 130199-EI through 130205-EI.

them and their ratepayers due to their small size. On, August 4, 2013, the Commission voted to approve the proxy methodologies and excuse FPUC and OUC from participating in the goal-setting hearing.<sup>12</sup> FPUC will use Gulf as its proxy utility to establish its 2014 goals. For the first five-year period (2015 through 2019), a percentage comparison will be made between Gulf's existing 2009 goals and the goals that will be established for Gulf as a result of the 2014 FEECA proceeding. The percentage difference will be multiplied by FPUC's existing goals to determine FPUC's annual numeric conservation goal for the years 2015 through 2019. For the remaining five-year period (2020 through 2024), the values would be based on the average growth rate in annual goals for Gulf, the proxy utility. FPUC is required to submit its goal calculations ten days from the date of the Final Order in which Gulf's goals are established. Furthermore, FPUC is required to file its DMS plan within 90 days of the Final Order establishing goals for Gulf, its proxy utility.

OUC will use TECO as its proxy utility to establish its 2014 goals. For the first five-year period (2015 through 2019), a percentage comparison will be made between TECO's existing 2009 goals and the goals that will be established for TECO as a result of the 2014 FEECA proceeding. The percentage difference will be multiplied by OUC's existing goals to determine OUC's annual numeric conservation goal for the years 2015 through 2019. For the remaining five-year period (2020 through 2024), the values will be based on the average growth rate in annual goals for TECO, the proxy utility. OUC is required to submit its goal calculations ten days from the date of the Commission's Final Order in which TECO's goals are established. Furthermore, OUC is required to file its DSM plan within 90 days of the Commission's Final Order establishing goals for TECO, its proxy utility.

During the 2009 goal-setting proceeding, non-numeric goals were established for the investor-owned FEECA utilities which required the utilities to file pilot solar water heating and solar photovoltaic programs. Moreover, the utilities were required to spend ten percent of the average annual recovery through the clause on the development of solar. No non-numeric goals were set for the municipal FEECA utilities. As such, because FPUC and OUC will use proxy methodologies of their respective chosen utilities, each would be required to file updated modified or updated non-numeric goals if the Commission requires such in the 2014 goal setting proceedings.

### ***Solar Programs***

FEECA utilities are encouraged pursuant to Section 366.82(2), F.S., to further develop demand-side renewable energy resources. In response to this statute, IOUs were instructed by the Commission to spend 10 percent of their historic ECCR expenditures as an annual cap for solar thermal water heating (WH) and solar photovoltaic (PV) pilot programs.<sup>13</sup> As part of their proposed DSM plans, each IOU also proposed solar programs, which, with the exception of FPL, were approved by the Commission in 2010; subsequently in 2011, FPL's solar programs were approved. All of these solar programs were approved as "pilots" as the Commission implemented the objectives of 366.82(2), F.S., because none of the programs were determined to

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<sup>12</sup> See Order No. PSC-13-0645-PAA-EU, in Docket Nos. 130204-EM and 130205-EI, issued December 4, 2013.

<sup>13</sup> See Order No. PSC-09-855-FOF-EG, in Docket Nos. 080407-EG, 080408-EG, 080409-EG, 080410-EG, 080411-EG, 080412-EG, and 080413-EG, In re: Conservation review of numeric conservation goals.

be cost-effective. Table 10 represents the Commission approval of utilities' annual expenditures for solar technologies.

**Table 10. Commission-Approved Annual Expenditures for Solar Technologies**

Utility	Approved Solar Expense
FPL	\$ 15,536,870
Gulf	\$ 900,338
DEF	\$ 6,467,592
TECO	\$ 1,531,018
FPUC	\$ 47,233
<b>Total</b>	<b>\$ 24,483,051</b>

Source: Order No. PSC-09-0855-FOF-GU

By the end of 2012, FEECA IOU utilities have provided rebates for over 2,300 solar PV and water heating facilities in the residential, commercial, and school sectors combined. Many of the programs offering rebates for installing residential solar PV systems were subscribed to capacity just hours after approval, demonstrating high customer demand for subsidies for this type of solar technology. The subscription rate additionally implies that financial incentives offered to customers who install PV systems could still be effective, even at a reduced incentive level. Solar pilot programs using annual funding also include solar thermal WH, energy education and PV panels for schools. Table 11 below further reflects the quantity of PV and solar water heating installations funded by the five IOUs in both residential and commercial sectors.

**Table 11. Solar Pilot Program Installations in 2012**

Installations	FPL	DEF	TECO	Gulf	FPUC	Total
Residential Solar Water Heating	1,258	384	30	51	2	1,725
Commercial Solar Water Heating	22	N/A	N/A	N/A	N/A	22
Residential Photovoltaic	225	132	70	40	8	475
Commercial Photovoltaic	66	11	N/A	N/A	N/A	77
<b>Total WH/PV Installations</b>	<b>1,571</b>	<b>527</b>	<b>100</b>	<b>97</b>	<b>10</b>	<b>2,305</b>
<b>Total WH/PV Expenditures</b>	<b>\$ 9,253,594</b>	<b>\$ 2,785,020</b>	<b>\$ 1,516,551</b>	<b>\$ 517,824</b>	<b>\$ 44,297</b>	<b>\$ 14,117,286</b>

Source: Response to staff data requests



## Section 3. Overview of Florida’s Electricity Market

### 3.1 Energy Demand in Florida

Florida’s total energy consumption ranks among the highest in the country largely because of its sizeable population and climate-induced high demand for cooling. Florida’s unique patterns of electrical demand and energy consumption are the result of the state’s largely residential customer base. Understanding this pattern and why it occurs—high summer air-conditioning loads and electricity use during winter months—is imperative to comprehending the importance of conservation in Florida. Table 12 shows residential customers make up nearly 89 percent of Florida’s electricity customers and purchase 52 percent of its electrical energy. Florida’s commercial electrical usage rates comprise about 38 percent, while industrial customers purchase the remaining 10 percent.

**Table 12. Florida’s Electric Customers by Class and Consumption in 2012**

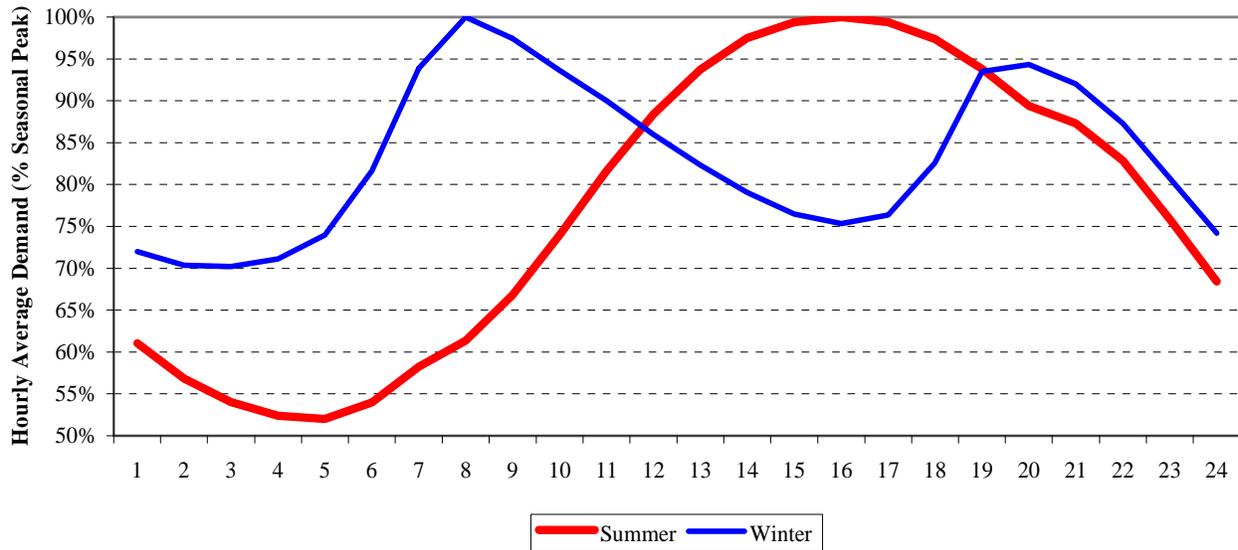
<b>Customer Class</b>	<b>Number of Customers</b>	<b>% of Customers</b>	<b>Energy Sales (gigawatt-hours)</b>	<b>% of Sales</b>
Residential	8,421,235	88.7	109,182	52.1
Commercial	1,046,733	11.0	80,216	38.3
Industrial	27,351	0.3	20,293	9.6
<b>Total</b>	<b>9,495,319</b>	<b>100</b>	<b>209,691</b>	<b>100</b>

Source: Florida Reliability Coordinating Council Load and Resource Plan

The effects of Florida’s high temperatures and humidity include fluctuation in residential customers’ electrical usage throughout the day. In the summer, residential energy use peaks in early evening; in the winter it peaks mid-morning and late evening. These peaks contrast with industrial use, which tends to demonstrate more uniformity throughout the day. These usage patterns cause greater trough to peak variation in the demand for energy consumed in Florida than in other states with more industrial customers.

Figure 1 shows the daily load shape curves for typical Florida summer and winter days. In the summer, air-conditioning demand starts to increase in the morning and peaks in the early evening, a pattern which aligns with the sun’s heating of buildings. In comparison, the winter load curve has two peaks—the largest in mid-morning, followed by a smaller peak in the late evening—both of which correspond to heating loads.

**Figure 1. Typical Florida Daily Electric Load Shapes**



Source: Ten Year Site Plan utility responses

Florida is typically a summer-peaking state, which means summer peak demand generally controls the amount of generation required. Florida’s 2012 summer peak demand—47,093 MW—surpassed winter peak demand, which was 38,561 MW.

### 3.2 Florida’s Electric Generating Resources

Electric utilities’ resource-planning process aims to guarantee enough installed capacity is available to meet projected customer demand and provide a contingency reserve. At the point in the planning process that the timing of capacity additions is known, the appropriate technology and fuel type to provide the energy is determined. Generating plants typically are categorized as baseload, peaking, or intermediate. Aside from planned outages, baseload units operate continuously. Peaking units supplement this power, operating less frequently during high-demand periods. Intermediate units generate power to follow load for periods longer than do peaking units, but not as continuously as baseload units. Utility-sponsored conservation programs help to reduce peak demand and energy consumption, offsetting the need for new generating capacity.

Florida’s mix of electric utilities is made up of five IOUs, 33 municipally-owned electric utilities and 18 rural electric cooperatives. Together, these utilities currently have 52,381 MW of summer electric generating capacity and 56,126 MW of winter generating capacity. Non-utility

generators in the state provide an additional 5,073 MW of summer electric generating capacity and 5,475 MW of winter generating capacity. Supplementary capacity is purchased from out-of-state utilities over the Florida-Georgia transmission interties.

Historically, Florida's electric utilities endeavored to achieve fuel diversity by maintaining a balanced fuel supply with a mix of energy generation from coal, nuclear, natural gas, oil, and other sources. However, natural gas usage continues to rise and has been the preferred new generation capacity fuel. In 2012, natural gas provided 64.8 percent of energy generation. That number is projected to fall to approximately 58.8 percent in 2022. The projected natural gas consumption decline by 2022 may be the result of planned increases in nuclear generation and a limited impact of new environmental compliance requirements.

In an attempt to reduce natural gas consumption, Florida's utilities are encouraged to use other energy resources including renewable energy and nuclear generation. Approximately 1,470 MW of firm and non-firm renewable generation is currently operating in Florida. Approximately 434 MW are considered firm based on either operational characteristics or contractual agreement. Municipal solid waste, biomass, and waste heat represent the majority of Florida's renewable generation. Other major types of renewable generation operating in Florida include hydroelectric, landfill gas and solar.

Florida does not have any new nuclear generation scheduled until 2022, when FPL's Turkey Point Unit 6 is scheduled to come on-line followed by Turkey Point Unit 7 in 2023. Duke has elected to discontinue construction of its Levy Nuclear plants. The utilities' uprates, or increase in the amount of power output, of the five existing nuclear units began May 2012, and resulted in an additional 600 MW of baseload capacity in addition to over 2900 MW of summer capacity.



## Section 4. Educating Florida’s Consumers on Conservation

While the Commission has statutory authority to require conservation efforts by the regulated utilities, as part of the agency’s outreach program, the Commission complements these utility efforts with its own conservation related activities. To effectively reach as many consumers as possible, the Commission’s consumer education program uses a variety of tools to share conservation information, including the PSC website, public events, brochure distribution, press releases, Twitter, and e-mail. Conservation information is also available to consumers through other governmental and utility websites. Section 4.1 lists related websites belonging to state and federal agencies, investor-owned electric utilities, and local gas distribution companies to further assist consumers. Most of the data in this section covers January through September 2013, due to the report’s publication date.

### Electronic Outreach

An assortment of information is available on the PSC website to help consumers save energy. According to data from Google Analytics, total page views for the entire website for January through October 10, 2013 was 1,048,459. Of these, total page views for the consumer assistance pages accounted for 79,771. One of the more popular website destinations is the PSC’s Conservation House. The interactive graphic provides informative “point and click” conservation tips for the home, helping consumers discover ways to reduce their monthly utility bills. The Conservation House is located at: <http://www.floridapsc.com/consumers/house/>.

The Commission also features several energy conservation brochures online and in print to help consumers save energy. Brochures may be viewed and printed directly from the website, <http://www.floridapsc.com/publications/>, ordered free via an online order system, or requested by mail or phone. From January through September 2013, 73,121 brochures were requested to be sent by mail.

With its interactive design, the PSC’s quarterly *Consumer Connection E-Newsletter* features current energy and water conservation topics, consumer tips, and general Commission information. In text and on video, consumer tips highlighted in 2013 include *Conservation Tips for College Students*, *Love Saving Energy?*, and *Five Ways to Contact the PSC*. The *Consumer Connection E-Newsletter* is tweeted and sent to interested consumers, who can subscribe to the free newsletter at: <http://www.floridapsc.com/consumers/newsletter/newsletterspublic.aspx>.

Additionally, conservation topics are often highlighted in the PSC Chairman’s monthly *Commission Update* e-newsletter. During 2013, Chairman Ronald A. Brisé’s newsletters featured energy and water conservation in several articles, including *Take the PSC 2013 Energy Saving Challenge*, *Florida’s Conservation Initiatives Are Working*, *May Conservation Campaigns Urge Wise Water Ways*, *Meeting Your Energy Needs Line by Line*, and *PSC Acts on Conservation Message during Energy Action Month*. The Chairman’s newsletter is distributed to state and local government officials, tweeted, and can be accessed on the PSC website, [www.FloridaPSC.com](http://www.FloridaPSC.com), under Hot Topics.

## **National Consumer Protection Week**

National Consumer Protection Week (NCPW), highlighting consumer protection and education efforts, was important to the PSC's 2013 conservation education efforts. For the 15<sup>th</sup> Annual NCPW (March 3-9, 2013), Chairman Brisé kicked off the week by hosting a *Love Saving Energy?* press conference highlighting ENERGY STAR appliances at Mays-Munroe, a local Tallahassee appliance store, to bring practical, energy saving ideas to consumers.

Joining the Chairman at the press conference were State Representative Alan Williams; Leon County Commissioner Mary Ann Lindley; Brenda Buchan, Florida Department of Agricultural and Consumer Services; and Mike Munroe, owner of Mays-Munroe Appliance Store. These state and community leaders shared their energy saving practices, along with additional conservation tips to keep consumer energy costs down.

Also during NCPW, PSC staff made presentations to consumers in Pembroke Pines, Hollywood, Orlando, Kissimmee, Sanford, and Belle Glade, showing them how to save money through energy and water conservation.

## **Older Americans Month**

For the second year, the PSC participated in Older Americans Month, a national project celebrated each May to honor and recognize older Americans for the contributions they make to their families, communities, and society. *Unleash the Power of Age* was this year's theme, and the PSC held educational sessions at Florida senior centers in Eustis, Tavares, Groveland, Leesburg, Miami, and Miami Beach, showing seniors ways to conserve energy and water. PSC staff also attended the Jacksonville Expo, which attracts more than 5,000 seniors. An PSC article outlining the importance of Older Americans Month, the Commission's outreach activities, and conservation efforts was featured in the January 2013 edition of the Florida Department of Elder Affairs' *Elder Update*.

## **Energy Action Month**

Each October, the U.S. Department of Energy sponsors National Energy Action Month to promote smart energy choices, while also highlighting economic and job growth, environmental protection, and increased energy independence. The PSC observes Energy Action Month annually with events to promote energy efficiency and conservation.

PSC Chairman Brisé and Tallahassee Mayor John Marks knocked on several Tallahassee residents' doors to provide homeowners with energy-saving measures and installations—free of charge—during the 2012 Energy Action Month.

At a jointly-sponsored press conference, Chairman Brisé and Mayor Marks highlighted the City of Tallahassee's nationally-recognized REACH program as an example of "energy action." Following the news event, they accompanied a City crew during its scheduled door-to-door visit in a local neighborhood to install energy-saving products, seal leaks, and offer hands-on energy

efficiency education. As part of the City’s Energy Smart Plus (e+) initiative, Neighborhood REACH helps eligible utility customers save energy and money by making their homes more energy and water efficient—all at *no cost* to the customer.

Also in October for Energy Action Month, Chairman Brisé and senior staff from the PSC exchanged their suits for jeans and participated in a locally-sponsored Big Bend Habitat for Humanity (BBHH) “build.” By assisting BBHH, the Commission highlighted Habitat’s mission to build energy-efficient, affordable homes for low-income consumers in the community. This event also recognized the National Association of Regulatory Utility Commissioners’ (NARUC) partnership with Habitat for Humanity established in January 2012 as part of its “Anybody Can Serve, So Let’s Conserve” campaign. NARUC Commissioners were encouraged to “volunteer at various Habitat projects around the country and share their expertise on energy issues.”

### **Community Events**

The PSC continuously seeks existing and new community events, venues, and opportunities where conservation materials can be distributed and discussed with citizens. This year, the PSC participated in consumer programs and distributed energy and water conservation materials through partnerships with governmental entities, consumer groups, and many other service organizations. Examples of events where conservation information was shared during 2013 include:

- Ambassadors for Aging Day
- Active Living Expo
- Earth Day at the Capitol
- Technology Lifeline Community event in Chipley
- Florida Department of Elder Affairs and Big Bend Task Force’s Falls Prevention Seminar
- Florida Department of Elder Affairs SAFE Homes Program Workshop
- FAMU Developmental Research School
- Northeast Community Action Agency
- Florida Forest Festival
- Jackson County Senior Citizens Organization
- Leroy Clemons Senior Center, Maxwell Senior Center, Orange Park Senior Center; Middleburg/Wiegel Senior Center, Enoch Senior Center, Pinellas Park Senior Center, St. Giles Manor Senior Center, Gadsden County Senior Center, Chattahoochee Senior Center, Green Cove Springs Senior Center, Mid County Senior Center, North County Senior Center, and Sadkin Senior Center

- Marianna Housing Authority, Renaissance at Washington Ridge Housing Authority, Manor at West Bartow Housing Authority, Villas of Lake Bonnet Housing Authority, and Colton Meadow Housing Authority
- Community Days in the cities of Jacksonville, Pembroke Pines, and Miami
- Senior Days in Lake Jackson, Miccosukee, Bradfordville, Ft. Braden, Jake Gaither Park, and Woodville

### **Hearings and Customer Meetings**

As an ongoing outreach initiative, the Commission supplies conservation brochures to consumers at PSC hearings and customer meetings across the state. From January through September 2013, Commission staff distributed information and addressed consumer questions at 15 PSC public hearings and meetings. Consumers who file a complaint with the Commission about high electric or natural gas bills also receive conservation information.

### **Library Outreach Program**

Each year, the PSC provides educational brochures to Florida public libraries for consumer distribution. This year, the Commission increased its Library Outreach Campaign participants from 333 to 583, to provide library patrons with PSC publications that feature practical energy and water conservation tips. Following the Campaign, many additional publication requests from program participants have been filled.

In 2013, over 42,359 brochures were sent to, or requested by, Florida's libraries. Past annual survey results from library administrators indicate their continuing support for the program and their willingness to partner with the Commission on future outreach projects.

### **Media Outreach**

News releases are distributed to the media on major Commission decisions, meetings, and public events. The Office of Consumer Assistance & Outreach also issues news releases urging conservation. For instance, in March a release touted the federal government's *Fix a Leak Week*, where several water and energy conservation strategies were shared. In April, a release to promote conservation on Earth Day and every day was shared with consumers, agencies, local organizations, and businesses. In May, the Commission published a release on the growing number of Floridians and businesses using renewables to generate their own electricity and a release for Older Americans Month outlining the importance of seniors learning to conserve resources and save money.

Each month in 2013, the PSC issued a press release offering energy saving tips for consumers as a tribute to the Florida's Viva 500 anniversary celebration. Residents who participate in the PSC's monthly *Energy Saving Challenge* can save 500 kilowatt hours or more of energy through December 2013, saving customers' money and saving the state's resources.

Recognizing the PSC as a Viva Florida 500 partner, Florida Secretary of State Ken Detzner said, “The PSC’s Energy Challenge will help future generations of Floridians enjoy the great state we call home.”

### **Youth Education**

The Commission emphasizes conservation education for Florida’s young consumers. In 2013, the PSC participated in the Earth Day celebration at the Florida Capitol, and staff provided students and their teachers with energy and water conservation tips to use on campus and at home.

During 2013, the PSC continued to produce its *Get Wise and Conserve Florida!* student resource booklet to teach children about energy and water conservation. The booklet has been distributed to all public libraries through the Library Outreach Program and is available at all Commission outreach events. The student resource book has also become a favorite during senior events.

Two conservation plays, *Turn It On, Turn It Off* and *Water Wiser*, were developed by the PSC to be performed by teen drama groups or young school children for their classmates, thereby increasing the students’ interest in learning about conservation. The PSC helped produce both plays in recent years, and the Commission continues to work with school programs interested in producing these plays. Both plays are included in the *Arts in Education Directory*, produced by the Tallahassee-Leon County Council on Culture and Arts, that serves as a resource guide for teachers seeking information about educational programs available in the area.

## **4.1 Related Web Sites**

### ***State Agencies and Organizations***

Florida Public Service Commission – <http://www.floridapsc.com/>

Florida Department of Environmental Protection – <http://www.dep.state.fl.us>

The Office of Energy – <http://www.freshfromflorida.com/Divisions-Offices/Energy>

Florida Solar Energy Center – <http://www.fsec.ucf.edu/>

Florida Weatherization Assistance – <http://www.floridajobs.org/job-seekers-community-services/community-services/weatherization-assistance-program>

Florida's Local Weatherization Agencies List – <http://www.floridajobs.org/job-seekers-community-services/community-services/weatherization-assistance-program/contact-your-local-weatherization-office-for-help>

### ***U.S. Agencies and National Organizations***

National Energy Foundation – <http://www.nef1.org/>

U.S. Energy Star Program – <http://www.energystar.gov/>

U.S. Department of Energy – Energy Efficiency and Renewable Energy Information - <http://www.eere.energy.gov/>

U.S. Department of Energy – Consumer Energy Efficiency Tips – [http://www.eere.energy.gov/consumer/your\\_home/](http://www.eere.energy.gov/consumer/your_home/)

### ***Florida's Electric Utilities Subject to FEECA***

Florida Power & Light Company – <http://www.fpl.com/>

Florida Public Utilities Company – <http://www.fpuc.com/>

Tampa Electric Company – <http://www.tampaelectric.com/>

Gulf Power Company – <http://www.gulfpower.com/>

Duke Energy Florida, Inc. – <http://www.duke-energy.com/>

Orlando Utilities Commission – <http://www.ouc.com/>

JEA – <http://www.jea.com/>

***Florida's Investor-Owned Natural Gas Utilities***

Chesapeake Utilities Corporation (Central Florida Gas) – <http://www.cfgas.com/>

Florida City Gas – <http://www.floridacitygas.com/>

Florida Public Utilities Company – <http://www.fpuc.com/>

Peoples Gas System – <http://www.peoplesgas.com/>

St. Joe Natural Gas Company – <http://www.stjoenaturalgas.com/>



## **Appendix 1. Conservation Activities of FEECA Utilities**

### **A. Florida Power & Light Company**

#### **Residential Programs**

*Residential Building Envelope.* This program encourages qualified customers to install energy-efficient building envelope measures that cost-effectively reduce FPL's coincident peak air-conditioning load and customer energy consumption.

*Duct System Testing and Repair Program.* This program identifies air conditioning duct system leaks and has qualified contractors repair those leaks.

*Residential Air Conditioning Program.* This program provides financial incentives for residential customers to purchase a more efficient unit when replacing an existing air conditioning system.

*Residential Load Management Program (On Call Program).* This program offers voluntary load control to residential customers.

*Residential New Construction Program (BuildSmart).* The program's objective is to encourage the design and construction of energy-efficient homes that cost-effectively reduce FPL's coincident peak load and customer energy consumption.

*Residential Low Income Weatherization Program.* This program employs a combination of energy audits and incentives to encourage low-income housing administrators to perform tune-ups of HVAC systems and install reduced air infiltration energy efficiency measures.

#### **Commercial/Industrial Programs**

*Business Heating, Ventilating, and Air Conditioning Program.* This program reduces the current and future growth of coincident peak demand and energy consumption of business customers by increasing the use of high efficiency HVAC systems.

*Business Efficient Lighting.* This program encourages the installation of energy efficient lighting measures in business facilities.

*Business Customer Incentive.* This program assists FPL's business customers achieve electric demand and energy savings that are cost-efficient to all FPL customers. FPL provides incentives to qualifying customers who purchase, install, and successfully operate cost-effective energy efficiency measures not covered by other FPL programs.

*Business Building Envelope Program.* This program encourages eligible business customers to increase the efficiency of the qualifying portion of their building's envelope to reduce HVAC energy consumption and demand.

*Business On Call Program.* This program offers voluntary load control of central air conditioning to General Service and General Service Demand customers.

*Commercial Demand Reduction.* This program reduces coincident peak demand by controlling customer loads of 200 kW or greater during periods of extreme demand or capacity shortages.

*Business Energy Evaluation.* This program provides evaluations of business customers' existing and proposed facilities and encourages energy efficiency by identifying DSM opportunities and providing recommendations to the customer.

*Commercial/Industrial Load Control.* This program reduces coincident peak demand by controlling customer loads of 200 kW or greater during periods of extreme demand or capacity shortages.

*Cogeneration and Small Power Production.* This program facilitates the installation of cogeneration and small power production facilities.

*Business Water Heating.* This program encourages business customers to install qualifying Heat Recovery Units (HRU) or Heat Pump Water Heater (HPWR) equipment.

*Business Refrigeration Program.* This program encourages eligible business customers to install energy-saving equipment to reduce or eliminate the use of electric heating elements needed to prevent condensation on display case doors and to defrost freezer doors.

### **Research and Development and Pilot Programs**

*Conservation Research and Development Program.* This program evaluates emerging conservation technologies to determine which are worthy of further evaluation as candidates for program development.

*Residential Thermostat Load Control Pilot Project.* This project provides participating residential customers a programmable thermostat and the option of overriding FPL's control of their central air conditioning and heating appliances via telephone or the Internet.

## **B. Duke Energy Florida, Inc.**

### **Residential Programs**

*Home Energy Check.* This program provides Duke Energy Florida Inc.'s (DEF) residential customers with an analysis of energy consumption and recommendations on energy efficiency improvements. Acting as a motivational tool to identify, evaluate, and inform consumers on cost effective energy saving measures, the Home Energy Check is the foundation of the residential Home Energy Improvement program and is a program requirement for participation. Seven types of energy audits are available: the free walk-through, the paid walk-through (\$15 charge), the energy rating (Energy Gauge), the mail-in audit, an Internet option, a phone-assisted audit, and a student audit.

*Home Energy Improvement.* This efficiency program provides existing residential customers incentives for energy efficient heating, air conditioning, insulation upgrades, duct leakage repair, reflective roofing products, high performance windows, window film, and solar screens.

*Low-Income Weatherization Assistance Program.* This program's goal is to integrate DEF's DSM program measures with the Department of Community Affairs (DCA) and local weatherization providers to deliver energy efficiency measures to low-income families. Through this partnership, DEF assists local weatherization agencies by providing energy education materials and financial incentives to weatherize the homes of low-income families.

*Energy Management (Residential and Commercial).* This load management program incorporates direct radio control of selected customer equipment to reduce system demand during peak capacity periods and/or emergency conditions by temporarily interrupting selected consumer appliances for special periods of time. Customers have a choice of options and receive a credit on their monthly electric bills depending on the options selected and their monthly kWh usage.

*Neighborhood Energy Saver.* This program assists low-income families with escalating energy costs by implementing a comprehensive package of electric conservation measures at no cost to eligible customers. In addition to installing these measures, DEF seeks to achieve three important goals: educate participating families on proper energy efficiency techniques and best practices, change their energy-use behavior, and manage their energy usage.

*Renewable Energy Program.* This program consists of two areas that are designed to encourage the installation of renewable energy systems:

(1) Solar Water Heater with EnergyWise. This measure encourages residential customers to install a solar thermal water heating system. The customer must have whole house electric cooling, electric water heating and electric heating to be eligible for this program.

(2) Solar Photovoltaics with EnergyWise. This measure promotes environmental stewardship and renewable energy education through the installation of solar energy systems at schools within DEF's service territory. Customers participating in the Winter-Only EnergyWise

or Year-Round EnergyWise Program can elect to donate their monthly credit toward the Solar Photovoltaics with EnergyWise Fund.

All proceeds collected from participating customers and their associated monthly credits, are used to promote photovoltaics and renewable energy educational opportunities.

### **Commercial/Industrial Programs**

*Business Energy Check.* This free audit for non-residential customers can be completed at the facility by an auditor or online by the business customer. A paid audit provides a more thorough energy analysis for non-residential facilities. The program acts as a motivational tool to identify, evaluate, and inform consumers on cost-effective energy saving measures for their facilities. The Business Energy Check is the foundation of the Better Business Program and a requirement for participation.

*Better Business.* This efficiency program provides incentives to existing commercial and industrial customers for heating, air conditioning, motors, water heaters, roof installation upgrade, direct leakage and repair, window film, cool roof, and lighting.

*Commercial/Industrial New Construction.* This efficiency program provides incentives for the design and construction of energy efficient commercial and industrial facilities, including energy efficient heating, air conditioning, motors, water heating, window film, insulation, leak free ducts, cool roof, and lighting.

*Innovation Incentive.* The program encourages conservation efforts that are not supported by DEF's other programs. Major equipment replacement or other actions that substantially reduce DEF's peak demand requirements are evaluated to determine their impact on DEF's system. If cost-effective, these actions may qualify for an economic incentive in order to shorten the payback time of the project.

*Standby Generation.* This program provides an incentive for customers to voluntarily operate their on-site generation during times of system peak.

*Interruptible Service Program.* This program is a rate tariff which allows DEF to switch off electrical service to customers during times of capacity shortages. The signal to operate the automatic switch is operated by the Energy Control Center. In return for this interruption, the customers receive a monthly rebate on their kW demand charge.

*Curtable Service Program.* This program is a dispatchable DSM program in which customers contract to curtail or shut down a portion of their load during times of capacity shortages. The curtailment is done voluntarily by the customer when notified by DEF. In return for this cooperation, the customer receives a monthly rebate for the curtable portion of their load.

*Technology Development Program.* This program allows DEF to undertake certain development and demonstration projects which have promise to become cost-effective conservation and energy efficiency programs.

## **C. Gulf Power Company**

### **Residential Programs**

*GoodCents Select Program.* This program provides the customer with a means of conveniently and automatically controlling and monitoring his/her energy purchases in response to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy.

*Residential Geothermal Heat Pump Program.* The program's purpose is to reduce the demand and energy requirements of new and existing residential customers through the promotion and installation of geothermal systems.

*Residential Energy Survey Program.* This program offers energy conservation advice to individuals and contractors building new homes. In addition the program advises existing residential customers to implement efficiency measures resulting in energy savings. Owners of existing homes may choose to have a Gulf Power representative conduct an on-site survey of their home, or they may opt to participate in either a mail-in or online interactive version of the survey, the Energy Check Up. Qualifying new home owners and contractors may request a survey of their final construction plans. Regardless of the option chosen, these surveys provide customers with specific whole-house energy recommendations.

### **Commercial Programs**

*GoodCents Commercial Buildings Program.* This program educates commercial and industrial customers on the most cost-effective methods of designing new and improving existing buildings. The program stresses efficient heating and cooling equipment, improved thermal envelope, operation and maintenance, lighting, cooking, and water heating. Field representatives work with architects, engineers, consultants, contractors, equipment suppliers, building owners, and occupants to encourage them to make the most efficient use of all energy sources and available technologies.

*Commercial Geothermal Heat Pump Program.* The program's objective is to reduce the demand and energy requirements of new and existing commercial/industrial customers through the promotion and installation of advanced and emerging geothermal systems.

*Commercial/Industrial Energy Analysis.* This program provides advice to Gulf Power's existing commercial and industrial customers on how to reduce and make the most efficient use of energy. The program includes semi-annual and annual follow-ups with the customer to verify conservation measures installed and to reinforce the need to continue with more conservation efforts. Customers may participate by requesting a basic Energy Analysis Audit through either an on-site survey or a direct mail survey. A more comprehensive analysis can be provided through a Technical Assistance Audit.

*Energy Services Program.* This program establishes the capability and process to offer advanced energy services and energy efficient end-use equipment customized to meet the individual needs of large customers. Potential projects are evaluated on a case-by-case basis and must be cost-

effective to qualify for incentives or rebates. Types of projects covered under this program include demand reduction or efficiency improvement retrofits, such as lighting (fluorescent and incandescent), motor replacements, HVAC retrofit (including geothermal applications), and new electro-technologies.

### **Research and Development Programs**

*Conservation Demonstration and Development.* This package of conservation programs explores and pursues research, development, and demonstration projects to promote energy efficiency and conservation. The program serves as an umbrella program for the identification, development, demonstration, and evaluation of new or emerging end-use technologies.

*Renewable Energy.* This program encompasses a variety of voluntary renewable and green energy programs under development by Gulf Power. The voluntary pricing options for customers include, but are not limited to, EarthCents Solar (Photovoltaic Rate Rider) and the Solar for Schools program. In addition, the renewable energy program includes expenses necessary to prepare and implement a green energy pilot program using landfill gas, wind, solar, or other renewable energy sources.

## **D. Tampa Electric Company (TECO)**

### **Residential Programs**

*Residential Energy Audits.* On-site audits of premises, online audits, and telephone surveys instruct customers how to use conservation measures and practices to reduce their energy usage.

*Duct Repair.* This program reduces weather-sensitive peaks by offering incentives to encourage the repair of the air distribution system in a residence.

*Heating and Cooling Program.* This program reduces weather-sensitive peaks of residential customers by providing incentives for the installation of high efficiency heating and air conditioning equipment at existing residences.

*Residential Building Envelope Improvement.* This program reduces demand and saves energy by decreasing the load on residential HVAC equipment. Eligible customers can receive incentives to add ceiling insulation exterior walls, window replacements and window film.

*Prime Time Program.* This load management program directly controls the larger loads in residential customers' homes such as air conditioning, water heating, electric space heating, and pool pumps. Participating customers receive monthly credits on their electric bills. The program is currently closed to new participants.

*Renewable Energy Initiative.* This program assists in the delivery of renewable energy for TECO's Renewable Energy Program by providing funding for program administration, evaluation, and market research.

*Price Responsive Load Management.* This program reduces weather sensitive peak loads by offering a multi-tiered rate structure as an incentive for participating customers to reduce their electric demand during high cost or critical periods of generation.

*Residential Low-Income Weatherization.* This program saves demand and energy by decreasing the energy consumption at a residence. The program is aimed at low-income customers and provides, at no cost to qualified customers, the following: eight compact fluorescent lamps, one water heater wrap, three low-flow faucet aerators, two showerheads, a window HVAC weather-stripping kit, wall plate thermometers, HVAC filters, weather-stripping, caulking, and ceiling insulation (up to R-19).

*Educational Energy Awareness – Pilot.* This program saves demand and energy by increasing customer awareness of available conservation measures and practices that can reduce the individual's energy use. TECO partners with schools within its service area at the eighth grade level to teach students the benefits of energy efficiency.

*Energy Plus Homes.* This program encourages new home construction to be above the minimum energy efficiency levels required by the State of Florida Energy Efficiency Code for New

Construction through the installation of high efficiency equipment and building envelope options.

## **Commercial Programs**

*Cogeneration.* This program encourages the development of cost-effective commercial and industrial cogeneration facilities through the evaluation and administration of standard offers and the negotiation of contracts for the purchase of firm capacity and energy.

*Commercial Cooling.* The purpose of this program is to encourage the installation of high efficiency direct expansion (DX) commercial air conditioning equipment.

*Commercial Lighting.* This program reduces weather-sensitive peaks by encouraging investment in more efficient lighting technology in commercial facilities.

*Commercial Load Management.* This load management program's purpose is to achieve weather-sensitive demand reductions through load control of equipment at the facilities of firm commercial customers.

*Standby Generator.* This program uses the emergency generation capacity at firm commercial and industrial facilities to reduce weather-sensitive peak demand.

*Conservation Value.* This incentive program for firm commercial and industrial customers encourages additional investments in substantial demand shifting or demand reduction measures.

*Industrial Load Management.* This program is for large industrial customers with interruptible loads of 500 kW or greater.

*Commercial Duct Repair.* This program reduces weather-sensitive peaks by offering incentives to encourage the repair of the air distribution system in a facility.

*Commercial Building Envelope Improvement.* This program saves demand and energy by decreasing the load on HVAC equipment. Eligible customers can receive incentives to add ceiling insulation, exterior wall insulation, and window film.

*Commercial Efficient Motors.* This program encourages commercial/industrial customers to install premium-efficiency motors in new or existing facilities through incentives. The program aims to reduce the growth of peak demand and energy by encouraging customers to replace worn out, inefficient equipment with high efficiency equipment that exceeds minimum product manufacturing standards.

## **Research and Development**

A five-year Research and Development program is directed at end-use technologies (both residential and commercial) not yet commercially available, where insufficient data exists for measure evaluations specific to Central Florida climate.

## **E. Florida Public Utilities Company**

### **Residential Programs**

*Geothermal Heat Pump Program.* This program reduces the demand and energy requirements of new and existing residential customers through the promotion and installation of advanced and emerging geothermal systems.

*Residential Heating and Cooling Efficiency Upgrade.* The purpose of this program is to reduce the rate of growth in peak demand and energy throughout the company's service territories by increasing the number of high-efficiency heat pumps.

*GoodCents Home/Energy Star Program.* This program provides guidance concerning energy efficiency in new construction by promoting energy efficient home construction techniques and by evaluating the energy efficient components of design and construction.

*GoodCents Energy Survey Program.* The program promotes the installation of cost-effective conservation measures by giving the customer specific whole-house recommendations regarding energy efficiency. The survey process also checks for possible duct leakage.

*Residential Ceiling Insulation Upgrade Program.* This program reduces peak demand and energy consumption by decreasing the load presented by the residential air-conditioning and heating equipment. Customers are required to add at least R-11 of ceiling insulation to qualify for a \$100 incentive in the form of an Insulation Certificate that may be applied to the total cost of installing the added ceiling insulation.

### **Commercial Programs**

*GoodCents Commercial Building Program.* This program addresses the most common critical areas in commercial buildings affecting summer peak kW demand: thermal efficiency of the building and HVAC equipment efficiency. In addition, the program is designed to ensure that buildings are constructed with energy efficiency levels above the Florida Model Energy code standards.

*GoodCents Commercial Technical Assistance Audit.* This program is an interactive program that assists commercial customers in identifying advanced energy conservation opportunities. Customers receive an on-site review of the facility operation, equipment, and energy usage pattern by a Florida Public Utilities Company Conservation Specialist. In addition, a technical evaluation is performed to determine the economic payback or life cycle cost for various improvements to the facility.

*Commercial Indoor Efficient Lighting Rebate Program.* This program reduces peak demand and energy consumption by decreasing the load presented by commercial lighting equipment. The program requires that commercial customers achieve at least 1,000 watts of lighting reduction from any lighting source that has been retrofitted with a more efficient fluorescent lighting

system (ballasts and lamps). By doing so, customers qualify for an incentive of \$0.10 per watt reduced.

### **Educational and Research Programs**

*Low Income.* This program provides low-income customers with basic energy education and informs the customers of specific services offered by the utility.

*Affordable Housing Builders and Providers.* This program encourages affordable housing builders to attend educational seminars and workshops related to energy efficient construction, retrofit programs, financing programs, and the GoodCents Home program. The company works with the Florida Energy Extension Service and other seminar sponsors to offer a minimum of two seminars and/or workshops per year.

*Conservation Demonstration and Development.* The program pursues research, development, and demonstration projects that are designed to promote energy efficiency and conservation.

## **F. Orlando Utilities Commission**

### **Residential Programs**

*Residential Energy Survey Program.* This program provides residential customers with recommended energy efficiency measures and practices. The program consists of three measures: the Residential Energy Walk-Through Survey, the Residential Energy Survey Video and DVD, and an interactive Online Home Energy Audit.

*Duct Repair Rebate Program.* The purpose of this program is to encourage customers to repair leaking ducts on existing systems. Customers will receive up to a \$150 rebate for duct repairs on their homes.

*Ceiling Insulation Rebate Program.* This program is offered to residential customers to encourage them to upgrade their attic insulation. Customers will receive a \$100 rebate for upgrading their attic insulation to R-19 or higher.

*Window Film/Solar Screen Rebate Program.* This program is designed to encourage customers to install solar shading on their windows. Customers will receive up to a \$100 rebate for installation of solar shading film with a shading coefficient of 0.5 or less.

*High Performance Windows Rebate Program.* This program is designed to help minimize heating, cooling, and lighting costs. The high performance windows rebate program is designed to encourage customers to install windows that will improve energy efficiency in their homes. Customers will receive a \$1 rebate per square foot (up to \$250) for the purchase of ENERGY STAR® rated energy efficient windows.

*Caulking and Weather Stripping Rebate Program.* This program is designed to encourage customers to caulk and weather-strip their homes. Customers will receive a rebate of 50 percent of the cost (up to \$50) for the caulking and weather-stripping of their homes.

*Wall Insulation Rebate Program.* This program is designed to encourage customers to insulate the walls of their homes. Customers will receive a rebate of \$300 for wall insulation.

*Cool/Reflective Roof Rebate Program.* This program is designed to encourage customers to install new roofing to help insulate their homes. Customers will receive a rebate of \$150 for ENERGY STAR® cool/reflective roofing that has an initial solar reflectance greater than or equal to 0.70.

*Home Energy Fix-Up Program.* This program is available to customers with a total annual family income of \$35,000 or less. Each customer must request and complete a free Residential Energy Survey. OUC will arrange for a licensed, approved contractor to perform the necessary repairs and will pay 85 percent of the total cost, not to exceed \$2,000. The remaining 15 percent can be paid directly or over an interest-free 12-month period on the participant's monthly electric bill.

*Efficient Electric Heat Pump Rebate Program.* This program provides rebates to qualifying customers in existing homes who install heat pumps having a seasonal energy efficiency ratio (SEER) of 14.0 or higher.

## **Commercial Programs**

*Commercial Energy Survey Program.* The purpose of this program is to focus on increasing energy efficiency and energy conservation in commercial buildings. A free survey comprised of a physical walk-through inspection of the commercial facility performed by experienced energy experts is included.

*Commercial Indoor Lighting Retrofit Program.* The program reduces energy consumption for the commercial customer through the replacement of older fluorescent and incandescent lighting with newer, more efficient lighting technologies.

*Commercial OUConsumption Online Program.* This program enables businesses to check their energy use and demand from a desktop computer, allowing business owners to manage their energy load. Participants must cover a one-time program set-up fee of \$45, a \$45 monthly fee per meter for the service, and the cost of additional infrastructure (ranging between \$0 and \$500) at the meters, which may be required.

*Commercial OUConvenient Lighting Program.* This program provides complete outdoor lighting services for commercial applications, including industrial parks, sports complexes, and residential developments. Each lighting package is customized for each participant, allowing the participant to choose among light fixtures. Upfront financial costs and maintenance are controlled by Orlando Utilities. The participant then pays a low monthly fee for each fixture. Orlando Utilities also retrofits existing fixtures to new light sources or higher output units. New agreements have allowed this program to expand into neighboring communities like Clermont, Oviedo, and Brevard County.

*Commercial Power Quality Analysis Program.* This program gives Orlando Utilities the ability to ensure the highest possible power quality to commercial customers. The program's goals include making the maximum effort to solve power quality problems through monitoring and interpretive analysis, identifying solutions that will lead to corrective action, and providing ongoing follow-up services to monitor results.

*Commercial Infrared Inspections Program.* The purpose of this program is to help customers uncover potential reliability and power quality problems. The infrared inspection detects thermal energy and measures the temperature of wires, breakers, and other electrical equipment components. The information is transferred into actual images and those images reveal potential problem areas and hot spots that are invisible to the naked eye.

*OUCooling.* Funded originally in 1997, this program allows Orlando Utilities to fund, install and maintain a central chiller plant for each business district participating under the program. Benefits to the businesses are lower energy consumption, increased reliability, no environmental risks associated with the handling of chemicals, avoided initial capital cost, lower maintenance

costs, a smaller mechanical room, no insurance requirements, improved property resale value, and availability of maintenance personnel for other duties.

## **G. JEA**

### **Residential Programs**

*Residential Energy Audit Program.* Uses auditors to examine homes, educate customers and make recommendations on low-cost or no-cost energy-saving practices and measures.

*Residential Energy Efficient Products.* This program promotes the use of energy efficient lighting and other energy efficient products in homes by offering a financial incentive. JEA includes messaging concerning the proper disposal of bulbs containing mercury.

*Green Built Homes of Florida.* This program encourages the application of energy efficient construction and products in new homes by offering a financial incentive to builders and developers.

*Residential Solar Water Heating.* This program offers a financial incentive to customers to encourage the use of solar water heating technology.

*Residential Solar Net Metering.* This program promotes the use of solar photovoltaic systems by purchasing excess power from residential customers implementing these systems.

*Neighborhood Efficiency Program.* This program offers education concerning the efficient use of energy and water as well as the direct installation of an array of energy and water efficient measures at no cost to income qualified customers.

### **Commercial Programs**

*Commercial Energy Audit Program.* This program uses auditors to examine the businesses, educate customers, and make recommendations on low-cost or no-cost energy-saving practices and measures.

*Commercial Energy Efficient Products.* This program promotes the use of energy efficient lighting and other energy efficient products in businesses by offering a financial incentive. JEA includes messaging concerning the proper disposal of bulbs containing mercury.

*District Chilled Water Program.* This program utilizes district chilled water to reduce energy costs, other operating costs as well as capital costs.

*Commercial Solar Net Metering.* This program promotes the use of solar photovoltaic systems by purchasing excess power from commercial customers implementing these systems.