

Office of Energy

ANNUAL REPORT

2012

Image courtesy of NASA



Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner



Dear Governor Scott, President Gaetz and Speaker Weatherford,

I am pleased to provide you with the 2012 Annual Report of the Florida Department of Agriculture and Consumer Services' Office of Energy.

During the 2012 legislative session, it was my pleasure to work with your offices on House Bill (HB) 7117. It is a credit to your leadership that Florida was able to pass its first energy bill in four years. Though a modest measure, this legislation will increase diversity in the state's energy portfolio, expand energy production and create much-needed jobs for Floridians. I hope this is the beginning of an ongoing discussion to further develop Florida's energy policy.

Also last year, we completed work on more than 100 federal grants supporting energy efficiency and conservation projects across the state. With the conclusion of the grant programs, the mission of the department's Office of Energy is shifting from one that primarily administers grants and rebates to focus on working with Florida's energy providers, consumers and other state agencies to develop and implement energy policy.

In August, the department hosted the second Florida Energy Summit in Orlando. The summit brought together business leaders, utilities, state and local elected officials, academics, and environmentalists to discuss Florida's energy policy. We explored how Florida can create an environment that will nurture and foster new energy technologies and create jobs across the state. Speakers shared success stories on how their energy efficiency initiatives resulted in cost-savings or created jobs.

I look forward to continuing to work with you to secure a stable, reliable and diverse supply of energy for Florida.

Sincerely,

A handwritten signature in black ink that reads "Adam H. Putnam". The signature is fluid and cursive.

Adam H. Putnam
Commissioner

**FLORIDA DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES**

OFFICE OF ENERGY

2012 ANNUAL ENERGY REPORT

Adam H. Putnam, Commissioner

**FDACS Office of Energy
The Holland Building
600 South Calhoun Street, Suite 251
Tallahassee, FL 32399-0001
(850) 617-7470
www.FreshFromFlorida.com**

Table of Contents

Sections	Page No.
1. Executive Summary	5
2. Florida’s Energy Status Snapshot	7
3. The Florida Energy Summit	19
4. FDACS Energy Grants Activities	20
5. FDACS Energy Policy Activities	25
6. Next Steps	28
Attachment A: Executive Summary and Response to Operational Audit of the Florida Office of Energy	29
Attachment B: Executive Summary of the Florida Public Service Commission’s Energy Efficiency and Conservation Act (FEECA) Report	44

1. Executive Summary

This is the second annual report to the Governor, the President of the Senate and the Speaker of the House of Representatives as submitted by the Florida Department of Agriculture and Consumer Services (FDACS) Office of Energy (OOE). This report reflects the FDACS OOE activities during 2012 and includes policy recommendations to prepare Florida to meet the growing demand for energy and mitigate negative impacts on the health, safety and welfare of the people of Florida. This report is submitted as required in Florida Statutes 377.703(2)(f).

In December of 2011, the Potential Gas Committee of the Colorado School of Mines estimated that, at current production rates, the assessed volume of proven reserves and estimated undiscovered resources provide about 100 years of domestic gas supply. Natural gas is a viable source of energy for Florida given its abundant supply and affordability. The state has grown and continues to grow increasingly reliant on this fuel source for electricity. In addition, natural gas is proving to be a viable source of energy for more than just electric generation. For example, local governments and commercial businesses are using compressed natural gas (CNG) to fuel their vehicle fleets and are realizing great economic savings.

While the supply of natural gas in the United States is abundant and, currently, the price is relatively affordable, FDACS OOE cautions against Florida relying too heavily on any one source of fuel, even natural gas. The worldwide demand for natural gas will continue to grow, causing the price of natural gas to fluctuate with demand. In addition, Florida receives natural gas via two pipelines that are susceptible to disruption by a major hurricane or other natural or manmade disaster. With Florida's increasing use of natural gas, it is critical that the state have a safe and sufficient pipeline network for a continuous supply of natural gas.

The FDACS OOE continues to advocate an "all of the above" approach regarding electric fuel sources. Florida's energy strategy should foster the development of all electric fuel options. Florida's energy strategy must support research and development to explore all options and it must rely on the market to determine what works and what does not. The FDACS OOE continues to recommend a diverse portfolio of fuel for electric generation to ensure price stabilization and to protect the state economy.

Renewable energy sources, such as solar, biomass and waste-to-energy, are an important part of a diverse fuel portfolio. However, renewable energy sources in Florida have not yet had a significant impact on the production of electricity. Renewable energy sources represent less than two percent of Florida's electric generation mix. Florida should continue to explore opportunities to produce and use renewable energy, taking into account all factors including costs, fuel diversity, impact on the economy and environmental effects. In the foreseeable future, renewable energy will not be a major energy supplier; however, the long-term potential supply of renewable energy makes it a valuable investment.

At the 2012 Florida Energy Summit, more than 500 energy stakeholders gathered to discuss ways to capitalize on the energy opportunities available in Florida. The panel discussions featured representatives from a broad spectrum of Florida's energy industry and highlighted several successful private businesses that are leading the state in energy efficiency and renewable energy investments.

Energy conservation and energy efficiency measures are critical components to Florida's energy policy. In 2009, the OOE was tasked with administering federal stimulus grants relating to energy

conservation and energy efficiency. Since then, the FDACS OOE managed over 150 individual sub-grants in Florida. Most of these grants have completed work and the remainder of grants that are in progress will be completed during the first part of 2013. The FDACS OOE is now collecting data to determine the energy savings associated with these grants.

In July 2012, the department released the findings of an Operational Audit on the Office of Energy, conducted by the FDACS Inspector General at the request of Commissioner Putnam. The purpose of the audit was to evaluate the various energy programs as well as the implementation and oversight of the programs by the OOE prior to and through the transfer of the office to FDACS. The audit uncovered fraud and bankruptcy among the grant projects funded by OOE and saved \$2.45 million in taxpayer dollars. The audit also revealed opportunities for improvement in the management of grants by the OOE. While many of the recommendations outlined in the audit had already been implemented, others have since been implemented.

The least expensive form of energy is the energy not used due to conservation measures. As administered by the Florida Public Service Commission, the Florida Energy Efficiency and Conservation Act (FEECA) is expected to reduce Florida's need for new generation facilities by 6,500 megawatts and reduce energy use by 7,500 gigawatt hours as a direct result of the utilities' energy efficiency and conservation programs.

The FDACS OOE will continue to explore policy options in conjunction with the Governor's Office and the Legislature to promote fuel diversity, enhance Florida's economy and improve environmental conditions. It is critical that Florida has an energy policy that embraces these goals and is long term in nature. Florida's businesses and consumers should expect a consistent and predictable energy policy that will improve the lives of all Floridians.

2. Florida's Energy Status Snapshot

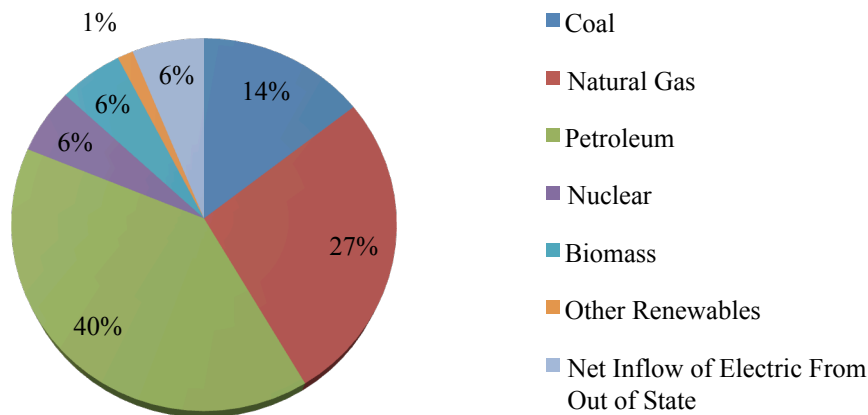
This chapter is a summary of Florida's energy profile; it includes information on fuel diversity, electric generation, electric rates, infrastructure, transportation fuels, renewable fuels, and energy efficiency measures. In addition to providing a summary of Florida's energy layout, this chapter provides an outlook on potential areas of opportunity for the state.

2.1 Florida's Overall Consumption of Energy (Electricity and Transportation Fuel)

According to the United States Department of Energy (USDOE) Energy Efficiency and Renewable Energy (EERE), Florida is ranked third in the nation in electric consumption using 231,210 gigawatt hours (GWh), which accounts for 6.2 percent of the nation's total energy consumption. Because Florida is a peninsular state, the majority of the state's electrical needs are generated within its borders, but the majority of fuels used to power Florida's electric generators must be imported from outside the state. Florida is heavily reliant on natural gas and petroleum for electric generation and transportation fuel, respectively. This heavy dependence on imported fuel makes the state vulnerable to price fluctuations and fuel availability.

Florida Energy Consumption 2010

Source: EIA - Dept of Energy



The Florida Public Service Commission (FPSC) stated in its 2012 Ten Year Site Plan review that “Natural gas is anticipated to remain the dominant fuel over the planning horizon, with usage in 2011 increasing to 57.7 percent of the state’s net energy for load (NEL), up from 50.8 percent of NEL in 2010.” As of January 2012, the total generating capacity in summer is 56,973 megawatt and the 2012 Ten Year Site Plan includes the planned addition of 7,200 megawatts, all of which will be natural-gas units. Florida receives most of its natural gas supply from the Gulf Coast Region via two major interstate pipelines: the Florida Gas Transmission line, which runs from Texas through the Florida Panhandle to Miami, and the Gulfstream pipeline, an underwater link from Mississippi and Alabama to central Florida. With the completion of the Cypress Pipeline in May 2007, the Jacksonville area has also begun receiving supplies from the liquefied natural gas (LNG) import terminal at Elba Island, Georgia. Florida’s natural gas consumption is high and has grown rapidly in recent years, due primarily to increasing demand from the electric power sector, which dominates the state’s natural gas use.

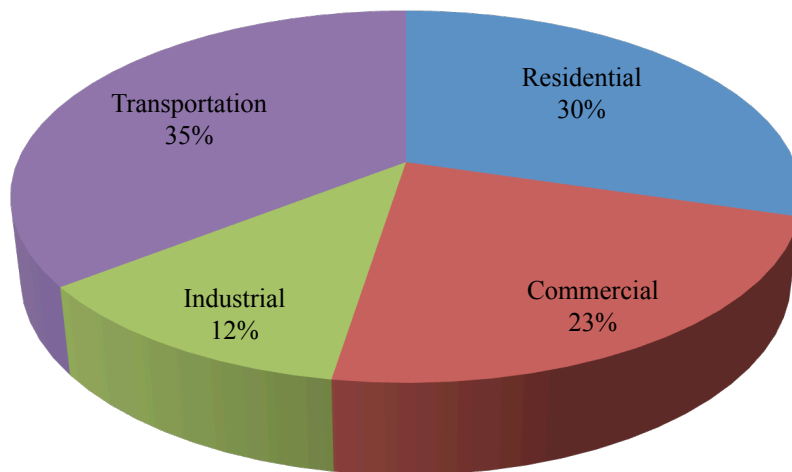
In 2007 and 2008, the FPSC approved requests for approximately 5,000 megawatts of new nuclear generation. FPL anticipates increasing the generating capacity at all of its nuclear generation units by 2013 and is progressing on the development of two new nuclear units. Those two new units, Turkey Point #6 and #7, are not scheduled to come online until after 2023. Progress Energy Florida and Duke Energy Corporation merged in 2012. In early 2013, Duke Energy Corporation made the decision to retire Crystal River Unit 3 nuclear plant owned by its Progress Energy Florida utility. Crystal River Unit 3 had been shut down and offline since 2009 due to cracks in the reactor's containment wall. Duke Energy Corporation's Progress Energy Florida utility's plan to build a new nuclear reactor, Levy Unit 1, has been delayed until 2024.

With the retirement of Crystal River Unit 3 nuclear reactor, delays in the construction of new nuclear units and the potential retirement of several Florida based coal-fired units, Florida's dependence on natural gas as an electric fuel source will continue to grow. According to the FPSC 2012 Ten Year Site Plan Review, units scheduled to retire will likely be replaced by natural gas units. This would result in natural gas as an electric generation fuel source increasing from 57.7 to 62.9 percent of the state portfolio by 2021.

In Florida, the majority of energy is consumed by the residential and transportation sectors. According to USDOE EERE, nationwide per capita consumption of electricity in 2010 was 4,674 kilowatt hours with Florida ranking eleventh in the nation at 6,489 kilowatt hours of use. Residential electric usage is high due to cooling needs, which account for 31 percent of home energy use. Also, transportation fuel consumption is high due to Florida being the fourth most populous state in the nation and having an extensive tourism industry.

Florida Energy End Use Sectors (2010)

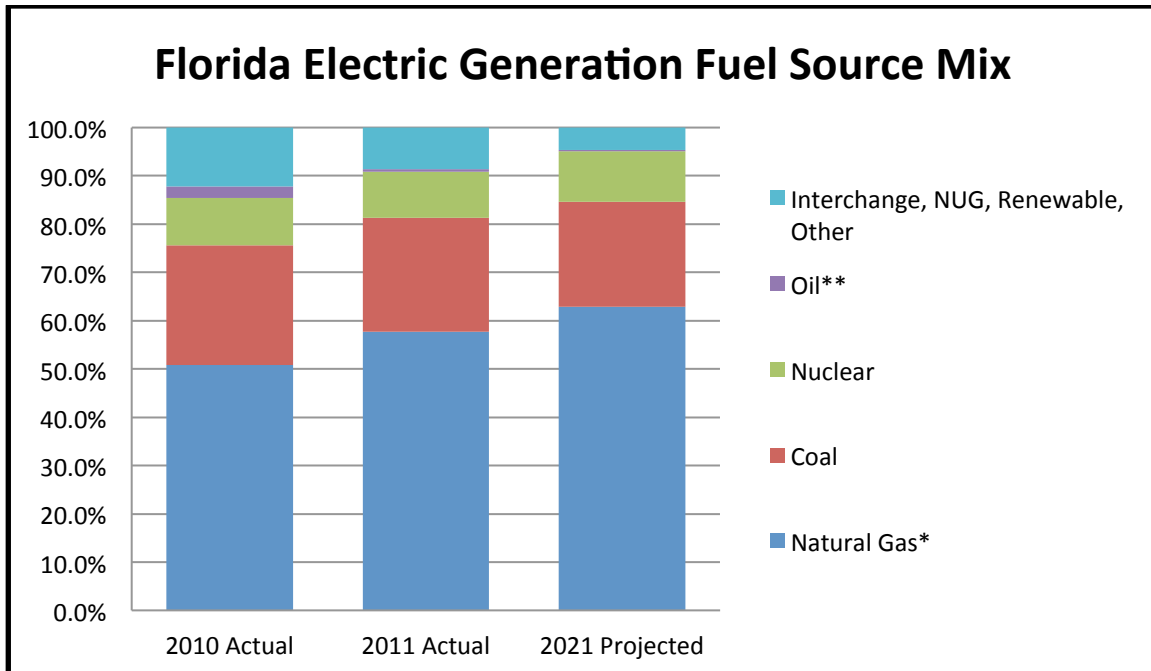
Source: EIA - Dept of Energy



Florida has no oil refineries to serve the state’s transportation sector and relies on petroleum products delivered by tanker and barge to marine terminals near the state’s major coastal cities. Due in part to Florida’s tourist industry, demand for petroleum-based transportation fuels (motor gasoline and jet fuel) is among the highest in the United States.

2.2 Energy for Power

As stated previously, Florida relies on imported fossil fuels to power the majority of its electric generators. As of 2011, approximately 58 percent of Florida’s electric generation was powered by natural gas and that amount is projected to increase based on the Ten Year Site Plans as presented yearly by the utilities to the FPSC.



*Includes both utility and non-utility generation.

**Includes both residual and distillate oil.

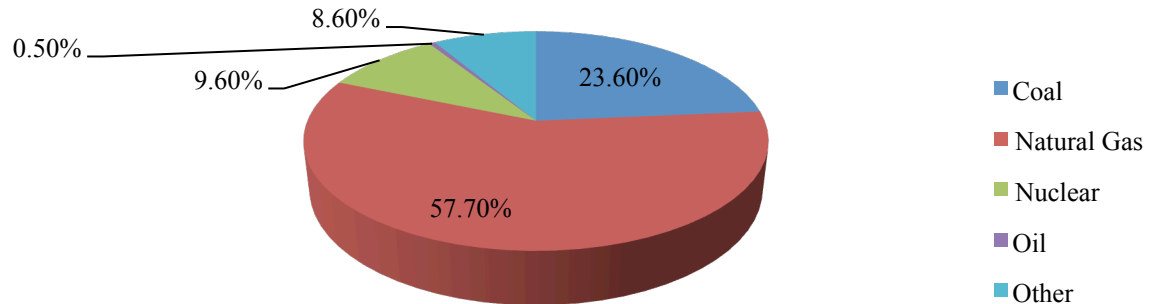
Source: FPSC Ten Year Site Plans December 2012 and December 2011

In the past, Florida utilities attempted to maintain a balanced fuel mix of one third coal, one third nuclear, and one third natural gas, which was more stable if one fuel source became unreliable. Over time utilities have moved away from that balance due to a number of factors including:

- Cleaner and less expensive natural gas generation facilities.
- The high cost and lengthy permitting and construction time of nuclear power.
- The high environmental and regulatory cost of coal generation.

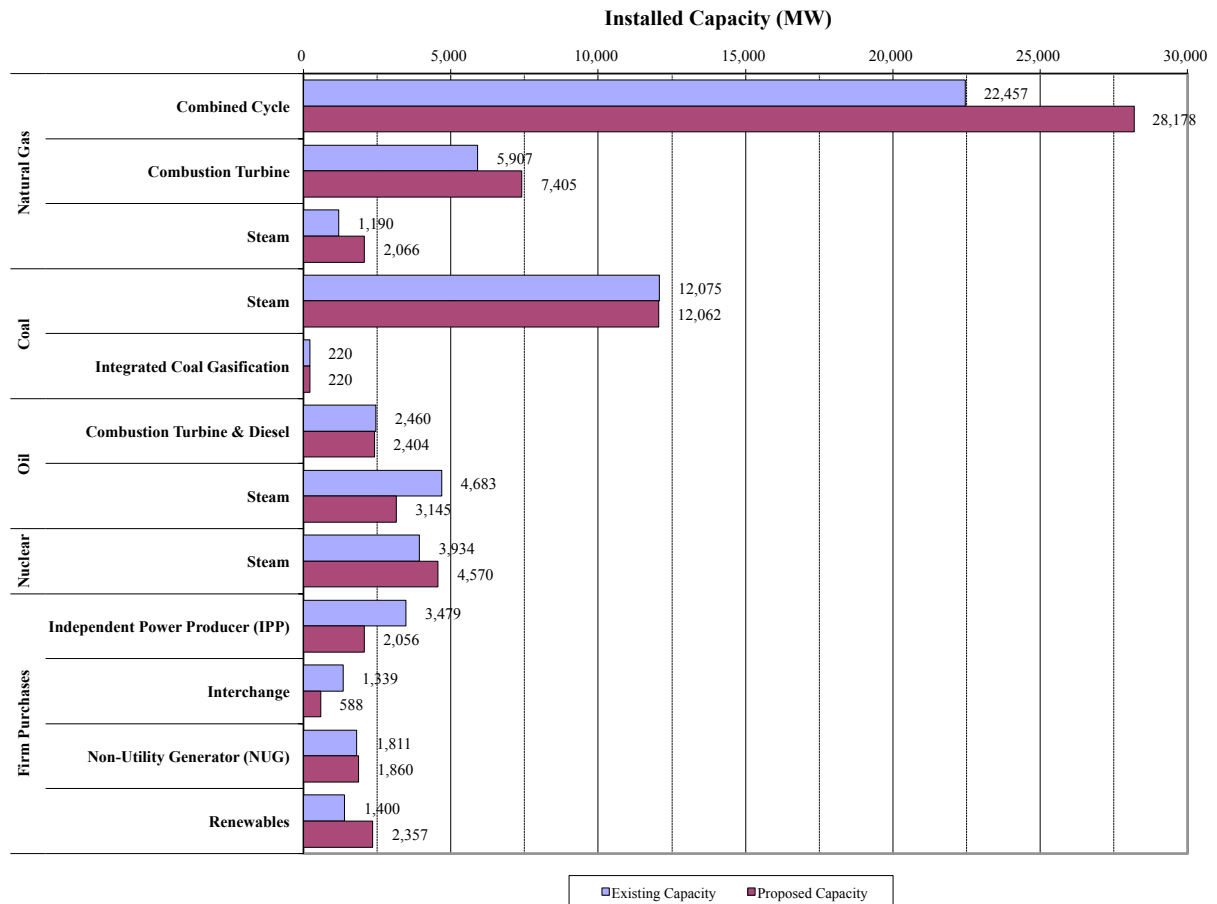
Florida Electricity Generation By Source Type (2011)

Source: FPSC Ten Year Site Plan December 2012



Future Generation Facilities and Retirements

Florida's utilities plan for generation capacity to serve their growing customer base on a ten year rolling basis. In addition, they plan on facility retirements or phase outs. Over the next 10 years, the following changes in facilities, based on generation fuels, are planned.



Source: FPSC Ten Year Site Plan December 2012, page 7, Figure 3

Electric Transmission Service

The transmission lines that carry electricity from the generating facilities to customers within the state and across the nation are overseen by the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC). The NERC is certified by FERC to establish and enforce reliability standards for the bulk-power system and its mission is to ensure the reliability of the North American bulk power system.

NERC works with eight regional entities to improve the reliability of the bulk power system. Two of the regional entities that report to NERC have utilities within the state of Florida. Those two regional entities are the Florida Reliability Coordinating Council (FRCC) and the SERC Reliability Corporation (SERC).

All electric utilities from Pensacola in the far northwestern portion of Florida's panhandle east of the Apalachicola River report to SERC. This territory in the Panhandle of Florida has strong transmission interconnections to the north with Alabama through the Southern Company. The Panhandle of Florida can also pull power down from other southern states if needed.

All electric utilities from east of the Apalachicola River, around Tallahassee, down to Key West including all of peninsular Florida, report to the FRCC. For this territory, there are no significant ties to northern states; there is one large transmission line that runs up the east coast into Georgia that could, at most, deliver nine percent of the power to peninsular Florida.

The FPSC is responsible for determining the need for certain transmission lines within the state. The Florida Department of Environmental Protection (DEP) is responsible for the siting and path of the new transmission lines. According the FPSC's 2012 Ten Year Site Plan Review, Tampa Electric Company (TECO) is planning to install a 62.5 mile transmission line in association with their Polk Power Station combined cycle conversion by 2017.

Electric Utility Rates

The rates for residential customers in Florida vary from utility to utility based on many factors including the number of customers they serve, whether they generate their own power (or purchase it from another utility), and what type of fuel source provides their electricity (natural gas, nuclear, coal, etc.). The following is a brief synopsis of the FPSC's Comparative Rate Statistics as of December 31, 2011:

Residential Utility Rate Comparison High/Low per 1,000kWh			
Investor-Owned Electric Utilities	Average Bill \$116.26	Highest Average	\$134.09
		Low Average	\$94.13
Municipal Electric Utilities	Average Bill \$120.40	Highest Average	\$137.50
		Low Average	\$81.48
Cooperative Electric Utilities	Average Bill \$129.54	Highest Average	\$205.00
		Low Average	\$98.79

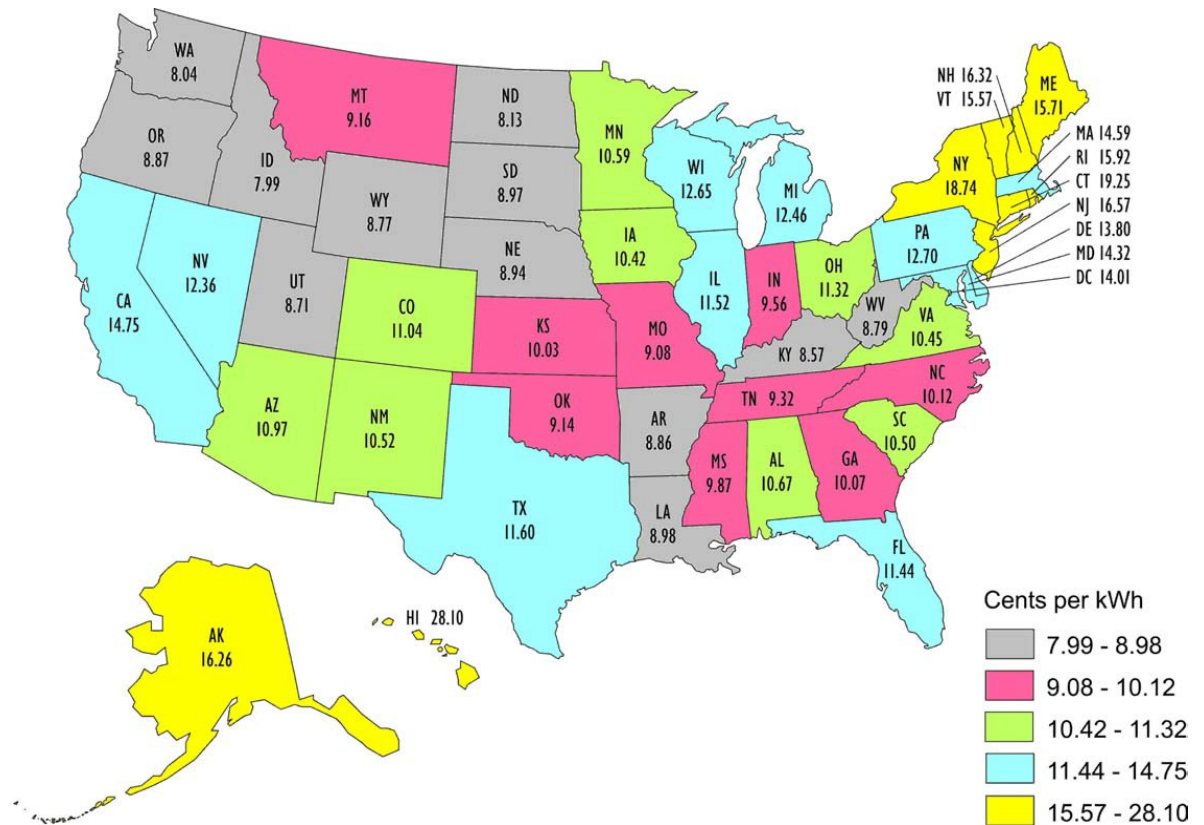
Source: FPSC September 2012 Comparative Rate Statistics

Commercial/Industrial Utility Rate Comparison High/Low per 150,000kWh			
Investor-Owned Electric Utilities	Average Bill	Highest Average	\$16,740.00
	\$14,642.00	Low Average	\$13,242.00
Municipal Electric Utilities	Average Bill	Highest Average	\$22,304.00
	\$16,716.00	Low Average	\$7,860.00
Cooperative Electric Utilities	Average Bill	Highest Average	\$29,600.00
	\$16,319.00	Low Average	\$11,193.00

Source: FPSC September 2012 Comparative Rate Statistics

Florida is slightly lower than the national average at 11.44 cents per kilowatt hour of electricity compared to 11.54 cents per kilowatt hour nationally.

Average Residential Price of Electricity by State (2010) (U.S. Residential Average Price per kWh = 11.54 cents)



Note: The average revenue per kilowatt-hour of electricity sold is calculated by dividing revenue by sales.

Source: Energy Information Administration's Electric Power Monthly, Table 5.6.B., February 2012
http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_b.html

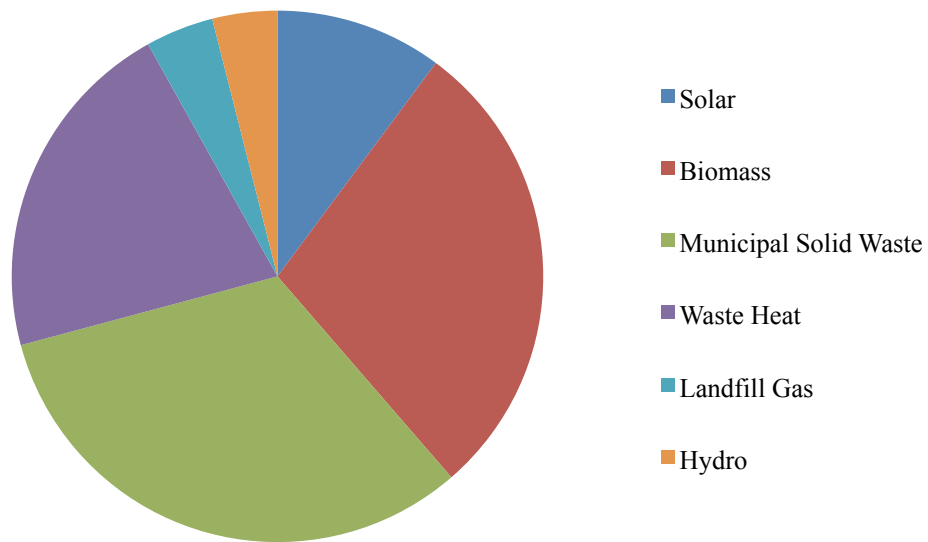
Renewable Power Generation

As of December 2012, Florida has approximately 1,421 megawatts of renewable energy capacity, an increase of roughly 138 megawatts from last year. Municipal solid waste (MSW) and biomass account for about one third of that number. Other major types of renewable generation include waste heat, hydroelectric, landfill gas, and solar.

An additional 957 megawatts of renewable energy is planned which is an increase of 51 megawatts from last year. The majority of the proposed additions are solar and biomass projects. Overall, renewable energy accounts for a small quantity of Florida's energy supply.

State of Florida: Existing Renewable Generation Capacity

Source: FPSC's 2012 Ten Year Site Plan Review



2.3 Renewable Energy by Technology

By its nature, renewable energy is regional. Different renewable technologies rely on various forms of energy or feedstocks that may not be available throughout the state. The most viable technologies for Florida are biomass, solar, municipal solid waste and waste heat energy.

Biomass Energy (Electric and Fuel)

With a year-round growing season, Florida has more biomass resources than any other state. According to the Florida Energy Systems Consortium (FESC), Florida has the potential to account for 7 percent of the U.S. total biomass resources. In most cases the bio-energy facility must be located near the intended feedstock to make the process economically viable.

Biomass also has the potential to be a significant economic driver, especially in rural locations. A prime example of this is the wood pellet plant in Liberty County. The plant employs 77 people and is the largest exporter at Port Panama City in Northwest Florida. According to *Florida Trend* (December 2012), they utilize the port to ship more than a half-million tons of wood pellets to Europe to be co-fired in coal power plants.

Most importantly, these technologies utilize non-food feedstocks such as municipal waste, sugarcane waste, citrus pulp, forest residues, invasive trees/plants or animal waste.

Photovoltaic/Solar Energy

Florida's current installed solar capacity is 143.3 megawatts. Florida has significantly expanded its solar capacity in previous years due to the state's solar rebate program and several large utility scale installations by Florida Power & Light (FPL) and Jacksonville Electric Authority (JEA). According to the Energy Information Agency, as of 2011, Florida was ranked third in the nation for net solar electric generation.

Solar thermal is an energy saving technology that has been in existence for decades and has a relatively short payback period for return on investment, especially when compared to other renewable and efficiency technologies. According to the FESC, heating water typically accounts for 18 percent of the average utility bill and solar hot water heating can be upwards of 90 percent efficient which results in significant savings overtime. FESC estimates that more than 250,000 systems are installed in Florida amounting to more than \$30 million in annual energy costs savings. In addition to reducing consumers' electric bills, there are manufacturers of solar thermal collectors in the state of Florida that are currently providing much needed jobs.

Municipal Solid Waste (MSW)

MSW uses residential waste as a feedstock and burns the waste to create steam which turns the electricity producing turbine. MSW accounts for 453.7 megawatts of electrical capacity in Florida. MSW facilities are equipped with advanced scrubbers to remove pollutants and reduce emissions. MSW is attractive to major population centers because it diverts waste from entering the already overburdened landfills while providing the benefit of a renewable energy source.

Waste Heat/Combined Heat and Power

Generating electricity from waste heat is a matter of redirecting waste heat or steam from a process such as chemical or mechanical manufacturing back into a turbine to produce electricity. The process of redirecting this heat is generally a large undertaking and requires many industrial sized pipes. For example, Shands Hospital at the University of Florida redirects exhaust (waste heat) from combustion turbine generators to produce 14,400 pounds per hour of steam without any additional fuel. Shands Hospital utilizes the steam for heating, cooking, sterilization, and hot water for the hospital. Shands captures waste heat and uses it as an energy savings mechanism; but, waste heat from manufacturing can also be used to generate electricity.

2.4 Florida's Energy Efficiency and Conservation Efforts

Florida's energy conservation efforts are addressed by several different agencies. A majority of the ARRA grants administered by FDACS OOE were awarded to local governments' energy efficiency and conservation improvements. In addition, the Florida Department of Economic Opportunity (DEO) administers the Federal Weatherization Assistance Program (WAP) for Florida to assist low income citizens by improving the energy efficiency and comfort of their homes. Also, all Florida electric utilities have energy efficiency and conservation programs to assist their customers in reducing wasted energy and thus cutting their costs.

Florida Energy Efficiency and Conservation Act

In the mid 1980s, when petroleum was scarce, prices were high, and reducing energy demand and consumption was important, the Florida Legislature implemented the Florida Energy Efficiency and Conservation Act (FEECA).

House Bill 7117 passed in the 2012 legislative session directed the FPSC to contract for an independent evaluation of the FEECA to determine if the act remains in the public interest. The evaluation had to consider:

- Costs to ratepayers,
- Incentives and disincentives associated with the provisions in the act,
- Whether the programs create benefits without undue burden on the customer, and
- Models and methods used to determine the conservation goals.

The FPSC contracted with the University of Florida's Public Utilities Research Center (PURC), the University of Florida's Program for Resource Efficient Communities and the National Regulatory Research Institute (NRRI) to conduct the independent evaluation. The final FEECA report was provided to the FPSC in December 2012. The evaluation concluded that FEECA continues to be in the public interest and identified three areas for improvement:

1. Problems with uncertainty in goal-setting criteria. The FPSC goal setting process needs to be modified to set the criteria for program approval prior to developing the studies used for setting the goals.
2. Improvement of data quality and accessibility. To improve the FEECA reporting data the process needs to be modified so that the data can be reported electronically, in a uniform manner, and available to the public.
3. Preferred cost-effectiveness tests. The report recommends the cost-effectiveness criteria focus on two issues, whether the program participants benefit (Participant Test), and whether the program benefits exceed the program costs for Florida as a whole (Total Resource Cost (TRC)).

In addition, the report identifies five areas warranting further study:

1. Identifying best practices. FEECA needs to develop a process for utilities to share best practices.
2. Portfolio standards. Florida needs to consider a Portfolio approach for FEECA programs. Currently in Florida, each FEECA individual program must meet the prescribed FEECA standards. Some states only require the prescribed energy efficiency standard be met on the entire portfolio of programs instead of on each individual program.
3. Alternative rate designs. Florida needs to examine the use of alternative rate designs (e.g., time of day).
4. Housing standards. The Florida Department of Business and Professional Regulation's Florida Building Commission needs to consider standards or incentives for tenant-occupied dwellings. Currently, landlords have no incentive to add energy efficiency improvements to their rental properties since they do not have to pay the electric bills. Similarly, renters do not want to pay for energy efficiency upgrades on property that they do not own. Florida should explore incentives to property owners to make that investment.
5. Reward and penalty systems. The FPSC needs to promulgate rules to specify criteria for providing utility rewards and penalties for meeting or failing to meet FEECA goals.

Attachment B of this report provides the Executive Summary of the Florida Public Service Commission’s (FPSC) annual Florida Energy Efficiency and Conservation Act (FEECA) report. The report details the energy efficiency and conservation efforts by Florida’s utilities.

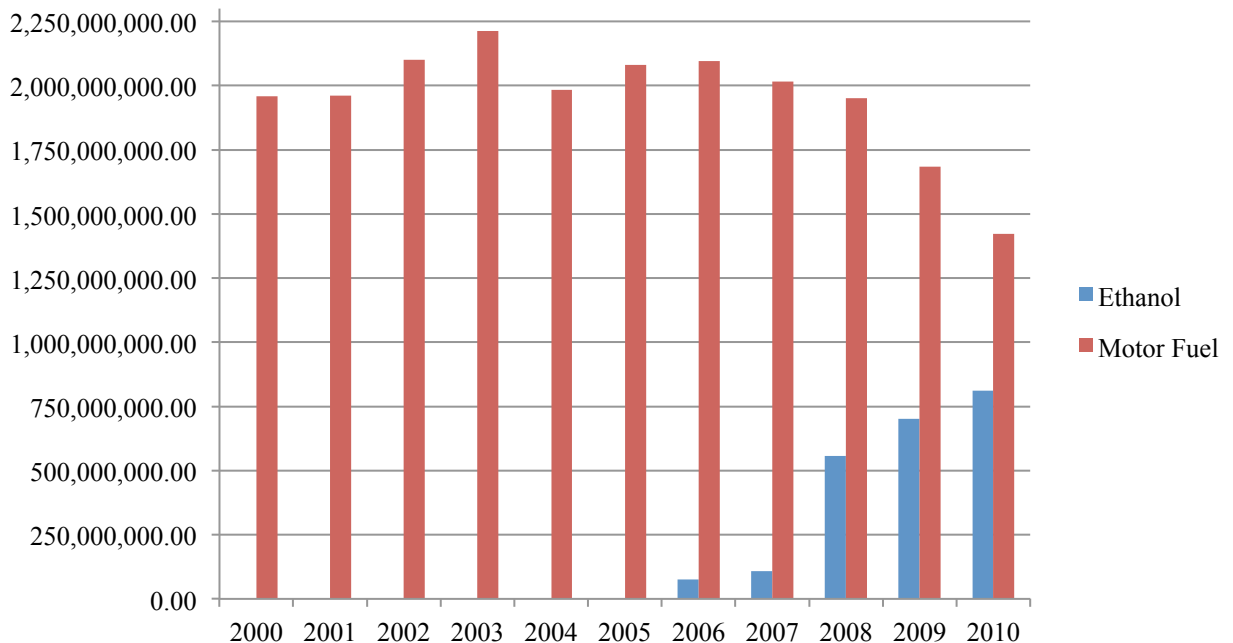
2.5 Transportation Energy

Petroleum Use

Florida’s transportation sector accounts for more than one-third of the total energy used in the state with nearly all transportation fuel being imported into the state. According to USDOE EERE, Florida’s per capita consumption of motor gasoline in 2010 was 440 gallons, which is six gallons less than the national average. Over the last 10 years, the state consumed 9.8 billion gallons of gasoline and diesel fuel per year, and the average annual consumption is growing by 59 million gallons. Comparatively, according to the Florida Department of Environmental Protection, Bureau of Mining and Minerals Regulation, Florida produced 1,777,367 barrels of crude oil in 2010, with the majority of it coming from Jay Field in Escambia County. Florida does not have any in-state refineries to process crude oil.

The Florida Renewable Fuel Standard requires that all gasoline sold in the state of the Florida must be a 9 to 10 percent blend of ethanol. There were several exemptions to this mandate for boats, off-road vehicles and jets. In HB7117, passed in 2012, the legislature clarified that the selling of unblended fuel in the state was not illegal. The market for in-state ethanol production in Florida is great because, according to the USDOE, Florida ranked third nationwide in ethanol consumption in 2010, which amounted to over 810 million gallons of ethanol.

Annual Motor Fuel Sale & Ethanol Consumption in Gallons



Source: U.S. EIA & USDOE EERE

Florida's Alternative Transportation Use

A number of Florida's private commercial fleet owners, as well as local governments and school boards, have begun the process of converting their fleets to compressed natural gas (CNG) and liquefied natural gas (LNG) in order to incur cost and petroleum savings. There is a growing interest in using CNG and LNG for large vehicles and more commercial operators and governments are looking into the economic feasibility of converting their fleets. Currently, there are 35 CNG stations in Florida.

Electric vehicles (EV) are also an emerging alternative transportation energy source being used in Florida. Consumers, as well as private businesses and local governments, have been making the investment in electric vehicles as well as the infrastructure to support the charging of these vehicles. While a precise number is not known, the state currently has more than 400 EV charging stations installed.

Florida's Transportation Infrastructure

According to the U.S. Department of Transportation, Bureau of Transportation Statistics, Florida has an extensive transportation system, with 116,649 miles of public roads, 1,471 miles of interstate, 11,182 bridges, 1,895 miles of railroad tracks, 1,540 miles of inland waterways and 126 public use airports. In addition, according to the December 2012 issue of *Florida Trend*, Florida has 15 deep water ports that are in the process of deepening their channels and adding infrastructure in anticipation of luring some of the megaships that will begin to traverse the Panama Canal in 2015. Florida's infrastructure improvements of its ports and increased trade ties with Latin America are promising for the exportation of goods, which could include renewable energy products such as solar hot water units and photovoltaic modules.

2.6 Florida's Energy Future

The increasing population in Florida, as well as changes to the demographics of the population, will affect Florida's demand for energy over the next ten years. The University of Florida's Bureau of Economic and Business Research predicts that Florida's population is expected to increase about 250,000 a year between 2010 and 2020. During that time period, Florida is expected to become home to more young adults of international origin than retirees, which will shift the way energy is used. While technological advances help increase efficiency, more electronics are being used per capita. Collectively, these factors are expected to yield an exponential increase in consumption of energy in the decade ahead.

There are four specific technologies that are expected to have a significant effect on Florida's energy sector.

Natural Gas Fracking

Due to advances in extraction technologies, the United States is experiencing a surge in natural gas production which has led to a surplus of natural gas; as a result, prices have fallen. Florida is heavily reliant on natural gas and, according to USDOE EIA Report 1, as of 2011 Florida was ranked second in the nation in net electricity generation from natural gas. This is both good and bad because Florida is currently experiencing reliable electric service and low electric rates, but it also means the state is heavily dependent on one fuel source.

Due to the low prices, environmental benefits and lower maintenance costs, CNG is showing promise as a transportation fuel as well. Fleet operators are beginning to convert their vehicles to CNG because of its benefits, and as a result, they are also installing CNG fueling stations across the state.

Solar Energy and Battery Storage

The cost of solar panels continues to fall and the federal government is promoting the reduction of the balance of system costs through the SunShot initiative. Balance of system costs refers to the total cost of an installed system which includes design, permitting, labor, inspections and additional hardware costs. As panel prices fall, the additional costs of installation are becoming a significant factor in the overall costs of converting to solar power. However, while Florida has a progressive net metering standard, barriers persist in permitting.

A major hindrance for many renewable energy technologies is their intermittent nature. Storage of energy is a major factor that has the potential to revolutionize the renewable energy industry. There are several battery manufacturers and research and development companies in Florida, and many are working on grid scale and/or transportation storage. Grid scale energy storage is meant for large scale storage of energy that is integrated into the electric grid and helps run the electrical grid more efficiently by storing energy during periods of excess production and releasing energy in times of need. Energy storage for the transportation sector generally refers to battery storage for use in electric vehicles; this is a burgeoning industry. Florida's battery industry stands to benefit from the adoption of storage technologies. According to the FESC, there are seven companies and over 30 professors working on energy storage in Florida.

Electric Vehicles

While growing availability of CNG could potentially have a strong impact on the fleet vehicle industry, electric vehicles could become a significant player in the consumer market. The PSC estimated that Florida has between 1,000 to 6,000 electric vehicles on the road today. While there is no agency tracking these figures, in a recently released report on the impact of electric vehicles on the electric grid the PSC estimated that these numbers will increase as more electric vehicles are released in the market by automobile manufacturers. According to the FPSC, estimates place gasoline savings at 480 gallons per year for a fully electric vehicle.

Ocean Energy

The Gulf Stream comes within eight miles of the southeast coast and represents a significant potential for renewable energy. Most importantly, ocean energy could be a base load renewable energy meaning that it is a predictable and constant source of energy like coal, nuclear, and natural gas. Technological advances are necessary in order to harness this potential and Florida Atlantic University has a marine facility to conduct ocean energy research. Florida Atlantic University is currently in lease agreements with the U.S. Bureau of Ocean Energy Management to acquire a lease block for ocean energy testing and demonstrations.

3. Florida Energy Summit

The second Florida Energy Summit was held August 15-17, 2012. The Florida Energy Summit grew out of the Farm-to-Fuel Summits, which had been held annually since 2005. In 2011, when the Office of Energy (OOE) was transferred to the Florida Department of Agriculture and Consumer Services (FDACS), the summit was expanded to include all sources of energy as well as energy efficiency and conservation.

The theme for the 2012 program was *Fueling Florida's Economic Future*. More than 500 summit attendees and 51 speakers gathered together to find ways to capitalize on the energy opportunities available in Florida. The panel discussions included representatives from a broad spectrum of Florida's energy industry and featured several successful private businesses that are leading the state in energy efficiency and renewable energy investments.

A common theme that emerged from many of the panel discussions was that economic and policy uncertainty was the greatest hindrance to energy investment in Florida. There is abundant enthusiasm for new investments and job creation in Florida for pipelines, generators, renewable energy and energy efficiency retrofits.

The keynote speaker at the 2012 Florida Energy Summit was John Hofmeister, former CEO of Shell Oil Company, founder and head of the not-for-profit Citizens for Affordable Energy and a key member of the U.S. Energy Security Council, a bipartisan group. Mr. Hofmeister stated that Florida needs all forms of energy to fuel economic growth and create jobs. He also emphasized the importance of researching and developing the infrastructure for the next generation of energy facilities.

Mr. Hofmeister spoke on how all elements of energy contribute to our economic prosperity, either through investment, employment, or as a necessary input. He stated that Florida is particularly vulnerable since it does not produce fuel; and, for Florida to be economically successful there needs to be a comprehensive state energy policy, and it must be integrated into the federal policy.

While the thoughts and ideas expressed by each of the speakers are not necessarily representative of the Florida Department of Agriculture and Consumer Services, it was informative and important to hear from a diverse group of speakers.

4. FDACS Energy Grants Activities

One of the functions of the FDACS OOE has been to develop, award and manage various state and federal grant programs. In 2009, the FDACS OOE received \$176 million in grant funding under the American Recovery and Reinvestment Act (ARRA). The funds were distributed under four different programs: the State Energy Program (SEP) (\$126 million), Energy Efficiency and Conservation Block Grant program (EECBG) (\$30.4 million), the State Energy Efficiency Appliance Rebate Program (SEEARP) (\$17 million) and the Energy Assurance program (\$1.8 million). Through these federal grants, the office executed 150 individual sub-grants to communities and several businesses around the state.

Completed Projects

Over the past year, nearly all of the grants completed work and are now in the process of closing out. The largest amount of grant funds administered was used to directly improve the energy efficiency of local governments, universities and businesses. Most of the funding by local governments was used to purchase Energy Star equipment. There are over 30 separate projects installing new Energy Star HVAC systems and another 30 installing new Energy Star lighting systems. Other improvements included replacing chillers, improving efficiency at waste water treatment plants and purchasing all electric or hybrid vehicles. These projects will help local governments reduce their energy consumption, improve safety and, most importantly, reduce their monthly energy expense.

There were approximately 54 grants that supported renewable energy projects. The most frequent investment undertaken was to install photovoltaic systems on local government office rooftops to reduce energy expense and educate residents on alternative energy. Seventeen different local governments pursued this opportunity. There were also grants that upgraded and retrofitted three E85 and B20 locations around the state to increase capacity and use of these fuels. Other frequent investments included solar lighting for streets, parks and traffic control, as well as solar thermal systems (water heaters). There were approximately five projects to develop feed stocks and ethanol/bio-diesel facilities.

Approximately 32 local governments developed programs to promote conservation and energy efficiency within their communities. Their grant dollars went towards developing webinars and training programs to educate their citizens or commercial businesses on conservation practices, conducting energy audits and implementing energy efficiency educational programs.

Twenty-one of the grants administered by the FDACS OOE were used by local governments with the goal of promoting renewable energy, energy efficiency, and energy conservation. Many of these projects accomplished this by performing much needed retrofits on municipal buildings, including upgrading insulation and windows among many other efficiency and conservation improvements. Some local governments have hired consultants to develop educational materials such as training programs, community workshops, and educational websites and videos to utilize within their community and to educate their citizens on energy efficiency and conservation. For a complete listing of FDACS OOE grant projects, see <http://www.freshfromflorida.com/offices/energy/arra.html>.

At the conclusion of administering each Florida grant project, the FDACS OOE conducts an analysis of the program to determine the results of the investment of grant funding and lessons learned, both positive and negative from the project. The majority of grant projects managed by the FDACS OOE helped grantees make an initial investment into energy efficiency and conservation, with a majority of

the projects' measurable benefits not being realized until after the grant period ended. Commissioner Putnam expressed his objective to better understand the impact of grant projects and requested all grantees to assist through voluntarily tracking and reporting their impact over the course of a year after their grant is completed.

Program Challenges and Lessons Learned

Managing \$176 million spread over 150 projects did not come without challenges. The grantees the FDACS OOE had the opportunity to work with ranged from other state agencies and large counties with dedicated grant management staff to small cities and companies who were dealing with the grant process and the management of federal dollars for the first time. These sub-grants were located in every corner of the state, from the Florida Keys, to Pensacola and everywhere in between, each with their own unique challenges.

One specific challenge common to many of the sub-grantees was the unfamiliarity with federal labor regulations. The Davis-Bacon Act necessitates that contractors doing construction related work submit weekly payrolls for their workers. Nearly all contractors had difficulties because they were dealing with the regulation for the first time.

The Buy American certification is an important requirement; but, in some cases, proved to be a challenge faced by the sub-grantees. This requirement ensured that all of the iron, steel and manufactured goods used in the projects were produced or manufactured in the United States. Many sub-grantees had difficulty finding certain specialty items that complied with the Buy American standard. Before grant funds could be paid to the sub-grantee, they had to remove the noncompliant equipment and install equipment that met the Buy American standard.

The FDACS OOE staff recognized these challenges during the administration of its grants and took action to address them in the form of education, outreach and monitoring. The FDACS OOE staff also addressed these challenges by making it a priority to physically monitor the progress of the grants. Staff members made a total of 102 monitoring visits in 2012 to verify that work was actually being done in accordance with grant agreements.

Ongoing Grant Work

The Florida Opportunity Fund, Inc. (FOF) was created by state legislation in 2007 as a non-profit organization to increase the availability of capital in Florida through both loan and equity investment instruments. It is designed to help Florida businesses and promote the adoption of commercially available energy efficient and renewable energy products and technologies. \$36 million of the federal ARRA funds were granted to the FOF; to date, investments have been made in six businesses, and two other companies are under review.

Another of the FDACS OOE ongoing grant projects is the Sunshine State Building Initiative in partnership with DMS. This project has identified nine state buildings to be retrofitted with energy efficient systems. Grant funds are being used to install a photovoltaic system, replace chillers, as well as update HVAC and air handling unit controls.

FDACS Inspector General Audit

In 2012, the FDACS Inspector General conducted a thorough and comprehensive review of all the grant programs, the recipients and grant processes. Their audit uncovered and saved \$2.45 million

involved in fraudulent acts and bankruptcy of grantees. The audit revealed some successes and some failures.

The Solar Energy Rebate Program and the Energy Star appliance and HVAC programs were both popular and successful in saving customers money and energy use.

Unfortunately, several projects were found to not meet their objectives. This was particularly true of the “shovel-ready” projects that never broke ground. The FDACS efforts to hold these programs and grant recipients accountable does not stop with this audit and the office will continue to measure the impact and evaluate the full effect of these grant programs.

The audit also revealed several shortcomings in the way the OOE administered the grant programs. Since the office was transferred to FDACS, however, many of these shortcomings were addressed by establishing tracking systems, enhancing procedures and providing additional training opportunities. Grant projects were consolidated into one master database which tracks contractual requirements, return on investment (ROI), completion level and risk status of each grant project. In addition, travel restrictions were lifted from grant managers to allow them to conduct required on-site monitoring visits as part of the grant risk assessment process. The executive summary and response to the FDACS Inspector General’s Operational Audit on the Office of Energy is available in Appendix A. For the full report, visit:

http://www.freshfromflorida.com/oig/IA_1112-02_Final%20Report_Operational_Audit_of_OOE.pdf.

Annual Financial Statement

The table below provides the amount of funds that were made available to the FDACS OOE through USDOE grants. Of the four grants FDACS OOE administered, only the SEEARP grant is completed.

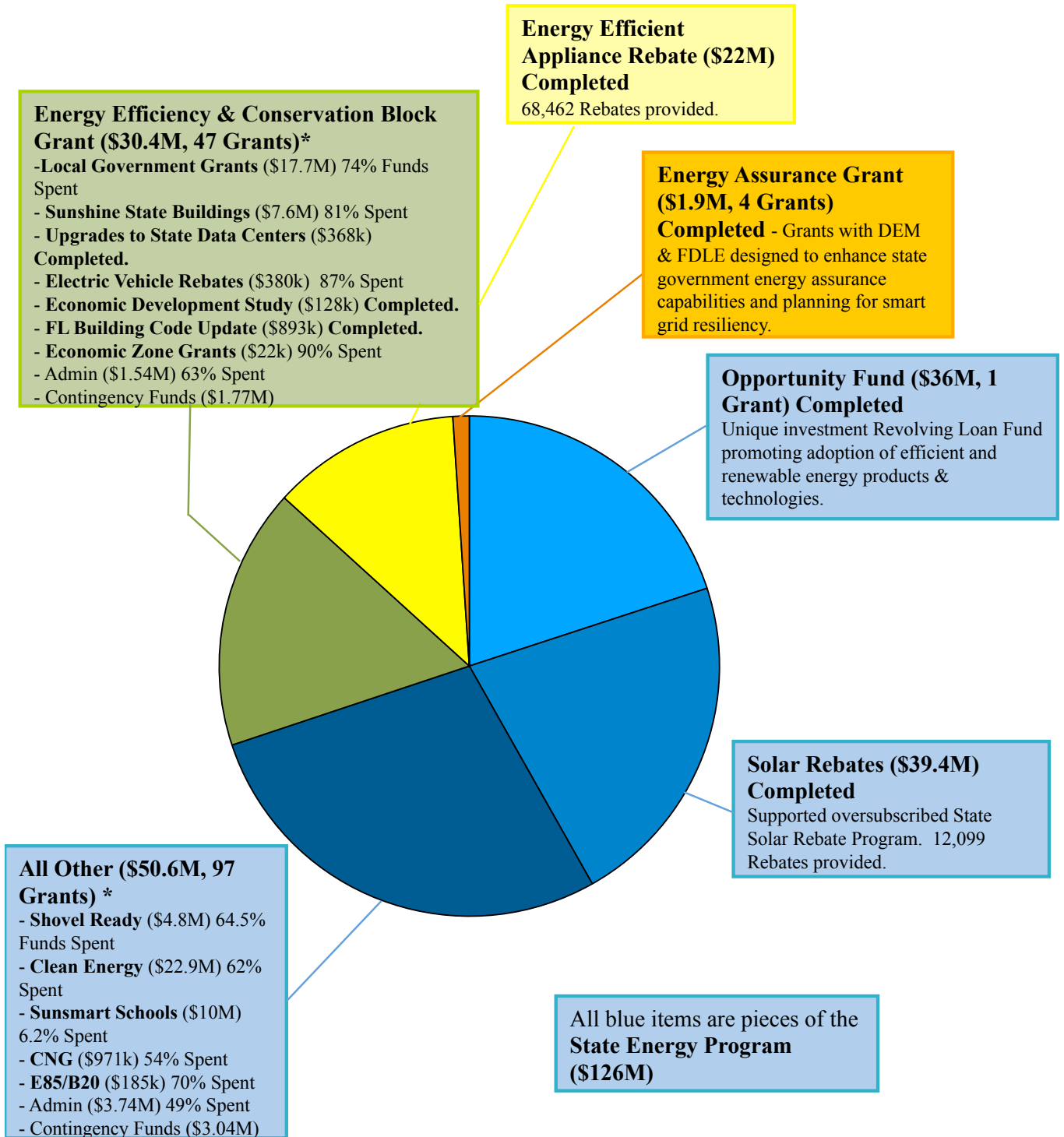
ARRA OBLIGATIONS AND EXPENDITURES 2012						
	FEDERAL GRANT				Total	Percent
	SEP-ARRA	EECBG	SEEARP	Energy Assurance		
Status	Ongoing	Ongoing	Closed	Ongoing		
Award	\$ 126,089,000.00	\$ 30,401,600.00	\$ 17,585,000.00	\$ 1,881,676.00	\$ 175,957,276.00	100.00%
Unobligated	\$3,040,999.86	\$1,813,075.46	\$ 5,978.79	\$ 20,237.49	\$4,880,291.60	2.7740%
Obligated	\$ 123,048,000.00	\$ 28,588,524.54	\$ 17,579,021.21	\$ 1,861,438.51	\$ 171,076,984.40	97.226%
Expended	\$99,426,696.96	\$22,148,885.66	\$ 17,579,021.21	\$1,340,941.25	\$ 140,494,848.08	79.846%
Balance to Expend	\$26,662,303.04	\$8,253,411.34	\$ 5,978.79	\$540,734.75	\$35,462,427.92	20.154%
End Date	September, 2013	September, 2013	February, 2012	April, 2013		

As of December 2012, Florida has obligated 97 percent of total ARRA funding through rebates to Florida consumers and sub-grants to local governments, state colleges/universities, non-profit agencies or commercial organizations. A total of 80 percent of ARRA funding has been expended to date on allowable project costs on a cost-reimbursement basis where the consumers or sub-grant recipients expend the funds on eligible activities and are reimbursed by ARRA funding upon submission of sufficient supporting documentation. Significant additional expenditures are anticipated in the first quarter of 2013. The final three percent of total ARRA funding that is currently un-obligated has resulted from planned projects that did not materialize or which fell through during the negotiation process. The FDACS OOE has developed a contingency plan to re-purpose this funding.

Existing programs and sub-grants are under closeout review, in part to determine if projects have completed all required deliverables and are in compliance with the terms and conditions of their sub-grant award agreements. The FDACS OOE has the primary responsibility to ensure that all grant funds are expended by the end of the applicable grant period.

Federal Stimulus Appropriations (a.k.a. *ARRA*) As of July 1, 2012

Percentages only reflect completed payments to grantees and not invoices being processed.



5. FDACS Energy Policy Activities

2012 was an important year for energy policy within the state of Florida. During the 2012 legislative session, the Florida Legislature passed the first comprehensive energy bill in four years, HB 7117. The objective of HB 7117 was to secure a stable, reliable and diverse supply of energy.

While Florida's supply of energy is relatively stable and reliable, more than half of the electricity produced in this state comes from one source, natural gas. Increasing diversity in our state's energy portfolio is imperative to minimize risk, improve energy security, ensure long-term sustainability, and foster economic development.

HB 7117 is designed to increase diversity in the state's energy portfolio, expand energy production and create much-needed jobs for Floridians. HB 7117 included the following provisions:

- Required utilities to report the amount of renewable energy each plans to produce or purchase in their 10-year site plan.
- Repealed the Renewable Portfolio Standard.
- Reinstated several tax credits for infrastructure investments and production of biofuels and renewable energy that expired in 2010. Requires FDACS to report annually the amount of tax credits used.
- Allowed for local governments to provide loans, grants or rebates for energy efficiency improvements to residential or commercial properties if the ordinance is approved by referendum.
- Expanded the renewable fuels standard to include "alternative fuels" that are produced from biomass. Also makes clear the standard does not prohibit retail dealers of fuel from selling unblended gasoline. Requires FDACS to post information on the website of those stations selling unblended fuel across the state.
- Required a statewide forest inventory.
- Required the Florida Department of Management Services (DMS) to work with FDACS on standardized reporting on energy use in state buildings.
- Clarified that electric vehicle charging stations are not a utility and should not be regulated by the Public Service Commission. Requires FDACS undertake to rulemaking to standardize the method of sale, definitions, etc., as it relates to the electric vehicle charging stations.
- Required the Florida Public Service Commission to initiate an independent study of the Florida Energy Efficiency and Conservation Act (FEECA) to determine if it is still in the public interest.
- Required FDACS Office of Energy to develop a clearinghouse of energy conservation data and post it on its website.
- Required FDACS to determine if certain invasive plants, some of which will be used to create bioenergy, can be exempt from permitting and modifies bonding requirements if they cannot be exempt.

HB 7117 was passed by the legislature and became law on July 1, 2012. Immediately following the bill becoming law, FDACS OOE began working with other state agencies to implement the legislative requirements of the bill.

The FDACS OOE is currently working on implementing several requirements of HB 7117.

Tax Credit for Investments in Infrastructure and Production of Biofuels and Renewable Energy

These tax credits will assist companies producing renewable energy and creating new jobs. All forms of renewable energy in Florida, including biomass, solar energy, geothermal energy, wind energy, ocean energy, waste heat or hydroelectric power, are eligible for the production tax credit. The marketplace will determine what form of renewable energy investment will occur. Capital costs, operation and maintenance costs, and research and development costs made in connection with an investment in the production, storage, and distribution of biodiesel, ethanol, and other renewable fuels in the state are eligible for the investment tax credit. In addition, materials purchased in the state used in the distribution, including fueling infrastructure, transportation, and storage, of biodiesel, ethanol, and other renewable fuels are eligible for a Florida sales tax refund. These tax credits are not energy subsidies like the federal grants or loans. Rather, they are tax credits toward actual spending, investment and hiring that takes place. Only the projects that benefit Florida will receive tax credits in return.

Currently, FDACS OOE is in the process of developing rules to administer the program. Through the fall of 2012, FDACS OOE conducted several workshops in order to receive public input on the rules for administering the program. FDACS OOE is currently preparing the final draft language for publication. The application period for the tax credits should be open during the first quarter of 2013. The FDACS OOE will also produce a yearly report evaluating utilization of the tax credits, demonstrating impact of policy and holding recipients accountable.

State Building Energy Efficiency

FDACS OOE is also working with DMS to standardize reporting requirements on energy consumption by state buildings. The goal with state buildings is to eliminate energy inefficient buildings and to retrofit existing buildings when it makes economic sense. The state hopes to save operating expenses for energy consumptions by state-owned buildings that are 5,000 square feet or more. Staffs from both offices meet on a regular basis to ensure goals are being met.

Electric Vehicle Charging Infrastructure

FDACS OOE is currently in the rulemaking process to establish a uniform regulatory structure for electric vehicle charging stations in Florida. This included designating charging stations as a public service to exclude them from being regulated as a utility. Rulemaking will standardize the method of sale, definitions, etc., as it relates to the electric vehicle charging stations. In December 2012, three workshops were held to receive public input on the information that is important to ensure consistency within the market for consumers. FDACS OOE staff is currently drafting the rule language and made that language available for public input in January 2013. FDACS OOE staff believes once the rulemaking process is complete, rules for electric vehicle charging stations will be adopted by the summer of 2013.

Energy Clearinghouse of Information

FDACS was instructed to develop a statewide Clearinghouse of energy-related information including traditional sources, conservation, energy efficiency, and renewable energy data and then post this information for consumers on its website. FDACS is working with other state agencies and the Florida Energy Systems Consortium in order to gather the information to be posted on the website. The first iteration of the website was made available in February 2013. The website will continue to be developed with more interactive features for consumers throughout 2013. Once the website is

complete, FDACS will maintain the site in order to ensure that the information posted is accurate and up-to-date.

The Independent Florida Energy Efficiency and Conservation Act (FEECA) Evaluation

The FPSC was directed to contract for an independent evaluation of the FEECA to determine if the act remains in the public interest. The FPSC contracted with the University of Florida's Public Utilities Research Center (PURC) and the Program for Resource Efficient Communities, and the National Regulatory Research Institute (NRRI) to prepare the independent evaluation.

The FDACS OOE was provided with two drafts of the report for comments, and the final FEECA report was provided December 11, 2012.

The evaluation conclusion is that FEECA continues to be in the public interest. As elaborated in Chapter 3 of this report, the evaluation team identified three areas for improvement and five areas that warranted further study.

HB 7117 is a modest step in the right direction for Florida. Collectively, these measures will expand energy production, stimulate job growth, and increase diversity in Florida's energy supply over the long term.

6. Next Steps

The FDACS OOE objective for Florida’s energy policy is to secure a stable, reliable and diverse supply of energy. Stability is key to keeping the prices of energy predictable and affordable. Reliability is important to ensure that Floridians can count on a constant supply of electricity. Diversity is imperative to minimize risk, to increase energy security, to ensure long-term sustainability, and to foster economic development.

Florida needs an “all of the above” strategy that will foster the development of all energy source options. The state cannot be in the business of picking winners and losers in the race to explore renewable energy options. Florida’s strategy must support research and development to explore all energy source options and it must rely on the market to determine what works and what does not.

For this coming year FDACS OOE will:

- (1) Host the third annual Florida Energy Summit and evaluate whether it remains annual or biennial.
- (2) Monitor the need for energy infrastructure improvements in Florida to ensure the stable, reliable and diverse energy supply for the state.
- (3) Continue implementation of HB 7117.
- (4) Continue to closely monitor, evaluate and report the findings of the tax assessments legislated in 2012. If these tax assessments are being abused or found not in the public interest, the FDACS OOE will recommend their termination.
- (5) Work with the public and private sector to examine what is feasible to implement in the new FEECA evaluation that was required in HB 7117 during the 2012 Session.
- (6) Close out all federal ARRA sub-grants and report their return on investment.



Department of Agriculture and Consumer Services Office of Inspector General

July 2012

Report No. IA 1112-02

Operational Audit of the Office of Energy

Executive Summary ———

On July 1, 2011, after the passage of House Bill 2156, the Office of Energy (OOE) was transferred from the Executive Office of the Governor to the Department of Agriculture and Consumer Services (Department). In an effort to thoroughly evaluate the various energy programs, Adam Putnam, Commissioner of Agriculture, requested that the Office of Inspector General (OIG) conduct an audit of the OOE.

The purpose of this audit was to evaluate the overall effectiveness of the OOE in its implementation and oversight of the energy programs, grants, and activities under its purview.

Additionally, this review evaluated energy grants to determine if the contractually stated goals were reached, if the anticipated investment returns were realized, and if there were indicators of fraud or waste. This audit reviewed agreements executed or active between January 1, 2009 and March 31, 2012 and selected actions through May 16, 2012.

OVERVIEW

The audit team examined the grant agreements of all five grant programs and the rebates in all four rebate programs, totaling \$219,748,384. The five grant programs included 176 grants, the majority of which (129) are ongoing, with 32 terminated or in process of termination and 15 (10%) completed, as shown in the tables below. Additionally, the OIG conducted on-site visits at 15 grant recipient locations.

Overview of Grant Programs*				
As of March 31, 2012				
PROGRAMS	ONGOING	COMPLETED	TERMINATED**	TOTAL
State Funded Energy Initiatives	7	7	12	26
Federal Non-ARRA Energy Initiatives	2	4	0	6
ARRA Funded Energy Initiatives:				
State Energy Program (SEP)	79	1	18	98
Energy Efficiency and Conservation Block Grant (EECBG)	39	3	2	44
Energy Assurance Grant Program	2	0	0	2
TOTAL	129	15	32	176

*This table does not include vendor contracts or the Energy Economic Zone Program.

** Terminated or in process of termination.

During the period audited, the OOE administered four rebate programs that issued a total of 129,333 rebates, amounting to \$61,173,765, as shown in the table to the right.

Grant recipients¹ were provided funding either through state or federal dollars, which included the American Recovery and Reinvestment Act (ARRA). The programs collectively have expended 60% of funding, as shown in the table below.

Overview of Rebate Programs		
REBATE PROGRAM	NUMBER ISSUED	AMOUNT ISSUED
ENERGY STAR Appliance Rebate Program (rebates and bonuses)	113,890	\$15,047,717
ENERGY STAR HVAC Rebate Program	4,268	6,402,000
Solar Rebate Program	11,109	39,394,048
Plug-In Hybrid Electric Vehicle Conversion Rebate Program	66	330,000
TOTAL	129,333	\$61,173,765

Overview of Awarded and Expended Amounts for Grants and Rebates*				
PROGRAMS	NUMBER OF GRANTS/REBATES	AMOUNT AWARDED	AMOUNT EXPENDED AS OF 3/31/12	PERCENT EXPENDED
State Funded Energy Initiative Grants	26	\$44,768,368	\$20,963,505	47%
Federal Non-ARRA Energy Initiative Grants	6	6,185,124	6,044,177	98%
ARRA Funded Energy Initiatives:				
ENERGY STAR Appliance Rebates (rebates and bonuses)	113,890	15,047,717	15,047,717	100%
ENERGY STAR HVAC Rebates**	4,268	6,402,000	6,402,000	100%
State Energy Program (SEP)				
Grants	98	78,184,588	32,689,970	42%
Solar Rebates	11,109	39,394,048	39,394,048	100%
SEP TOTAL		117,578,636	72,084,018	61%
Energy Efficiency and Conservation Block Grant (EECBG)				
Grants	44	28,106,968	10,143,288	36%
Plug-In Hybrid Rebates	66	500,000	330,000	66%
EECBG TOTAL		28,606,968	10,473,288	37%
Energy Assurance Grant Program	2	1,159,571	387,906	33%
TOTAL		\$219,748,384	\$131,402,611	60%

* This table reflects the amounts awarded and expended to recipients and excludes vendor payments and administrative cost.

** Approximately \$3,993,756 of the State Energy Program funds was used for the ENERGY STAR HVAC Rebate Program.

¹ For purposes of this report, a recipient is any organization awarded grant funds from the OOE.

COMPARISON OF FLORIDA'S OOE TO ENERGY OFFICES OF OTHER STATES

Florida received the 3rd largest federal ARRA energy award, behind California and Texas. According to the United States Department of Energy (DOE), out of the 56 states/territories, Florida ranks 49th in the percent of ARRA funds expended as of March 31, 2012.

The OIG compared the amount of ARRA funds expended by Florida's OOE to amounts expended by nine other states receiving the highest award amount from the DOE. The states selected for comparison were California, Georgia, Illinois, Michigan, North Carolina, New York, Ohio, Pennsylvania and Texas.

As reported by the DOE, when compared to the nine other states, Florida ranked 8th in overall ARRA expenditures as a percent of the award amount, with a total of 60% of its ARRA dollars expended, as of March 31, 2012.

This comparison also determined that Florida's 61% expenditure of the \$126 million State Energy Program (SEP) funds, tied Texas for last. With respect to the Energy Assurance Grant Program, the OOE expended 42% of its \$1.9 million² of awarded funds, tying New York and placing 6th to the compared states. Florida also placed 8th just above Ohio and California, expending approximately 37% of its \$30 million³ Energy Efficiency Conservation Block Grant (EECBG) funds. Finally, the OOE expended 100% of the \$17.6 million⁴ ENERGY STAR Appliance Rebate funds. Our comparison concluded that all states,

² Comparison data obtained from DOE's website. There is a slight discrepancy between DOE and OOE data, including award amounts, due to timing differences.

³ Ibid.

⁴ Ibid.

with the exception of Michigan, California, and Ohio had expended their entire amount of rebate funds awarded within the anticipated timeframes.

AUDIT RESULTS

Our audit identified several issues specifically related to documentation and grant monitoring practices. There were several instances where grant agreement files did not contain required documentation. Some examples of these deficiencies include missing or incomplete monitoring checklists, insufficient reimbursement documentation, lack of correspondence between the grant manager and grant recipient, and missing conflict of interest forms by individuals involved in the application process. Several files were also found to be missing proof of the grant recipient's liability insurance and evidence of the required registration in the U.S. Federal Government's Central Contractor Registration database.

Additionally, the OIG selected over \$17 million worth of reimbursement requests and their corresponding invoices to ensure that adequate documentation was provided by the recipient to support each request. Of the payment requests reviewed, it was determined that invoices were missing, totaling over \$800,000.

It was also determined that the OOE did not always adhere to the monitoring plan outlined in its Policies and Procedures. In many instances, risk assessments were not performed prior to entering into a contract with a grant recipient. In addition, on-site monitoring visits were not always performed within the appropriate frequency, as established by the risk assessment. There were several instances where monitoring reports were not issued timely by the grant manager. Finally, we found that in some instances, the recipients had not submitted

progress reports in accordance with the contract agreement terms, and that the grant manager did not document the receipt or review of the audit reports required by the Florida Single Audit Act and OMB Circular A-133.

Indicators of Fraud

One of the objectives of this audit was to determine if there were any indicators of fraud identified within the grants administered by the OOE. During the audit, we identified several recipients whose project progress and/or reporting documentation contained irregularities. These detections, after closer examination, resulted in the OOE's immediate action to cease payments and/or terminate the grant agreements, resulting in cost avoidance in excess of \$2.26 million and the initiation of criminal investigations.

This audit also identified several grants totaling almost \$198,000 that were involved in bankruptcy proceedings. Subsequent to the OIG's determination of this status, the OOE initiated termination of the agreements due to the failure of the recipient to fulfill its obligations as outlined in the grant agreement.

Finally, several grant recipient payments were identified that contained reimbursement for unallowable costs. This information was provided to the OOE for further review and appropriate action.

Rebate Programs

An analysis conducted on a sample of the ENERGY STAR Appliance rebates determined the existence of some duplicate payments and pricing errors, resulting in overpayments totaling approximately \$4,400. These are small amounts when compared as a percent to the total dollar amount of the program. However, the OOE should evaluate its contract with the third-party vendor to determine whether

overpayments can be reimbursed to the OOE.

Return On Investment

This audit analyzed existing data in an effort to identify investment returns for each energy program and the grants that make up those programs. For the purposes of this report, return on investment (ROI) is comprised of emission reductions, energy cost savings, energy savings, job creation and project completion. It was determined that, with the exception of the ENERGY STAR Rebate Programs and the Solar Rebate Program, there was insufficient data available and/or insufficient progress made within these programs to determine their overall investment returns.

The ENERGY STAR Appliance Rebate and ENERGY STAR Heating, Ventilation and Air Conditioning (HVAC) Rebate programs were successful in meeting their goals by encouraging consumers to purchase over 64,000 new ENERGY STAR appliances and over 4,200 ENERGY STAR HVAC systems. These programs stimulated Florida's economy and resulted in a reduction in energy usage. Based on the total appliances purchased, it is estimated that \$51 million was added to the Florida economy, generating over \$3.6 million in tax revenues. Additionally, Florida consumers are estimated to collectively save over 7.5 million kWh off their electric bills and approximately 123 million gallons of water each year by replacing their dishwashers and clothes washers.

With respect to the HVAC Rebate Program, the HVAC and geothermal systems purchased added \$26 million to the Florida economy. As a result, Florida consumers who participated in the program are estimated to collectively save over 4.3 million kWh per year off their electric bills.

As it relates to individual energy grants, some recipients, such as local governments, reported progress in energy savings in areas that involved building retrofits, equipment upgrades, and the installation of more efficient lighting. These returns resulted in reductions in greenhouse gases and electric and natural gas consumption, as well as overall dollars saved through increased energy efficiency.

The OIG was able to obtain ROI data from final reports submitted for two completed ARRA funded projects - a Compressed Natural Gas grant with the Okaloosa Gas District, and a Local Competitive Government grant with the City of Parkland. It should be noted that although these are completed projects, the ROI data submitted may only represent a partial reporting cycle. Based upon their final reports, the projected energy reductions and savings were not realized for the Okaloosa Gas District project, as they did not meet their goals related to reducing emissions and energy consumption.

The City of Parkland's final report indicated that they met their projected energy dollar savings of \$11,043 per year, as compared to an estimate of \$10,707, but fell short of their projected goals in the areas of reducing energy consumption and greenhouse gas reduction.

Our audit also analyzed the results of several completed state funded projects which included a \$2.5 million grant to the LYNX GREEN Bio-Fleet Project and a \$2.5 million grant for a Photovoltaic and Research Facility and Family Learning Center. Our analysis indicated that both grants achieved or exceeded their investment goals. Specifically, LYNX became the first public transportation system in the United States to build, own and operate a biodiesel fueling facility, replacing 20% of its diesel fuel with

biofuel, and reducing emissions by 25%, which was 15% higher than projected.

The Photovoltaic and Research Facility and Family Learning Center provided a location for visitors and residents to learn about solar technology and sustainability through research and education. The Center has produced over 2.7 million kWh of solar energy and reduced greenhouse gas emissions in Orange County, which prevented the release of over 6 million pounds of carbon dioxide.

CONCLUSIONS

Since July 2011, several internal measures have been implemented to improve the OOE's monitoring of grant recipients and records management. The OOE has indicated that on-site monitoring visits have now been conducted at every recipient location. The new leadership team has developed and implemented risk assessment tools that are being utilized for all new recipients, and has begun to provide staff members with grant monitoring training.

In addition, the OOE has developed an "at-a-glance" process for ranking projects into three different categories: Red, Yellow and Green. Green identifies those grant projects that have been successfully completed and have met or exceeded the proposed accomplishments and objectives of the program; have complied with all applicable requirements and regulations relating to the program and maximized the use of public dollars. Yellow identifies those grant projects currently underway and being carried out in accordance with the program requirements and regulations. Red identifies projects that had to be terminated or are under scrutiny. These are the projects that failed to comply with the requirements applicable to the recipient's grant agreement (noncompliance), or failed to comply with the program objectives and/or the laws, rules

and regulations applicable to the source of funding.

This “at-a-glance” process will track the progress of grant recipients and, if closely monitored, can be an effective tool in identifying issues early in the grant process. In addition to the above stated color-coded criterion, the OOE should consider enhancing their designation of projects as “Green” to include an analysis of projected versus actual investment returns. This will assist in their assurance that the use of public funds is being maximized. The OOE should also consider adding to the “Yellow” designation those projects that are generally meeting program requirements, but are behind schedule for completing the project.

The OOE has made progress since moving to the Department, but the following opportunities exist to enhance its programs. All grant agreements must include clear and measurable goals to be achieved by the recipient so that progress can be closely tracked. Grant managers must have the appropriate level of training and ensure that all required documentation is collected and maintained in the grant files. It is essential that risk assessments be performed prior to the awarding of funds. This will help to identify potential issues that may require a higher level of oversight and allow program management the opportunity to judiciously reallocate funds to other recipients, if needed. On-site monitoring is essential and must be conducted at a frequency commensurate with the level of risk associated with each recipient. Both risk assessments and on-site monitoring not only serve to provide valuable information and to validate progress, but also serve as an early warning tool for potential indicators of fraud.

Finally, the OOE must ensure compliance with all of its Policies and Procedures, and

should identify, collect and measure data associated with each individual grant and program investment returns. These enhancements will help to safeguard taxpayer dollars by ensuring the contractually stipulated goals are being reached, that potential issues will be identified early, and that fraud will be reduced through early detection.



FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
COMMISSIONER ADAM H. PUTNAM

MEMORANDUM

DATE: July 23, 2012

TO: Ron Russo, Inspector General

FROM: Patrick Sheehan, Director, Office of Energy

RE: Operational Audit Report Number IA 1112-02

Thank you for the opportunity to review and respond to the findings and recommendations provided as a result of the Florida Department of Agriculture and Consumer Services' (FDACS) Office of Inspector General (OIG) Operational Audit Report Number IA 1112-02.

Upon assuming responsibility for the Office of Energy (OOE) on July 1, 2011, Commissioner of Agriculture Adam Putnam requested an audit of the OOE in order to:

- 1) Evaluate energy grants to determine if the contractually stated goals were reached and anticipated returns on investment realized;
- 2) Investigate indicators of fraud or waste; and
- 3) Assess the overall effectiveness of the OOE in its implementation and oversight of energy programs, grants and initiatives.

Quality public service and excellence in stewardship of public resources remains a paramount objective for the Commissioner and the findings of the audit will enable OOE to carry out this mission.

The OIG conducted a comprehensive review of the OOE and the programs and grants the office manages. The Operational Audit revealed some completed grant projects that resulted in jobs created, cost savings, emissions reductions and energy savings. It also revealed some completed grant projects that did not meet their projected goals in these areas. Further, many ongoing projects have yet to reach stages of completion that would enable them to receive their awarded grant dollars or fully demonstrate returns on investment. Importantly, the audit uncovered indications of suspected fraud by grant recipients.

While there were no violations of federal regulations or state statutes, the Operational Audit reveals significant failures in the management of these grant programs by the OOE staff. The Inspector General offers recommendations for improvements to the OOE's policies and procedures, some of which have already been implemented since the transfer of OOE to FDACS and some of which the OOE is currently working to implement.

Grant Programs and Grant Projects

According to the findings of the audit, some of the completed programs administered by the OOE were proven successful in meeting their desired objectives. As part of the Solar Energy Systems Incentives Program, for example, the OOE carefully reviewed 12,000 solar rebate applications and awarded \$24,986,048 million within the first 100 days after the office was transferred to FDACS. This program garnered significant participation, had a meaningful impact on the state's economy by creating or retaining 792 jobs and resulted in \$58 million in energy savings by consumers. In another example, the ENERGY STAR/HVAC programs, which encouraged consumers to purchase ENERGY STAR appliances, saved Floridians more than 7.5 million kWh and approximately 123 million gallons of water and generated \$51 million in economic impact and \$3.6 million in tax revenues.

State-funded projects such as the LYNX GREEN Bio-Fleet Project, which replaced 20% of its diesel fuel with biofuel and reduced emissions by 25%, and the Orange County Photovoltaic and Research Facility and Learning Center, which has produced more than 2.7 million kWh of solar energy and prevented the release of more than 6 million pounds of carbon dioxide, met or exceeded their projected objectives.

Additionally, since the audit review period ended in March 2012, many more projects have come to completion and examples of success have continued to grow. For instance, Gulf County installed 86 solar security lights and reports saving \$3,200 monthly on utility bills. Leon County retrofitted four buildings with energy efficient lighting and reduced their electricity demand by 1.39 MW. The City of Seminole replaced an aging and inefficient heating, ventilating and air conditioning (HVAC) system in the Magnum Recreation Center and reports it is saving 76,700 kWh per month and anticipates saving 900,000 kWh per year with a \$72,000 reduction in electrical costs each year.

Unfortunately, this audit also reveals that some completed projects, such as the Okaloosa Gas District did not meet all of their projected conservation goals, though over time, some of the expected energy savings and cost savings may be realized.

The audit examines some grant programs that experienced low levels of participation, have been slow to expend funds and provided little evidence of meaningful impact. The E85 and B20 Public, Private Fueling Facilities Grant, for example, was intended to increase the availability of E85 and B20 fuels to consumers at retail stations throughout Florida. Prior to the transfer of OOE to FDACS, the grant program awarded nearly \$1 million to 20 facilities, yet as of March 31, not one facility had submitted for reimbursement or reported return on investment (ROI). Of the 20 grant recipients, 12 have already been terminated and only eight remain ongoing. The Shovel Ready Energy Project Grant provides another example of a program that has not made

significant measurable impact. Intended to support “shovel-ready” projects and stimulate capital investment in Florida, the grant program awarded nearly \$5.5 million to only three recipients, one of which was terminated and none have reported ROI.

Though the audit can help identify some successes and failures of the grant programs managed by the OOE, there remain a significant number of grants and funds expended which are too early in the process to measure. The OOE will continue to evaluate the outcome of grant projects that were completed this year or are near completion to determine the full impact of these programs on Floridians and the effectiveness of these programs in meeting their objectives.

As April 30, 2012, marks the contracted end date for a significant majority of the federally funded grants managed by the OOE, a considerable number of final progress reports are currently being reviewed by the OOE. A full analysis of grant successes will be made publicly available on the FDACS website as well as in the next OOE Annual Energy Report.

Rate of Expenditure of Funds

The past rate of OOE fund expenditure is extremely disappointing. The audit notes that the U.S. Department of Energy ranked Florida nearly dead last (49 of 56 states and territories) in percent of federal energy stimulus funds (ARRA funds) expended. While it is important to be strategic in awarding grants and expending funds, the slow rate at which OOE has awarded and expended these stimulus funds failed to generate immediate impact on a state facing difficult economic times.

However, under the leadership of Commissioner Putnam, the OOE has demonstrated great progress in accelerating the funds expended since the OOE was transferred to FDACS on July 1, 2011. In the past year, July 1, 2011, to July 1, 2012, under FDACS, the OOE doubled expenditure of overall federal stimulus dollars from 36% to 73% expended. Further, the OOE has more than tripled the expenditure of Energy Efficiency Block Grant funds in the past year from 14.5% expended to 52% expended. Though the OOE, under FDACS, has made great progress in accelerating the rate of expenditure, the new leadership was not able to influence how the ARRA funds were awarded (contractually obligated to grant recipients), given that all remaining funds were awarded just before the transfer of the OOE to FDACS, as demonstrated by the table in this Audit Report on page 16.

It should also be stated that of the original \$44.8 million in state funds the OOE awarded, \$16 million of that was reverted back to State General Revenue prior to transfer of the OOE to FDACS, leaving OOE to expend about \$9.7 million on state energy grants, as of July 1, 2011. Since joining FDACS, OOE has expended half that remaining amount, leaving just \$4.3 million still to expend on five active state-funded energy grants.

Therefore, it would be useful to look at an updated set of charts that reflects the current status of grants and funds expended, as of July 1, 2012 (updating the Audit Report’s grant overview charts on pages 1 and 2).

Overview of Grant Programs*				
As of March 31, 2012				
Programs	Ongoing	Completed	Terminated**	Total
State Funded Energy Initiatives	7	7	12	26
Federal Non-ARRA Energy Initiatives	12	4	0	6
ARRA Funded Energy Initiatives:				
State Energy Program (SEP)	79	1	18	98
Energy Efficiency and Conservation Block Grant (EECBG)	39	3	2	44
Energy Assurance Grant Program	2	0	0	2
Total	129	15	32	176

*This table does not include vendor contracts or the Energy Economic Zone Program.

** Terminated or in process of termination.

Overview of Grant Programs*				
As of July 1, 2012				
Programs	Ongoing	Completed***	Terminated**	Total
State Funded Energy Initiatives	1	15	10	26
Federal Non-ARRA Energy Initiatives	1	5	0	6
ARRA Funded Energy Initiatives:				
State Energy Program (SEP)	10	66	22	98
Energy Efficiency and Conservation Block Grant (EECBG)	16	26	2	44
Energy Assurance Grant Program	2	0	0	2
Total	30	112	34	176

*This table does not include vendor contracts or the Energy Economic Zone Program.

** Terminated or in process of termination.

***Work period on grant completed - some invoices may still be under review for payment.

Overview of Awarded and Expended Amounts for Grants and Rebates* As of March 31, 2012				
Programs	Number of Grants/ Rebates	Amount Awarded	Amount Expended As of 3/31/12	Percent Expended
State Funded Energy Initiative Grants**	26	\$44,768,368	\$20,963,505	47%
Federal Non-ARRA Energy Initiative Grants	6	6,185,124	6,044,177	98%
ARRA Funded Energy Initiatives:				
ENERGY STAR Appliance Rebates	113,890	15,047,717	15,047,717	100%
ENERGY STAR HVAC Rebates**	4,268	6,402,000	6,402,000	100%
State Energy Program (SEP)				
Grants	98	78,184,588	32,689,970	42%
Solar Rebates	11,109	39,394,048	39,394,048	100%
SEP Total		117,578,636	72,084,018	61%
Energy Efficiency and Conservation Block Grant (EECBG)				
Grants	44	28,106,968	10,143,288	36%
Plug-In Hybrid Rebates	66	500,000	330,000	66%
EECBG Total		28,606,968	10,473,288	37%
Energy Assurance Grant Program	2	1,159,571	387,906	33%
Total		\$219,748,384	\$131,402,611	60%

* This table reflects the amounts awarded and expended to recipients and excludes vendor payments and administrative cost.

** Approximately \$3,993,756 of the State Energy Program funds was used for the ENERGY STAR HVAC Rebate Program.

Overview of Awarded and Expended Amounts for Grants and Rebates* As of July 1, 2012				
Programs	Number of Grants/Rebates	Amount Awarded	Amount Expended As of 7/1/12***	Percent Expended***
State Funded Energy Initiative Grants	26	\$44,768,368	\$24,438,096	55%
Federal Non-ARRA Energy Initiative Grants	6	5,728,921	5,545,047	97%
ARRA Funded Energy Initiatives:				
ENERGY STAR Appliance Rebates	113,890	15,047,717	15,047,717	100%
ENERGY STAR HVAC Rebates**	4,268	6,402,000	6,402,000	100%
State Energy Program (SEP)				
Grants	98	78,184,588	48,112,693	62%
Solar Rebates	12,515	39,394,048	39,394,048	100%
SEP Total		117,578,636	87,506,741	74%
Energy Efficiency and Conservation Block Grant (EECBG)				
Grants	44	28,106,968	14,440,760	51%
Plug-In Hybrid Rebates	66	500,000	330,000	66%
EECBG Total		28,606,968	14,770,760	52%
Energy Assurance Grant Program	2	1,159,571	780,736	67%
Total		\$219,292,181	\$154,491,097	70%

* This table reflects the amounts awarded and expended to recipients and excludes vendor payments and administrative cost.

** Approximately \$3,934,756 of the State Energy Program funds was used for the ENERGY STAR HVAC Rebate Program.

***For **State Funded Energy Initiatives** these figures **do not include an additional \$16 million** reverted to State General Treasury prior to 7/1/11.

Close Out of Grants and Reported ROI

Given that a significant majority of the federal ARRA grants the OOE manages expired contractually on April 30, 2012, the OOE has entered a critical phase of reviewing final progress reports and invoices for payments from its grantees. Typically, grant agreements between the OOE and grantee lay out a phased timetable for completion of tasks. The tasks may include, but are not limited to: 1) grantee's proof of meeting any financial match requirement; 2) grantee's public solicitation of vendors to conduct energy efficient retrofits or installations; 3) public award of vendor subcontract; and 4) installation or contracted work is conducted. Once work is conducted at these latter stages, invoices are provided by the grantee to the OOE and, after a thorough compliance review, the OOE expends funds to the grantee. Thus, typical OOE grants are back-loaded in terms of the expected time period for payments (expenditures) on invoices by

OOE. The period from April 30, 2012, through August 30, 2012, will see a vast number of the OOE ARRA grants finalized and payments made.

More specifically, at the time of this memo, the OOE is processing final reports on 47 ARRA grants that expired on April 30, 2012 (17 were previously processed and closed out and a further 20 terminated). While the Audit Report may show no expenditures for many grants as of March 2012, part of the explanation can be found in the back-loaded nature of the original grant agreements as noted above. Furthermore, the lack of reported ROI in grantee's early progress reports also can be better understood in the context of this phased approach to contracts. Much work was conducted on these grants throughout the early and mid phases of the contract period in securing match dollars, vendors and arranging subcontracts for specific tasks. Yet, it is to be expected that ROI would begin to be realized in most cases at full completion of the grant and thereafter.

By August 30, 2012, another 56 grants (largely Energy Efficiency Community Block Grants) will expire and work will have been fully completed on all but 2 of the 144 ARRA funded energy grants managed by the OOE over the past three years. (The two remaining grants have September 30, 2012, contract expiration dates). This last group of block grants will submit their final reports to the OOE in the fall and the OOE will then be in a position to expend all remaining federal ARRA funds.

Investigation of Fraud

One of the most important objectives of this audit was to investigate indicators of fraud or waste across the more than \$200 million worth of grant programs. The OIG was successful in identifying some irregularities in reporting by grantees, which upon further investigation, indicated fraud or bankruptcy. As a result, grants were terminated and taxpayer dollars saved.

Fraud was detected in two grant agreements, saving \$2.26 million in taxpayer dollars. FDACS is working in coordination with federal and state law enforcement to conduct criminal investigations on these organizations.

In addition, the audit identified four grants awarded to one organization that subsequently entered bankruptcy proceedings. The immediate termination of these grants saved \$198,000 in taxpayer dollars.

Effectiveness of OOE

This audit revealed significant failures in OOE management of grant programs, many of which have been addressed since the transfer of OOE to FDACS.

Audit findings reveal several concerns related to documentation and grant monitoring practices by OOE staff, including missing required documentation, insufficient reimbursement documentation and lack of correspondence between the grant manager and the grant recipient. Of the grant invoices reviewed, more than \$800,000 worth of reimbursements paid were missing invoices.

These findings are unacceptable, though not unexpected from an office that has been housed in five different state agencies since it was created in 1975. Furthermore, while the OOE was under the leadership of the Executive Office of the Governor during Governor Crist's administration, the staff was not permitted to travel, disabling OOE staff from conducting federally-required onsite monitoring to verify grantee progress and address issues related to progress reports, documentation collection and invoices.

Under the leadership of FDACS, significant steps have been taken over the past year to address each of these areas of concern. Significantly, Commissioner Putnam lifted the travel ban on OOE staff and over 120 on-site grant monitoring visits have taken place this past year, reaching every recipient location at least once. As the audit details on page 42, FDACS has exponentially increased training opportunities required of staff and, as evidenced on page 9, the new OOE organizational structure features increased compliance staff to help ensure grant recipients are in compliance with their agreements. Additionally, the migration of all grant management reporting and paperwork to the FDACS' AIMS computer database is helping to ensure added oversight and controls in tracking and maintaining invoices.

Commissioner Putnam called on the OOE to establish a red, yellow and green risk assessment standard to rank grant recipients according to their compliance with grant agreements and progress in meeting their proposed objectives. This ranking system, which exceeds federal or state standards, enables OOE to more closely monitor grant projects at risk.

Based on the findings of the audit and the recommendations outlined by the Inspector General, the OOE is undertaking further enhancements to its policies and procedures. The OOE will add a section outlining policies for state-funded grants to be used in the future should state revenues be allocated towards new energy grant programs. In addition, OOE staff will be required to participate in additional training programs in the coming months, specifically in regard to fraud identification and file management. The OOE is also undertaking a complete and comprehensive review of all active grant files to ensure that all checklists, worksheets, invoices and documentation are properly labeled and filed. Closed out grant files are similarly being reviewed, especially to ensure all invoices are properly filed and were fully transferred to FDACS.

Conclusion

Thank you for the work your team has put in on this thorough audit review. This audit has served its intended purposes in that it fully evaluated OOE grant programs and initiatives, uncovered fraud or fiscal irregularities and offered significant recommendations to enhance and improve the policies and procedures of the OOE.

While the OOE has made significant progress in increasing the rate of expenditures and improving its policies and procedures to avoid the mismanagement of grants that has riddled its past, there remain some thoughtful recommendations offered by the audit report that will be incorporated into an update of OOE policies and procedures.

The OOE expects to complete all current grant programs by the end of 2012 and will publicly issue a comprehensive, update on the completion of grants and their benefit to Florida's economy and energy savings.

Upon completion of grant programs, the OOE will complete the transition of its mission from grant management toward policy development, as outlined by Commissioner Putnam and directed by the State Legislature. Moving forward, its mission is to analyze proposed federal and state energy legislation and, most importantly, support the Legislature and Governor in developing energy policy for Florida's future.

Executive Summary of the Florida Public Service Commission's Energy Efficiency and Conservation Act (FEECA) Report

The entire report as prepared by the Florida Public Service Commission, Annual Report on Activities Pursuant to the Florida Energy Efficiency and Conservation Act, can be found at: <http://www.floridapsc.com/publications/pdf/electricgas/FEECA2012.pdf>

Reducing Florida's peak electric demand and energy consumption remains as important and relevant today as it was in 1980, when the Florida Energy Efficiency and Conservation Act (FEECA) was enacted. Located 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 Florida Public Service Commission (Commission or FPSC) to set appropriate goals for each of the seven electric utilities subject to the Act. The goals are expressed as annual electric peak demand and energy savings over a ten-year period. The seven utilities subject to FEECA include Florida Power & Light Company (FPL), Progress Energy Florida, Inc. (PEF), Tampa Electric Company (TECO), Gulf Power Company (Gulf), Florida Public Utilities Company (FPUC), Orlando Utilities Commission (OUC), and JEA. Once goals are established, these utilities must submit, for Commission approval, cost-effective demand-side management (DSM) plans and programs designed to meet the goals.

This report fulfills three statutory requirements. Section 366.82(10), F.S., directs the Commission to provide an annual report to the Governor and Legislature with the goals it has adopted under FEECA and progress achieved toward meeting those goals. Section 377.703(2)(f), F.S., requires the Commission to file information on electricity and natural gas and energy conservation programs with the Florida Department of Agriculture and Consumer Services. Section 553.975, F.S., requires the Commission to report biennially on the effectiveness of energy conservation standards in the state.

Section 1 of this report provides a history of FEECA, savings produced by utility programs since 1980, and a description of tools for increasing conservation throughout the state. Section 2 discusses current goals and achievements of the FEECA utilities. To provide context, Section 3 provides an overview of Florida's electricity market. Section 4 discusses methods the Commission has used to educate Florida consumers about conservation and provides a list of related web sites. Section 5 provides information on the Florida Energy Conservation Standards Act. Finally, Appendix 1 provides a description of the conservation programs currently offered by the FEECA utilities.

Conservation Achievements

As of 2011, the seven FEECA utilities' DSM programs, in total, have reduced winter peak demand by an estimated 6,711 megawatts and annual energy by an estimated 8,000 gigawatt hours. The demand savings from these programs have deferred the need for 45 typical 150 megawatts combustion turbine units.

Since 1981, Florida's investor-owned electric utilities have recovered over \$5.4 billion of conservation expenditures through the Energy Conservation Cost Recovery (ECCR) clause, with approximately

\$2.6 billion of conservation program expenditures in the last ten years. In 2010, Florida's investor-owned electric utilities recovered over \$355 million in conservation program expenditures from ratepayers, performed 225,924 residential energy audits, and offered over 100 conservation programs for residential and commercial customers (these programs are summarized in Appendix 1).

Consumer choice plays the primary role in reducing the growth rates of electrical demand and energy in Florida. The Commission's consumer education program (see Section 4) employs a variety of tools to promote awareness of daily conservation and energy efficiency activities. Consumers exercise choice by purchasing smaller, more efficient homes and making energy efficiency improvements to existing homes. Other consumer actions that directly contribute to conservation are the purchase of energy-efficient appliances and the choice to utilize cost effective demand-side renewable systems.

Before relying on utility sponsored energy conservation activities, there are several other highly effective means of insuring energy efficiency. Per legislative directives, building code requirements established by the Florida Building Commission in 2008 increased the energy performance of new buildings by at least 20 percent compared to the 2007 Energy Efficiency Code. The enhanced efficiency standards for appliances established by the Department of Energy (DOE) also effectively reduce energy consumption. For example, in 2010 the efficiency of air conditioning equipment, typically a residential customer's most energy intensive device, was increased by 30 percent through DOE's new standards. The DOE is currently considering additional amendments to energy efficiency standards. These federal and state building codes and appliance efficiency standards create a baseline for the cost-effectiveness of any new utility sponsored DSM program.

In Section 2 of this report, the utilities' demand and energy savings are compared to the goals established 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. On July 26, 2011, the Commission voted to modify the proposed DSM plans of FPL and PEF such that the approved plans would consist of those existing programs in effect as of the date of the Orders. Each FEECA utility now has an approved plan in place. An investor-owned utility may receive a financial reward if it exceeds the goals or be subject to financial penalties should it fail to meet its annual goals as authorized by Section 366.82(8), F.S. Because the modified plans of FPL and PEF continue existing programs, the Commission clarified how the companies would be treated with regard to rewards and penalties.¹ FPL and PEF will be eligible for a financial reward if their achievements exceed their Commission-established goals. Neither FPL nor PEF will be subject to a financial penalty unless their achievements fall below the savings projected under their modified DSM plans.

A comparison of the 2010 annual goals against each utility's annual achievements during 2010 reveals that only TECO, JEA and OUC met or exceeded their demand and energy goals in every category. The remaining FEECA utilities, FPL, PEF, Gulf and FPUC, each failed to reach their summer demand or annual energy goal in at least one customer category. Gulf failed to meet its total goals in all customer categories during 2010. The primary reason FPL, PEF, Gulf and FPUC gave for not achieving their goals was that the new programs designed to achieve these goals had not been fully approved by the Commission in 2010, and therefore were not able to be implemented during 2010.

¹ Orders No. PSC-11-0346-PAA-EG in Docket No. 100155-EG and PSC-11-0347-PAA-EG in Docket No. 100160-EG, issued August 16, 2011.

The Commission's review and approval of the new plans and programs was both thorough and lengthy. The Commission determined that the plans originally filed by the IOUs on March 30, 2010 were insufficient to meet the established goals and ordered the IOUs to revise and refile them. Separate reviews of the revised plans were conducted and the Commission's orders modifying and approving the IOUs' DSM plans were issued from November 2010 through July 2011. Thus, during 2010, all the IOUs were still using programs designed to meet the goals set in 2004. For this reason, a comparison of the FEECA utilities' cumulative achievements to cumulative goals over the past six years was also made. This comparison encompassed years 2005 through 2009 when the 2004 goals were in place as well as calendar year 2010, the first year the new goals were in place. The cumulative comparison demonstrates that, on a state-wide basis, the FEECA utilities total achievements have exceeded total goals over the past six years.

Conclusion

Consumer education, building codes, and appliance efficiency standards impact utilities' conservation programs by creating a baseline for the cost-effectiveness of any new program and decreasing the amount of incremental energy available to count towards savings. Utility programs offer rebates and incentives for appliances that exceed minimum efficiency standards, thereby avoiding duplicate savings estimates. However, the savings from these programs are somewhat uncertain as they depend on voluntary participation by customers and the expense is shared by all customers. 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.

Calendar year 2010 was the first year that new demand and energy goals were in place. However, new DSM Plans designed by the utilities to meet these goals were not approved until late 2010 or 2011. Furthermore, investor-owned utilities are not permitted to implement new programs until program standards are filed and approved by the Commission, and the first program standards were not approved until 2011. Consequently, with the exception of OUC and JEA, no FEECA utility had new DSM programs in place during any part of 2010.

In consideration of the fact that programs designed to meet the new goals were not yet in place for the investor-owned utilities during 2010, cumulative utility achievements were also compared against cumulative goals over a six year time period. The FEECA utilities' total achievements have exceeded total goals over the past six years.

These mixed results reflect a time of transition as the FEECA utilities must adjust their programs to meet new goals and utilize new technologies, control program costs, and respond to customer expectations. The Commission will continue to monitor utility achievements on an ongoing basis. Section 366.82(8), F.S., gives the Commission the authority to financially reward or penalize a company based on whether its conservation goals are achieved. As 2010 is the first year the Commission is measuring savings under the new goals and many utilities did not yet have their new programs in place during 2010, it would appear to be premature to consider rewards and penalties at this time.