

2015 OFFICE OF ENERGY ANNUAL REPORT





Dear Governor Scott, President Gardiner and Speaker Crisafulli,

I am pleased to provide you with the 2015 Annual Report of the Florida Department of Agriculture and Consumer Services' Office of Energy. This report reflects the Office of Energy's activities during 2015, and elaborates on the programs helping to prepare Florida in meeting the growing demand for energy in a diverse and sustainable manner.

A few of the highlights for this past year include:

- Initiated a new program to provide Florida's farms with on-site evaluations of the potential for energy efficiency, renewable energy upgrades and water saving measures and practices.
- Florida's Renewable Energy Tax Incentives program provided \$20 million in incentives under three separate energy technologies and production incentives to stimulate the investment, production, storage and distribution of renewable fuel. This program produced an estimated total economic contribution of more than of \$195.2 million with 704 jobs created or retained.
- The Natural Gas Fuel Fleet Vehicle Rebate Program provided approximately \$5.2 million in incentives and produced an investment of \$72.3 million with 627 jobs created or retained as a result of this program.
- Co-hosted the 2015 Florida Energy Summit with over 300 attendees and highlighted key areas of energy efficiency and innovation in the City of Jacksonville.

I look forward to continue working with you to advance Florida's energy policy and support Florida's businesses, consumers and education infrastructure.

Sincerely,

Adam H. Putnam
Commissioner of Agriculture

**FLORIDA DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES**

OFFICE OF ENERGY

2015 ANNUAL REPORT

Adam H. Putnam, Commissioner

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1. Executive Summary

The Florida Department of Agriculture and Consumer Services' Office of Energy (FDACS OOE) is the legislatively designated state energy policy and program development office within Florida. The FDACS OOE evaluates energy related studies, analyses and stakeholder input in order to recommend to the Governor and Legislature energy policies and programs that will move Florida toward a more diversified, stable and reliable energy portfolio. Further, FDACS OOE uses available state and federal funds to develop and manage energy efficiency, renewable energy and energy education programs throughout the state.

In 2015, FDACS OOE initiated new programs in each of the following areas related to energy: renewable energy, transportation, energy efficiency and energy education.

The FDACS OOE administered four renewable energy programs in 2015. Those programs included providing renewable energy tax incentives for the production of renewable energy, the administration of a bio-energy demonstration grant, the administration of the Renewable Energy and Energy Efficient Technologies Grant Matching program, and a new program the Florida Renewable Efficiency demonstration program.

In order to stimulate the use of alternative transportation fuels, the FDACS OOE was awarded \$400,000 from the US Department of Energy's Clean Cities program for the Drive Electric Orlando project. Also, the successful Natural Gas Fuel Fleet Vehicle Rebate program experienced a significant increase in total number of applicants this year over the previous year.

FDACS OOE administered three energy efficiency projects in 2015, including providing funding for public housing projects to retrofit for energy efficiency. These housing projects benefitted retirees in Pinellas County as well as young families in West Palm Beach County. The second OOE project provided on-site evaluations of the potential for energy efficiency, renewable energy upgrades and water saving measures on individual farms. The third project provided eligible Florida local governments and non-profit organizations with grants to make energy-efficient retrofits in publicly accessible, community-oriented buildings.

In an effort to provide energy related education to Floridians, FDACS OOE continued to host and expand the Florida Energy Clearinghouse. In October, FDACS OOE co-hosted the 2015 Florida Energy Summit with the JAX Chamber of Commerce. Additionally, FDACS OOE purchased Energy Curricula and Learning kits and Junior Solar Sprint Car kits to provide to Florida public schools.

This report reflects the FDACS OOE activities during 2015 and elaborates on the programs mentioned above helping to prepare Florida in meeting the growing demand for energy in a diverse and sustainable manner. This report is submitted as required in Section 377.703(2)(f), Florida Statutes.

2. Florida's Energy Landscape

This chapter summarizes Florida's energy profile, including 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 landscape, 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)

Florida is home to approximately 19.8 million people, and is the third most populous state, according to the US Census. With a population size of this magnitude, addressing Florida's energy needs is a top priority. As it relates to consumption, the United States Department of Energy's Energy Information Administration (US EIA) considers Florida to be the third largest energy-consuming state. However, in terms of per-capita energy consumption, Florida ranks 46th in the nation, consuming 208 million Btu¹s per person. This consumption amount and the corresponding ranking declined from 2012 to 2013.

Florida's lower per-capita energy consumption ranking, relative to the national average, is due to below average industrial sector consumption. Florida transportation and residential sectors drive energy consumption in the state. In terms of electric generation and transportation fuel, Florida is heavily reliant on natural gas and petroleum. Florida consumes more energy than it produces, making it a net energy importer of natural gas and petroleum products.

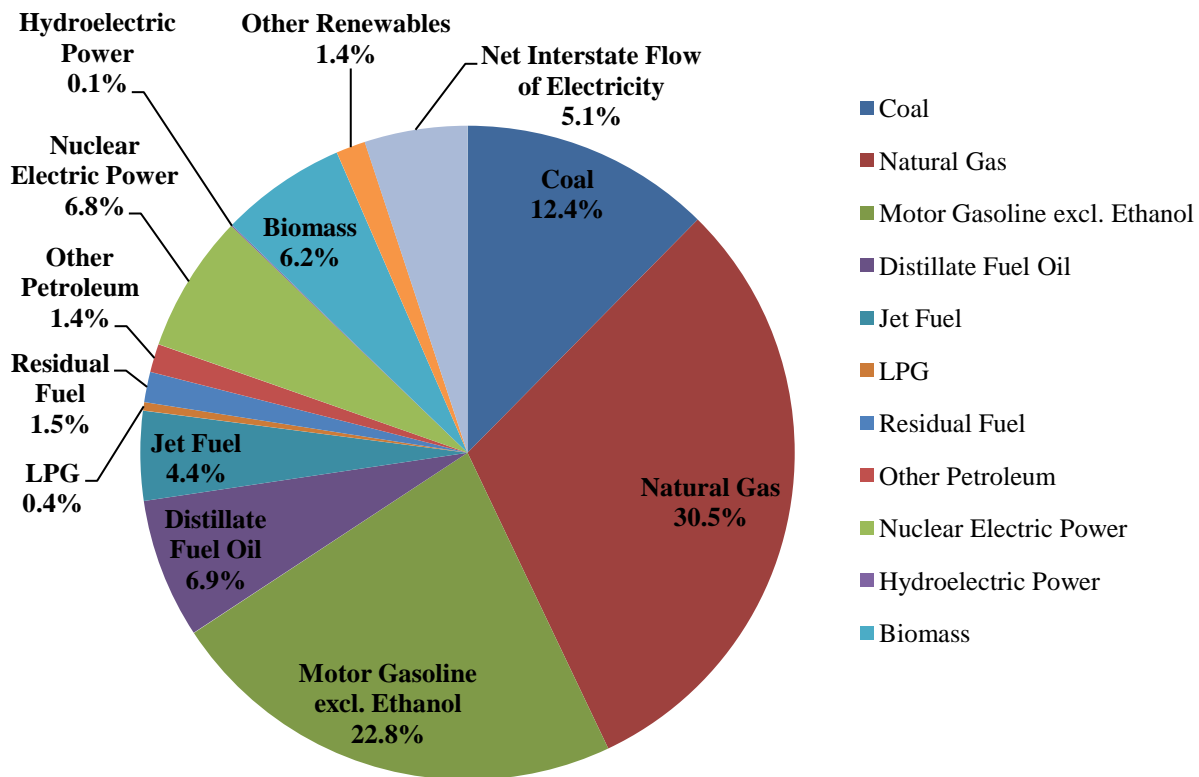
The most recent Florida energy consumption data provided by US EIA is for the year 2013, and is provided in Figure 1. Figure 1 demonstrates the various fuel sources comprising Florida's energy landscape. Natural gas continues to be the dominant fuel source for traditional electricity generation. The figure further demonstrates that Floridians consumed 1,245.2 trillion Btus of natural gas in 2013, or 31 percent of its total energy consumption. Floridians also consumed 930.4 trillion Btus of motor gasoline, or 23 percent of total energy consumption for all sectors—residential, commercial, industrial, and transportation. This is a reduction in natural gas and motor fuel consumption from 2012 to 2013.

The Florida Public Service Commission (PSC) in its *Review of the 2015 Ten-Year Site Plans of Florida's Electric Utilities* stated that “natural gas remains the dominant fuel over the planning horizon, with usage in 2014 at approximately 60 percent of the state's net energy for load.” As of December 31, 2014, the Florida Reliability Coordinating Council (FRCC) reports that Florida's total winter electric generating capacity is 63,098 megawatts (MW), and the *Review of the 2015 Ten-Year Site Plans of Florida's Electric Utilities* discusses the planned addition of approximately 11,548 MW of new utility-owned generation over the next ten years. The amount of planned additions represents a decrease from the previous year.

¹ British Thermal Unit (Btu) is a standard unit for measuring a quantity of heat. The unit is used to measure and compare the energy content of fuel.

Figure 1: Florida Energy Consumption Estimates 2013

Source: US EIA



Florida receives the majority of its natural gas supplies from the Gulf Coast region, via two interstate pipelines: the Florida Gas Transmission line, and the Gulfstream pipeline. The Florida Gas Transmission line runs from Texas through the Florida Panhandle to Miami, and the Gulfstream pipeline is an underwater link from Mississippi and Alabama to Central Florida. The Jacksonville area also receives supplies from the liquefied natural gas (LNG) import terminal at Elba Island, Georgia via the Cypress Pipeline. Florida Power & Light is planning to build a third major pipeline, Sabal Trail, through the center of the state coming from Georgia which would increase natural gas supplies to the state. They received Final Environmental Impact Statement approval as of December 2015 and plan on breaking ground in summer 2016.

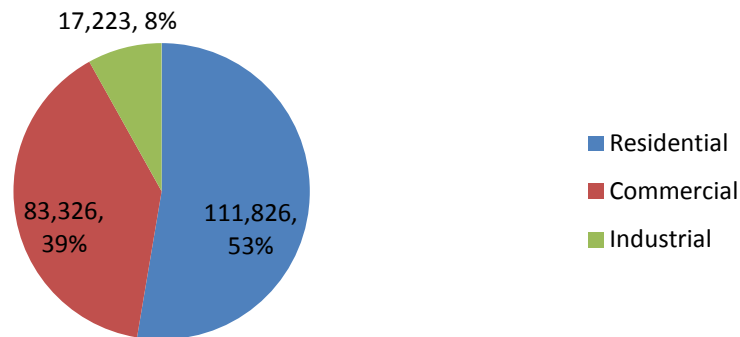
Nuclear energy capacity in Florida is stable and there are no planned increases during the 2015 ten-year planning period. There are four online nuclear power plants in the state, all of which are owned by Florida Power & Light (FPL). Nuclear energy is capital intensive in nature and requires a significant amount of lead time to construct.

Florida's humid and warm climate leads to an increased demand for energy in order to address the state's cooling needs. In terms of electricity usage, Florida's residential sector consumes the majority of energy generated, as compared with the commercial and industrial sectors. In 2014, Florida's residents consumed 111,826 gigawatt hours (GWh), or 52.7 percent of all electric energy consumed in the state, as demonstrated in Figure 2 below. The PSC stated in its *Review of the 2015 Ten-Year Site*

Plans of Florida's Electric Utilities that Florida has 8,518,308 residential electric customers; comprising 88.7 percent of all electric customers in the state, with the remaining 11.3% made up of commercial and industrial users.

Figure 2: Energy Usage in 2014 (GWh)

Source: PSC 2015 Ten-Year Site Plan Review

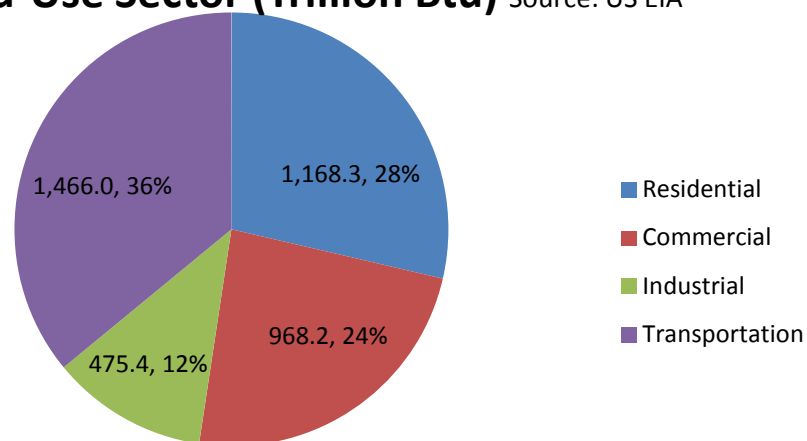


With Florida being the third most populous state, transportation fuel consumption is high relative to the rest of the nation. According to the US EIA, Florida is ranked third in the nation in terms of transportation fuel consumption, using 1,466 trillion Btus; this accounts for 5.5 percent of the total United States share of transportation fuel.

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. Figure 3 illustrates that the transportation sector accounts for the majority of energy consumed in the state. The amount of energy consumed in the residential and commercial sectors increased from 2012 to 2013, while the amount of energy consumed in the industrial and transportation sectors decreased.

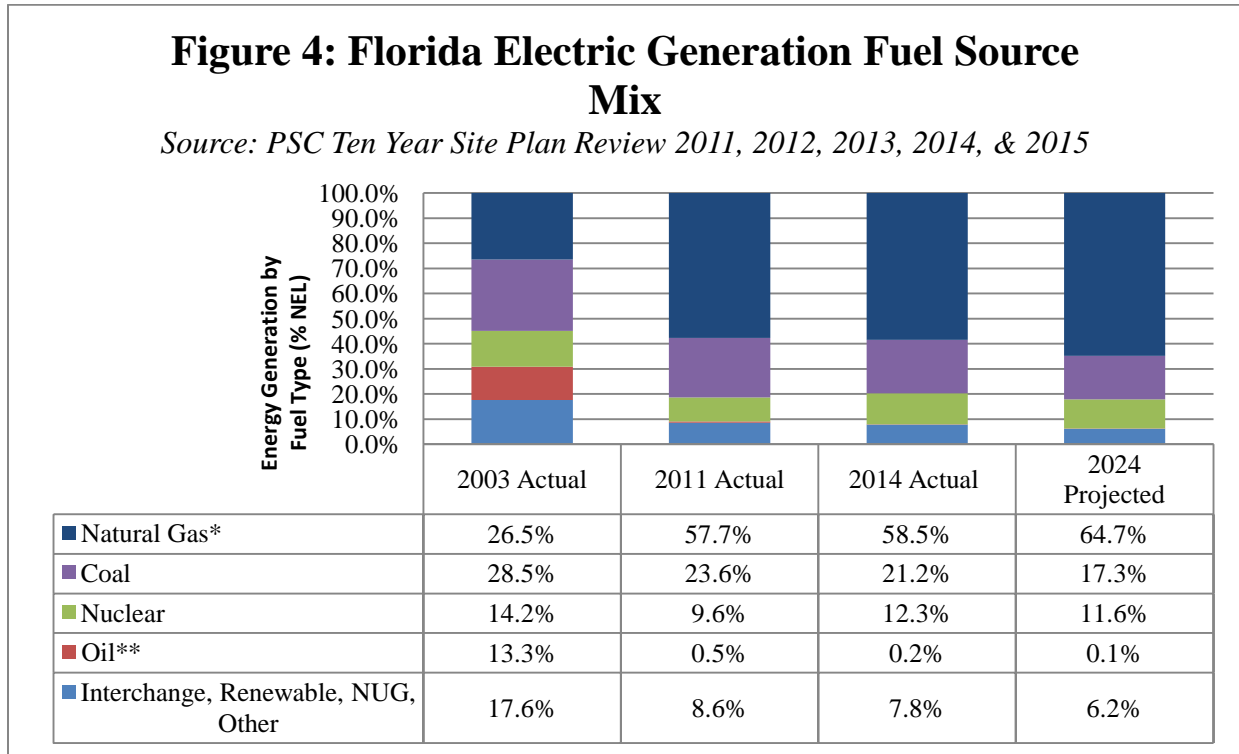
Figure 3: Florida 2013 Energy Consumption by End-Use Sector (Trillion Btu)

Source: US EIA



2.2 Florida Sources of Energy in the Power Sector

Florida’s power sector utilizes various fuel sources in order to address the state’s electrical needs. Figure 4 shows the mix of fuel sources Florida uses to generate electricity, including a projection to 2024. Figure 4 also shows Florida’s electric generation in 2003, which highlights a time period when Florida’s electric utilities had a more balanced fuel mix. Natural gas is the dominant fuel source for electricity as of 2014, currently comprising 58.5 percent of Florida’s electric generation and projected to increase up to 64.7 percent by 2024.



* Includes both utility and non-utility generation

** Includes both residual and distillate oil

In the past, Florida’s utilities maintained a more diversified electric generation fuel source mix. By building plants that utilize different fuel sources, it provides a stability mechanism if one fuel source became unavailable or too costly. For example, in 2009, Florida’s coal and nuclear plants provided stability from the highly volatile natural gas prices. Over time, Florida’s utility industry has moved away from this balanced approach. This change is based on a number of factors including:

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

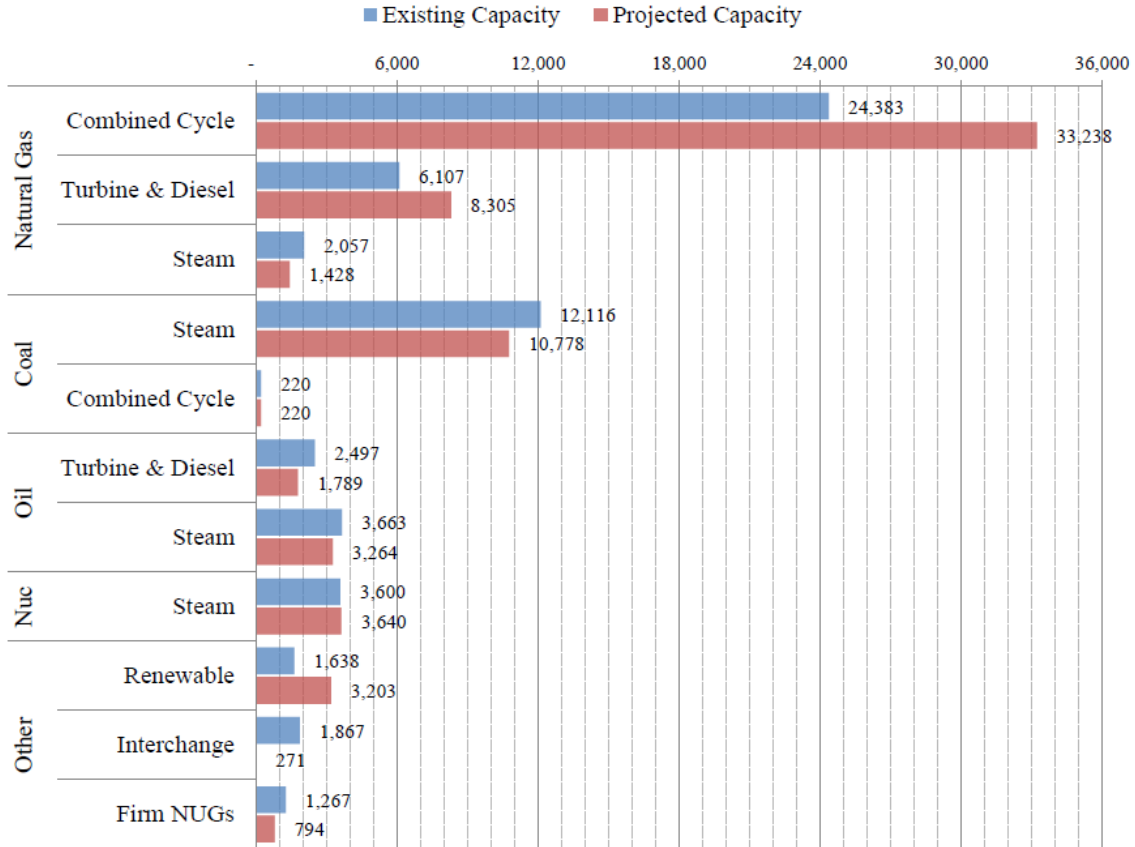
Future Electric Generation Capacity, Facilities and Retirements

Florida’s electric utilities plan for future generating capacity in order to meet the growing demand for energy from their constantly increasing customer base. The electric utilities also plan on generation facility retirements or phase outs, and these plans are done on a ten-year rolling basis. Between 2015 and 2022, Florida’s utilities plan to retire 4,352 MW of generation capacity. Approximately half of

those facilities to be retired are powered by coal steam and residual oil. The current installed capacity and the 2024 projected capacity are highlighted in Figure 5.

Figure 5: Florida Current and Projected Installed Capacity by Fuel and Technology (MW)

Source: PSC 2015 Ten-Year Site Plan Review, page 42, Figure 18



Electric Rates

The rates for residential customers in Florida vary from utility to utility. They are based on many factors including the number of customers they serve, whether they generate their own electricity (or purchase it from another utility) and what type of fuel source provides their electricity, such as natural gas, nuclear or coal. The following is a brief synopsis of the PSC's Comparative Rate Statistics as of December 31, 2014:

Table 1: Residential Utility Rate Comparison High/Low per 1,000 kWh			
Investor-Owned Electric Utilities	Average Bill \$118.93	High	\$132.00
		Low	\$98.97
Municipal Electric Utilities	Average Bill \$120.63	High	\$140.50
		Low	\$98.83
Cooperative Electric Utilities	Average Bill \$130.46	High	\$147.00
		Low	\$112.85

Source: PSC December 2014 Comparative Rate Statistics

Table 2: Commercial/Industrial Utility Rate Comparison High/Low per 150,000 kWh			
Investor-Owned Electric Utilities	Average Bill \$14,875.83	High	\$16,691
		Low	\$13,479
Municipal Electric Utilities	Average Bill \$17,473.68	High	\$22,050
		Low	\$13,701
Cooperative Electric Utilities	Average Bill \$16,288.69	High	\$19,150
		Low	\$13,429

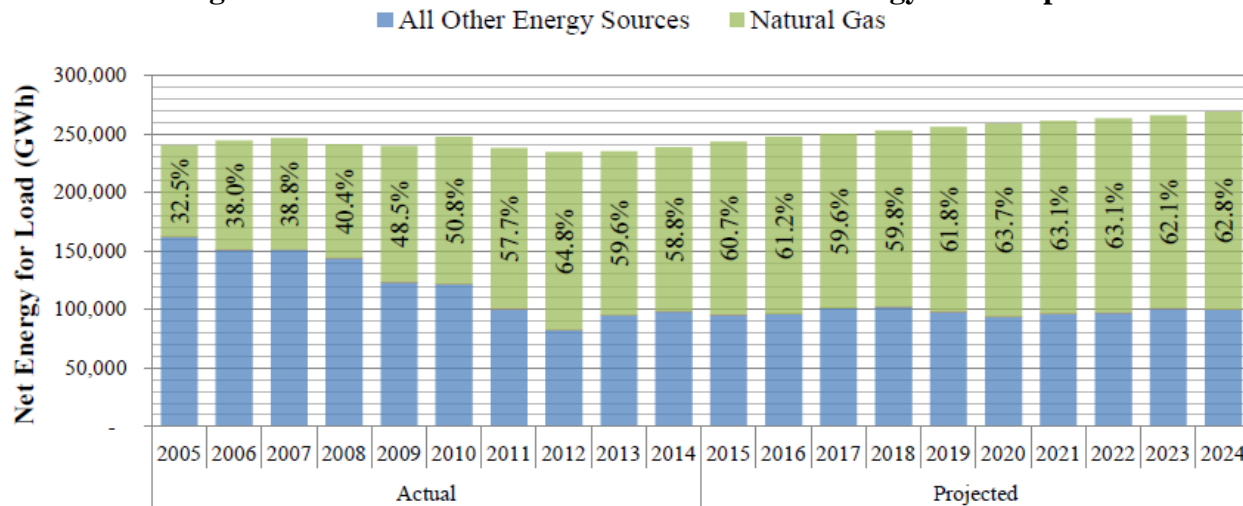
Source: PSC December 2014 Comparative Rate Statistics

In October 2015, the average of all of Florida’s electric rates (residential, commercial and industrial) was 10.71 cents per kilowatt hour (kWh) of electricity, which is slightly lower than the national average of 10.84 cents per kWh (US EIA). Florida’s residential and commercial rates are 1.25 cents lower than the national average. However, Florida’s industrial electricity average rates, at 8.41 cents are slightly higher than the national average at 7.18 cents.

Natural Gas Usage

Natural gas has grown from being one of many sources of energy used in Florida, to being the dominant fuel source for electric generation. The price of natural gas has dropped significantly, primarily due to increases in technological innovation. Figure 6 shows how natural gas compares to all energy sources used in Florida’s energy consumption; the figure also contains projections to 2024.

Figure 6: Natural Gas Contribution to Florida Energy Consumption



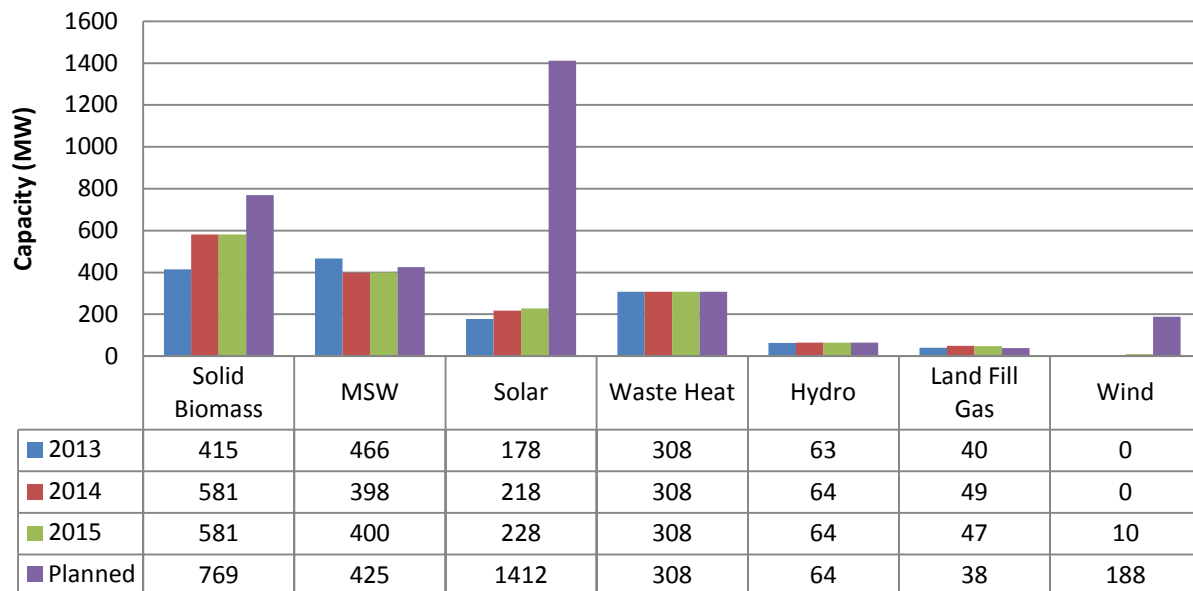
Source: PSC 2015 Ten-Year Site Plan Review, Figure 16, pg. 40

Renewable Energy

According to the PSC’s *Review of the 2015 Ten-Year Site Plans of Florida’s Electric Utilities*, Florida’s renewable energy facilities currently provide approximately 1,638 MW of generating capacity, representing 2.8 percent of Florida’s overall generation capacity. Of the 1,638 MW of renewable generation, approximately 570 MW are considered firm, based on either operational characteristics or contractual agreement. Firm renewable generation can be relied on to serve customers and can contribute toward the deferral of new fossil fueled power plant construction. As of 2015, Florida has plans for an additional 1,566 MW of renewable energy by 2024, with the majority anticipated to come from solar and biomass projects. This is a significant increase in renewable generation from last year’s estimated 722 MW projection.

Figure 7: Renewable Energy Capacity Comparison (MW)

Source: PSC 2015 Ten Year Site Plan Review



As shown in Figure 7, as of 2015, solid biomass is the largest source of renewable energy in Florida. According to the FRCC 2015 Regional Load & Resource Plan, it estimates that solar and biomass will produce approximately the same number of gigawatt hours of energy by 2024. Due to Florida’s 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 seven percent of the US total biomass resources. Energy production from biomass processing also has the potential to be a significant economic driver, especially in rural locations. However, in most cases, the bio-energy facility must be located near the intended feedstock to make the process economically viable.

Florida’s second largest source of renewable energy currently comes from municipal solid waste (MSW). MSW uses residential waste as a feedstock and burns the waste to create steam which turns the electricity producing turbine. As of 2015, MSW accounts for 400 megawatts of electrical capacity in Florida, and is expected to grow to 425 megawatts by 2024. 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 existing overburdened landfills while providing the benefit of a renewable energy source.

Currently, Florida's solar capacity is 228 megawatts which includes approximately 79.8 MW of customer owned renewable capacity from nearly 8,600 systems. Those 79.8 MW represents a 77 MW increase of distributed solar generation since 2008. According to the US EIA, "Florida is ranked 10th in the nation in net generation from utility-scale solar energy." The total installed capacity within the state is expected to grow significantly over the next ten years with the total planned solar installation expected to add an additional 1,185 megawatt to the current 228 megawatt capacity. This increase can largely be contributed to the decreased cost of solar energy systems, particularly the low cost and economic viability of utility scale solar. Additionally, on December 18, 2015, the federal government extended the 30 percent renewable energy tax credit which will further drive this trend.

Waste heat currently provides 308 megawatts of renewable generation capacity, and is expected to remain constant through 2024. Large industries, such as orange juice processors, can create waste heat while manufacturing their products. To capture and utilize that waste heat they must redirect the waste heat or steam from their manufacturing process into a turbine to produce electricity. The process of capturing and redirecting the heat or steam is a large undertaking. Often times, the excess heat is used to offset energy usage by heating the building, sterilizing equipment or heating water instead of direct energy production.

2.3 Transportation Energy

Florida's large population, evolving demographics and projected growth require the state to develop and maintain a reliable and conveniently accessible transportation system. In addition, Florida's tourism industry is one of the largest contributors to the state's economy, and a progressive and diversified transportation system is vital to the tourist industry.

Florida's Transportation Infrastructure

Florida is unique compared to other states in that it consists of a 447-mile-long peninsula extending from the Georgia border south to the Florida Keys; a northern panhandle that stretches over 360 miles from the Atlantic to Alabama; and nearly 1,200 miles of shoreline, totaling 54,157 square land miles. Within Florida is a strategic system of public roads and highways maintained by Florida's Department of Transportation (FDOT) and the United States Department of Transportation (US DOT). According to the US DOT's Bureau of Transportation Statistics, Florida has 122,392 miles of public roads; 1,495 miles of interstate; 2,902 miles of railroad tracks used for freight transport; 12,070 road bridges; 1,540 miles of inland waterways and 129 public use airports.

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. The US DOE Office of Energy Efficiency and Renewable Energy (EERE) explains that Florida's per capita energy consumption of motor gasoline was 425 gallons in 2011 while it was 423 gallon nationwide during the same period. This is 15 gallons less than the state consumed in 2010. The US EIA's State Energy Data System (SEDS) reports that Florida consumed more than 7.2 billion gallons of motor fuel and more than 790 million gallons of ethanol in 2012.

In the most recent data reported in 2011 by the US EIA, Florida has a total of 5,839 motor gasoline stations, accounting for 5.3 percent of the total US share. While Florida does not have any in-state refineries to process crude oil, the Florida Department of Environmental Protection, Bureau of Mining and Minerals Regulation, states that Florida produced 2,023,454 barrels of crude oil in 2011, with the majority of it coming from Jay Field in Escambia County.

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 natural gas in order to realize cost savings. There is a growing interest in using propane, compressed natural gas (CNG) and liquefied natural gas (LNG) for large vehicles and commercial operators. Also, governments have looked into the economic feasibility and are converting their fleets. According to the US DOE Alternative Fuels Data Center, the state of Florida has 1,013 total public and private alternative fuel stations, and of that amount, 71 are CNG stations, and 149 are propane stations.

Electric vehicles (EV) are also an emerging alternative transportation energy source, especially as technological advancements increase and range anxiety is reduced. 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. According to The US DOE Alternative Fuels Data Center, there are a total of 724 public and private charging stations installed throughout the state. This amount of installed stations is a 25 percent increase over the previous year.

Florida also has three US DOE designated Clean Cities Coalitions' (CCCs): Southeast Florida, Central Florida and Tampa Bay. The CCCs are responsible for promoting clean energy and alternative fuels for transportation throughout the state. They are tasked with working with vehicle fleets, fuel providers, community leaders and other stakeholders to reduce Florida's dependence on petroleum use. The FDACS OOE is working with Central Florida Clean Cities Coalition on a US DOE program to address barriers to electric vehicle adoption by providing an extended electric vehicle rental program.

Additionally, the Florida Solar Energy Center was designated an Electric Vehicle Transportation Center (EVTC) by the US DOT in October of 2013. The EVTC supports the US DOT's strategic goal of planning for near-term integration of alternative fuel vehicles as a means to build a sustainable transportation system and to reduce harmful emissions. The project objectives are to perform research and development of technologies, standards, planning and policies to ensure seamless integration of EVs into a complex transportation network and supporting electricity grid. The program ends in September of 2018.

2.4 New Trends

Florida is home to more than 19.8 million residents, with expectations for this number to increase in the future. Changes to Florida's demographic and population profile will affect Florida's demand for stable and reliable energy sources over the next 10 years. The University of Florida's Bureau of Economic and Business Research predicts that by 2040, Florida's population will grow to 26,081,392 people, which can impact the way energy is consumed in the state. Florida also expects to realize a wave of technological advancements in the coming future; while such advancements are typically correlated with higher energy efficiency, more electronics will be used per-capita. Collectively, these factors are expected to yield an increase in energy consumption in the future.

A future concern to Florida's electric utilities is the impact on existing and future generators from the six new US Environmental Protection Agency (EPA) rules. These rules will have a sizeable impact on Florida's existing generation fleet. That impact will include retirement of existing coal and distillate generators, as well as the construction of additional new natural gas facilities. Whereas Florida once had a fuel-diverse supply of electric generators, the new EPA rules will further exacerbate the current trend of focusing most new development on only one or two fuel sources.

The six new EPA rules are:

- Carbon Pollution Emissions Standards for Modified and Reconstructed Secondary Sources: Electric Utility Generating Units – sets carbon dioxide emission limits for modified or reconstructed electric generators. EPA issued the final rule on August 3, 2015.
- Carbon Pollution Emission Guidelines for Existing Electric Generating Units – requires each state to submit a plan to EPA that outlines how the state's existing electric generation fleet will meet a series of goals to reduce the state's carbon dioxide emissions. EPA issued the final rule on August 3, 2015.
- Mercury and Air Toxics Standards (MATS) – sets limits for air emissions from existing and new coal and oil fired electric generators with a capacity greater than 25 megawatts. Covered emissions include: mercury and other metals, acid gases and organic air toxics for all generators, as well as particulate matter, sulfur dioxide and nitrogen oxide from new and modified coal and oil units. This rule has been remanded back to the US Court of Appeals for the D.C. Circuit for further proceedings as EPA was found at fault for not considering the costs of compliance in deciding whether regulation of mercury and air toxics was appropriate and necessary.
- Cross-State Air Pollution Rule (CSAPR) – Requires 28 states, including Florida, to reduce air emissions that contribute to ozone and/or fine particulate pollution in other states. The rule applies to all fossil-fueled electric generators with a capacity over 25 megawatts within these states. In Appeals to the D.C. Circuit, they issued its opinion to keep the rule in place.
- Cooling Water Intake Structures (CWIS) – sets impingement standards to reduce harm to aquatic wildlife pinned against cooling water intake structures at electric generating facilities. All existing electric generators that use water for cooling with an intake velocity of at least two million gallons per day must meet impingement standards. The rule became effective October of 2014.
- Coal Combustion Residuals (CCR) – requires liners and ground monitoring to be installed on new landfills in which coal ash is deposited. The rule became effective October 2015.

3. 2015 FDACS Office of Energy Accomplishments

The FDACS OOE had an active year with closing out old grants, initiating new grant projects, and promoting energy related assistance to students, multi-family housing and farmers. In 2015, the FDACS OOE received final close out approval from the US DOE on all American Recovery and Reinvestment Act (ARRA) programs administered by the FDACS OOE. This ended the successful development and administration of a broad portfolio of energy-related programs where approximately \$176 million in federal stimulus funds were expended. The ARRA programs were designed to align with national and Florida-specific goals including increasing jobs, reducing US oil dependency through increases in energy efficiency and deployment of renewable energy technologies, promoting economic vitality through an increase in “green jobs” and reducing greenhouse gas emissions. The new grants and energy related educational assistance programs are detailed here.

3.1 Renewable Energy

3.1.1 Florida Renewable Energy Tax Incentives

The Florida Renewable Energy Tax Incentives consist of three available tax incentives and represents a total of \$89 million in potential tax credits or sales tax refunds over the life of the program. The three Florida Renewable Energy Tax Incentives include:

- 1) The *Florida Renewable Energy Technologies Sales Tax Refund*, which provides \$1 million per fiscal year for a refund of previously paid Florida sales tax for eligible expenditures;
- 2) The *Florida Renewable Energy Technologies Investment Tax Credit*, which provides \$10 million per fiscal year for an annual corporate tax credit equal to 75 percent of all eligible costs made in connection with the production, storage and distribution of biodiesel, ethanol and other renewable fuel; and
- 3) The *Florida Renewable Energy Production Credit*, which provided \$5 million for the first fiscal year of the program and \$10 million for subsequent years for an annual corporate tax credit equal to \$0.01/kWh of renewable electricity produced.

The intended goals of the programs are to increase renewable energy production within the state and create new jobs for Floridians.

FDACS estimates that in 2015, a total investment of slightly more than \$20 million for the Renewable Energy Tax Incentives produced an estimated total economic contribution of more than \$195.2 million. Furthermore, an estimated total of 704 jobs were created or supported statewide as a result of these incentives. These programs were also responsible for raising an estimated \$15.9 million in-state and local taxes and generating an estimated \$43.2 million in labor income.

Full reports on the utilization and economic contribution of the Florida Renewable Energy Tax Incentives are available on the FDACS website: <http://www.freshfromflorida.com/Energy/Reports-Publications>.

3.1.2 Bio-energy Demonstration Grant

The future of the Farm to Fuel initiative lies in the Research and Development Bio-energy Grant Program currently being managed by the FDACS OOE. This program provided matching funds for the research, development, or commercialization of bio-energy technologies or other technologies that greatly reduce consumption of fossil fuels. Six grantees were awarded a total of \$3.9 million. Most of the grantees are using their matching dollars to test the development and efficiency of feedstock for bio-fuels in Florida.

Projects that have been funded include the Integrated Feedstock Development and Management of Oilseed Crops for Drop-in Bio-fuels in Florida. The objective of this program is to use *B. carinata* as a model oilseed crop to be grown in different locations in Florida and conduct a multi-dimensional feasibility study of producing it in Florida with overall conservation benefits to the state. Specifically, the grant will evaluate the benefits of growing *B. carinata* as a winter cover crop on row crop land or on marginal or underutilized pasture land increasing farmer revenue and reducing farm risk through crop diversity. This project is a collaboration between Agrisoma Biosciences Inc. and the University of Florida. They are assessing the potential for cultivation of regionally adapted *B. carinata* varieties to the more temperate southern regions of the United States, specifically Florida, where under conditions of longer seasons and milder fall weather, *B. carinata* provides high biomass yields in excess of 4.5 tons of seed/hectare.

An additional funded project is Applied Research Associates (ARA), located in Panama City, FL, which has a patented Catalytic Hydrothermolysis (CH) process for producing 100 percent drop-in jet fuels. Through their strategic partnerships, they are well-positioned to develop best management practices to grow a relatively new bio-fuel feedstock with superior agronomic performance that is specifically adapted for Florida and produces drop-in transportation bio-fuels. This would make Florida a major contributor to the Southeast's bio-fuel production potential, as well as open avenues for local enterprise in pre-production, production, post-production and other allied activities. Of note, ARA developed the drop in jet fuel used to power the first-ever civilian flight powered by bio-fuel in 2012 (Florida Trend).

3.1.3 Renewable Energy and Energy Efficiency Technologies (REET)

The Renewable Energy and Energy Efficient Technologies (REET) Grant Matching Program provides a mechanism for entities to receive matching funds to conduct demonstration, commercialization, research, and development projects relating to renewable energy technologies and innovative technologies that significantly increase energy efficiency for vehicles and commercial buildings. The purpose of the program is to provide a source of state match funding to Florida entities that can be used to strengthen their applications for external funding (Prime Funding).

There are three categories of funding that are related to this program:

- The applicant matching dollars, which are funds provided by the applicant to match the departments grant funds;
- The department grant funding, which is provided to eligible entities, in conjunction with applicant matching funds, to be used as matching funds for the Prime Funder's funding opportunity; and

- Prime Funding, which is funding provided by a 3rd party funding opportunity for which the REET Grant Matching funds will be used as match.

The program began accepting application on June 19, 2014. To date, 31 applications have been received of which three projects have been funded. Those three projects are:

- (1) Energy Florida’s “Advanced Transportation Dual-Fuel Fuel Cell Development and Demonstration Project”
 - This project will test, demonstrate and validate the Bing EnerFuel2 fuel cell system. The project will serve as a pathfinder for establishing processes and resources for creating a national energy technology development and demonstration capability at the Transportation Energy and Space Technology (TEST) Hub onsite at Kennedy Space Center.
 - Grant Funds: \$246,388; Matching Funds: \$393,800
- (2) Eclipse Energy Systems’ “Flexible Transparent Conducting Films”
 - This project is in a Phase 2 SBIR effort to provide the Army with flexible plastic film coated with the Eclipse Transparent Electrical Conductor (EclipseTEC™) and the Eclipse Electrochromics. The Army has been funding this work because heat build-up in vehicles is a problem as it fatigues the soldiers and can damage sensitive electronics. This flexible plastic coated film will be applied to vehicle windows to prevent excessive heat from entering into the passenger compartment. The State of Florida has provided (is providing) funding that will allow the purchase of a Leybold roll to roll (R2R) coater and also allow Eclipse to pursue commercial markets for this technology.
 - This equipment will provide Eclipse with the capability to manufacture switchable electrochromic films suitable for use with the Eclipse Transparent Electrical Conductor (EclipseTEC™) super low-emissivity coating, and thin film photovoltaics solar renewable energy integrated into the window system that will be used to power the electrical switching means for the electrochromic windows which will allow the window to be powered independent of the electrical grid in the home or office building.
 - Grant Funds: \$1,000,000; Matching Funds: \$2,000,000
- (3) Florida East Coast Railway’s “Natural Gas for Locomotive Fuel”
 - This project will demonstrate the usage of Liquefied Natural Gas locomotive at a mixture of 80 percent LNG to 20 percent diesel. The project will work to increase the mixture of LNG to diesel ratio in real world situations.
 - Grant Funds: \$375,000; Matching Funds: \$4,065,000

3.1.4 Florida Renewable Efficiency Demonstration (FRED)

In September 2014, the FDACS OOE received a \$1 million Conservation Innovation Grant from the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS). Matched by \$2 million from the Farm to Fuel program, these funds have been used to establish the Farm Renewable and Efficiency Demonstrations (FRED) program, an innovative program to promote the adoption of technologies and practices that increase energy efficiency and renewable energy use in Florida agriculture.

In May 2015, the FDACS OOE released a Request for Information for organizations interested in participating in the FRED program as Mobile Energy Labs (MELs). MELs will conduct energy use evaluations on farms, and make recommendations for specific energy efficiency and renewable energy improvements to reduce energy costs. The FDACS OOE is currently in the contracting phase with the University of Florida's Industrial Assessment Center, the University of Central Florida's Florida Solar Energy Center and the Florida Agriculture and Mechanical University to operate MELs. The FDACS OOE intends to release a Notice of Funding Availability for farmers to apply for the FRED program in the first quarter of 2016.

3.2 Transportation

3.2.1 Natural Gas Fuel Fleet Vehicle Rebate Program

Chapter 377.810 Florida Statutes authorized the creation of the Natural Gas Fuel Fleet Vehicle Rebate Program. The FDACS OOE is responsible for administering the program. The program is appropriated \$6 million annually for the next five years for the purpose of incentivizing fleets to purchase, lease or convert to natural gas fueled vehicles.

The program goals, as defined in statute, are to help reduce transportation costs and encourage freight mobility investments that contribute to the economic growth of the state. The program accomplishes these goals by providing rebates of up to \$25,000 per vehicle and \$250,000 per applicant per fiscal year for up to 50 percent of the costs associated with the conversion, purchase or lease of natural gas fleet vehicles registered in the state of Florida. Applications are awarded on a first-come, first-served basis until all program funds are expended. Forty percent of available funding is reserved for public sector fleets, with the remaining 60 percent available for private sector fleets. Applications are reviewed by the FDACS OOE for completeness, and deemed incomplete if they do not meet all requirements of Rule 5O-4.001 Florida Administrative Code.

During the 2014-2015 year of the program, the FDACS OOE received 899 applications. Of these, 518 applications were approved for a total disbursement of \$5.2 million; the remaining 381 applications were deemed incomplete. This represents a significant increase both in total number of applications, and total funding disbursed, over the 2013-2014 program year. Of particular note is the increase in public sector applicants, from 25 percent of applications in 2013-2014 to 43 percent in 2014-2015.

The annual assessment of the program found that rebate recipients will realize \$15.3 million in annual fuel savings. The assessment also estimated that a total of 627 jobs paying an average of \$50,826 per year were created or retained as a result of the program. Additionally, the program's contribution to Florida's Gross Domestic Product was estimated at \$147.9 million. The full annual assessment is available at <http://www.freshfromflorida.com/Divisions-Offices/Energy/Reports-Publications>.

On November 16, the Office of Program Policy Analysis and Government Accountability (OPPAGA) published their statutorily required review of the rebate program entitled: *Natural Gas Rebate Recipients Are Satisfied; Improved Economic Benefits Data Is Needed*. OPPAGA conducted interviews with FDACS OOE staff and rebate recipients, and reviewed the economic benefits information reported by the FDACS OOE for the 2013-2014 program year. The full OPPAGA report can be found at <http://www.oppaga.state.fl.us/MonitorDocs/Reports/pdf/1509rpt.pdf>.

3.2.2 Drive Electric Orlando

In July 2015, the FDACS OOE was awarded \$400,000 from the United States Department of Energy's Clean Cities program for the Drive Electric Orlando project. Drive Electric Orlando is an innovative public-private partnership between the FDACS OOE, the Central Florida Clean Cities Coalition and the Electrification Coalition. Drive Electric Orlando seeks to address the barriers to widespread electric vehicle (EV) adoption by providing consumers with a risk-free opportunity to experience and evaluate an EV for an extended amount of time. Drive Electric Orlando's overall goal is that the extended test drive (rental) experience will substantially increase consumer awareness of the benefits and capabilities of EVs, with a long term goal of increasing the likelihood that consumers will consider purchasing an EV at some point in the future. The FDACS OOE acts as the Principal Investigator and direct recipient of funding from the US DOE and coordinates the efforts of various partners.

3.3 Energy Efficiency

3.3.1 Multifamily Demonstration Projects

In 2014, the FDACS OOE contracted with the University of Florida's Public Utilities Research Center and the Program for Resource Efficient Communities, and the University of Central Florida's Florida Solar Energy Center to prepare the "*Florida Multifamily Efficiency Opportunities Study*." The study examined energy efficiency opportunities specific to the state of Florida, and provided recommendations for policies and programs to encourage multifamily property owners to pursue energy efficiency retrofits. Energy efficiency can benefit both landlords, by raising property values, and tenants, by reducing monthly utility expenses.

Based upon one recommendation of the study, FDACS OOE partnered with the West Palm Beach Housing Authority (WPBHA) and the Pinellas County Housing Authority (PCHA) to conduct pilot programs that would demonstrate the benefits of energy efficient technologies in low income, multifamily buildings. PCHA's Crystal Lakes Manor in Pinellas Park and WPBHA's Robinson Village in West Palm Beach were selected to receive energy efficient retrofits including R-38 ceiling insulation, air duct insulation, 18 SEER air conditioning units, energy efficient lighting, and energy efficient hot water heaters. A total of 236 units were retrofitted at Crystal Lakes Manor, and a further 84 units were retrofitted at Robinson Village.

Retrofit work was completed in August 2015, and the projects are currently collecting energy use data for 12 months following installation. This data will allow for a comparison of energy use prior to and after retrofits, and will serve as case studies demonstrating the potential energy and cost savings in multifamily buildings.

3.3.2 Farm Energy and Water Efficiency Realization (FEWER) Rural Business Enterprise Grant (RBEG)

The objective of the program is to conduct on-site evaluations of the potential for energy efficiency, renewable energy upgrades and water saving measures and practices on individual farms and help protect water resources and reduce energy consumption by providing expedited cost-share

reimbursement to eligible agricultural producers in the Suwannee County Conservation District (SCCD) and other areas of the state for the implementation of energy efficiency measures and to assist other governmental entities in funding cooperative cost-share projects outside of the SCCD Pilot Project if project selections in the pilot area have been exhausted and funding remains available.

Additionally, the availability of and access to energy audits and renewable energy development assistance in many parts of rural Florida currently is limited. The FDACS OOE applied for the Rural Business Enterprise Grant (RBEG) which will enable the FDACS OOE to provide affordable energy efficiency assistance by offering audits to eligible recipients with average audit costs of \$1,500 or less. This program has a two-fold purpose:

1. To conduct energy audits and renewable energy development assistance to help further the Department's effort to encourage new energy practices and facilitate the development of small and emerging private business enterprises as defined under Rural Development Instruction 1942-G.
2. To provide low-cost energy efficiency measures, technical assistance and energy efficiency financial incentives for Florida's rural areas.

The FDACS OOE has contracted with the SCCD to conduct 190 on-site energy and water audits to farms and rural businesses under the FEWER/RBEG Programs. As of the end of 2015, FDACS OOE received 132 applications requesting audits and 57 were completed. Of the 132 applications received, 69 were from poultry operations, 34 involved irrigation facilities, 22 were dairy, 3 were businesses, 2 were greenhouses, 1 a cattle operation and 1 an aquaculture operation. The audits provide producers/businesses with recommendations and the associated energy savings, water savings, environmental benefits and simple payback periods so they can easily prioritize upgrades. In addition, this program provides 75% cost share (up to \$25,000) to area farmers/businesses that participate in the audit and choose to implement some of the recommendations.

3.3.3 Energy Efficiency Retrofits for Public Facilities

The FDACS OOE awarded \$952,212 to 18 eligible Florida local governments and nonprofit organizations to make energy-efficient retrofits in publicly accessible, community oriented buildings. Of the 15 projects completed, 9 were community centers, 3 were libraries, 2 were emergency housing/rehabilitation facilities and 1 was a training center. Examples of energy efficiency improvements made as a result of this program include replacement of indoor lighting and light fixtures, insulation upgrades, replacement of HVAC units and ducts, installation of energy management systems and replacement of security lighting on the building exterior. All grant work was completed by July 31, 2015, and FDACS OOE will continue receiving monthly energy savings data from the completed projects until February 1, 2016.

3.4 Education

3.4.1 Energy Clearinghouse of Information

FDACS OOE continues to host and expand the Florida Energy Clearinghouse in accordance with Section 570.0741, Florida Statutes. The Florida Energy Clearinghouse provides Floridians the information they need to be knowledgeable energy consumers and make more informed decisions

about the energy choices they make every day. Through the online platform, users can compare energy saving technologies, learn more about renewable energy technologies, browse research being conducted at Florida's universities and learn more about energy usage and production.

A major component of the clearinghouse is the "My Florida Home Energy" tool that provides a customized report which identifies energy efficient products, services and potential energy, and monetary savings for a Florida homeowner based on information provided by the homeowner, as well as publicly accessible data. This tool was updated this year to be even more user friendly. In addition, homeowners can now view all available financial incentives in their area in their customized report. The Florida Energy Clearinghouse can be found at: <http://www.freshfromflorida.com/Energy/Florida-Energy-Clearinghouse>.

3.4.2 Florida Energy Summit 2015

The Florida Department of Agriculture and Consumer Services Office of Energy co-hosted the 2015 Florida Energy Summit with the JAX Chamber of Commerce. The event attracted over 300 attendees and was held at the Hyatt Regency Jacksonville Riverfront on October 14-16, 2015.

The summit featured panel discussions on the ever-changing energy sector, explored alternative fuel vehicles as well as the future of Florida's electric generation. The summit also featured a series of "Energy Snapshots" that summarized current energy topics from experts in the field.

New to the summit this year, was the inclusion of a tour that spotlighted key areas of innovation in Northeast Florida. The tour included stops to:

- St. Johns River Power Park: Jointly owned by JEA and the Florida Power & Light Company, the park is a large coal-fired electric generating plant featuring two turbine generators that can each supply 632,000 kilowatts to the transmission grid.
- GATE Petroleum Compressed Natural Gas Facility: It included the grand opening and tour of the second public access compressed natural gas facility located at the GATE Convenience Store on Heckscher Drive. This joint venture is constructed by ampCNG/Trillium CNG and supported by Integral Energy LLC and GATE.
- Jessie Ball duPont Center: The center demonstrates the benefits of using green building techniques to restore historic buildings.

Co-hosting the Florida Energy Summit with Jacksonville allowed the Summit to spotlight some of the exciting and innovative energy-related activities occurring in the Northeast section of Florida. The Summit was well received and received praise from the attendees on the inclusion of the tour.

3.4.3 Energy Education Kits for Public Schools

The Office of Energy used American Recovery and Reinvestment Act funding to purchase 135 Energy Curricula and Learning kits and 96 Junior Solar Sprint (JSS) Car kits to provide to public schools throughout the state.

The Energy Curricula and Learning kits are designed to complement the *Solar Matters* (Grades K-2, 3-5 and 6-8) and *Understanding Solar Energy* (9-12) activity units developed by the Florida Solar Energy Center. Each kit targets a specific grade range and includes enough materials for students to work in lab groups. Kits contain a variety of materials such as pre-wired encapsulated mini-

photovoltaic panels, motors, propellers, milliamp meters, multi-testers, color filters, magnifying glasses, protractors, thermometers, UV detecting beads, videos, energy ball and various printed resources. The curricula units are aligned with the current science standards which focus on science, technology, engineering and math (STEM).

The JSS Car kits include wheels, gears, one motor and a small solar panel for student to use to construct a JSS car. Once completed, the cars can be used to race against other classmates or compete in your local EnergyWhiz events. For more information please visit http://www.fsec.ucf.edu/EN/education/k-12/energywhiz_olympics/jss.htm.

There were 245 Energy Curricula and Learning kits made available to schools across the state with an additional 322 Junior Solar Sprint Car (JSS) kits. The program began accepting applications on July 2, 2015. To date, 140 Energy and Curricula and Learning kits and 100 JSS kits have been delivered to schools throughout the state. Also, one Energy Curricula and Learning kit has been kept by the OOE to be used during educational events such as the 4-H event at the capital. These kits will be used to educate an estimated 49,000 students on energy issue. The remaining 104 Energy Curricula and Learning kits and 222 JSS kits will be provided through an updated application process beginning in early 2016.

4. Florida Energy Systems Consortium Research Developments

The Florida Energy Systems Consortium (FESC) was created in 2008 and is unique in the United States; no other state has a statewide energy consortium involving all of its public universities. The concept combines all of the state's university resources into one statewide center to advance energy research, technology transfer/commercialization, energy education and outreach in this rapidly changing and critically important field.

FESC originally received \$38 million of state funds in 2008 to conduct collaborative energy research, development, and commercialization; the results include:

- Leveraging an additional \$265 million in energy research funding from third parties.
- 24 start-up companies (20 existing) in the energy sector.
 - Bing Energy utilizes FESC funded technology developed by Dr. Jim Zheng.
- 169 invention disclosures and 64 energy technologies licensed to industry
- Involvement in research with over 270 companies, over 300 university faculty, and over 130 research parks, investors, entrepreneurs and government laboratories.
- Conducted 69 energy workshops for Florida industry education and training
- Delivery of 30 continuing education classes for Florida licensed building contractors and architects to help them better understand energy use in various building environments
- Dissemination of more than energy 50 Fact Sheets which are used on the Florida Energy Clearinghouse website.
- Additionally, several hundred students worked directly on FESC funded research project and FESC funded research resulted in over 1,400 publications and presentations which helps solidify Florida as a leader in energy research and development.

A \$2.5 million funding request for FESC has been included in the department's budget. This request would be used to continue the success of FESC by funding the administration of FESC as well as competitive grant programs for Florida's public universities to support research, development, and commercialization of renewable energy and energy efficient technologies. The new funding structure would require that FESC report to the department on a regular basis while ensuring that the funds be distributed throughout the state university system based on an open, competitive process.

5. On the Horizon

In 2015, FDACS OOE will continue to work with the Legislature and Governor to advance policies and programs with the objective to secure a stable, reliable and diverse supply of energy for Florida. FDACS OOE is currently developing one new program to help Florida increase the availability of infrastructure capable of dispensing higher blends of bio-fuels. That program is:

5.1 Bio-fuel Infrastructure

In June 2015, the US Department of Agriculture (USDA) announced the availability of \$100 million for state-led initiatives that would increase the availability of infrastructure capable of dispensing higher blends of biofuels. This action was tied to the Environmental Protection Agency's reduction of Renewable Fuel Standard (RFS) biofuel blending requirements.

The FDACS OOE worked with Florida's Clean Cities Coalitions to inform the biofuels industry that the FDACS OOE would be willing to submit an application in cooperation with any interested industry partners. The FDACS OOE received responses from two entities: Protec Fuel Management LLC (Protec), and RaceTrac Petroleum Inc. (RaceTrac). The FDACS OOE worked with these companies to develop a grant application, with the FDACS OOE acting as a pass through entity. Collectively Protec and RaceTrac proposed to install 892 biofuel "blender pumps," which are capable of disbursing biofuel blends in a range of 15% to 85% (E15 to E85). Installation will be managed by the sub-recipients, and will occur at 130 retail fuel stations throughout Florida.

In October, USDA announced that the FDACS OOE was awarded \$15,997,792.68 to install these pumps. This will be matched by \$21,658,530.12 provided by Protec and RaceTrac. This funding amount is the highest amount awarded to any of the 16 states receiving BIP grants.

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/FEECA2015.pdf>

Purpose

Reducing Florida's peak electric demand and energy consumption became a statutory objective in 1980, with the enactment of the Florida Energy Efficiency and Conservation Act (FEECA). Codified in Sections 366.80 through 366.85 and Section 403.519, Florida Statutes (F.S.), FEECA emphasizes reducing the growth rates of weather-sensitive peak demand, reducing and controlling the growth rates of electricity consumption, and reducing the consumption of scarce resources, such as petroleum fuels.

Section 366.82(2), F.S., requires the Florida Public Service Commission (Commission) to set appropriate goals at least every five years for the seven electric utilities subject to FEECA. The Commission sets goals with respect to summer and winter electric peak demand and annual energy savings over a ten-year period, with a review every five years. Once goals are established, the seven FEECA utilities must submit for Commission approval, cost-effective demand-side management (DSM) plans containing the programs intended to meet these goals.

The seven electric utilities currently subject to FEECA are:

- Five Florida Investor-owned utilities (IOUs), ranked in order of sales
 - Florida Power & Light Company (FPL)
 - Duke Energy Florida, Inc. (DEF)
 - Tampa Electric Company (TECO)
 - Gulf Power Company (Gulf)
 - Florida Public Utilities Company (FPUC)

- Two municipal utilities, ranked in order of sales
 - JEA
 - Orlando Utilities Commission (OUC)

The Commission regulates the electric rates and energy conservation cost recovery of the five IOUs, but the Commission does not regulate the rates of the two municipal utilities for which it sets DSM goals.

The Commission is required by Section 366.82(10), F.S., to provide an annual report to the Florida Legislature and the Governor summarizing the adopted goals and progress toward achieving these goals. Additionally, Section 377.703(2)(f), F.S., requires the Commission to file information on electricity and natural gas energy conservation programs with the Department of Agriculture and Consumer Services. Section 553.975, F.S., requires the Commission to submit a biennial report to the

Governor, President of the Senate, and Speaker of the House regarding the effect of state energy standards on conservation. This report fulfills these Commission statutory obligations.

Report Layout

This report presents the Commission's efforts in overseeing the companies' initiatives established to achieve the conservation goals and Commission requirements. This report details these efforts through the following four sections:

- Section 1 provides a history of FEECA, highlights savings produced by utility programs since 2000, and provides a description of existing tools for increasing conservation throughout the state.
- Section 2 discusses current goals and achievements of the FEECA utilities.
- Section 3 provides an overview of Florida's electricity market.
- Section 4 discusses methods the Commission has used to educate consumers about conservation and provides a list of related web sites.
- Appendix 1 provides a description of the conservation programs offered during 2014 by the FEECA utilities.

The FEECA report is due to the Governor on March 1, 2016. However, the FEECA utility filings to the Commission for 2014 were due on March 1, 2015. The 2015 FEECA utility filings are due on March 1, 2016. Therefore, the most current information regarding utility achievements available at the time of this report pertains to 2014.

Conservation Achievements

Since 1980, the FEECA utilities' DSM programs in total have reduced winter peak demand by an estimated 6,595 megawatts (MW). The FEECA utilities' DSM programs decreased summer peak demand by an estimated 7,080 MW. The demand savings from these programs have resulted in the deferral or avoidance of power plant construction in the state. These programs also reduced total electric energy consumption by an estimated 10,244 gigawatt-hours (GWh).

The Energy Conservation Cost Recovery (ECCR) clause allowing recoverable expenditures on energy efficiency has been in existence since 1980. In 2015, Florida's IOUs recovered approximately \$363 million in conservation program expenditures, performed 266,381 residential and commercial audits, and offered 117 conservation programs for residential and commercial customers. The history of FEECA and the ECCR clause are discussed in Section 1.

2014 Goal Achievement

Three IOUs—TECO, Gulf, and FPUC, and one municipal utility—JEA met all of the Commission's energy and demand savings goals in total. Two IOUs—FPL and DEF, and one municipal utility—OUC also implemented programs that saved MWs of demand and GWhs of energy. However, these companies did not fully meet the Commission's goals. Additional detail on each utility's performance is described in Section 2.

2014 Goal Setting Process

On November 25, 2014, the Commission approved demand and energy saving goals for the seven FEECA utilities for 2015 through 2024. The Commission voted to approve goals based on the Ratepayer Impact Measure (RIM) Test to ensure that all ratepayers benefit from these programs due to downward pressure on rates.

The 2014 approved DSM goals for the FEECA utilities were lower than those approved by the Commission in 2009. The Commission identified fewer programs as cost-effective due to more stringent building codes and appliance efficiency standards, as well as lower avoided costs resulting from lower natural gas prices.

Moreover, the Commission voted to allow the IOUs' five-year solar pilot programs to end on December 31, 2015. The Commission based its decision on evidence in the record that the existing solar pilot programs were not cost-effective. The 2014 goal setting process is discussed further in Section 2.4.

Finally, in the November 2014 goals order, the Commission ordered that a focus be placed on energy efficiency for low-income consumers. The Commission ordered "When the FEECA utilities file their DSM implementation plans, each plan should address how the utilities will assist and educate their low income customers, specifically with respect to the measures with a two-year or less payback."²

Conclusion

The potential demand and energy savings from utility-sponsored conservation programs are affected by consumer education and behavior, building codes, and appliance efficiency standards. First, consumer actions to implement energy efficiency measures outside of utility programs reduce the amount of incremental energy savings available from utility programs. Additionally, utility conservation programs are designed to encourage actions that exceed the conservation resulting from building codes and minimum efficiency standards.

The level of savings from utility conservation programs is uncertain because it is based on voluntary participation from customers. However, all customers pay for the utility conservation programs. Therefore, customer education of, and participation in, utility DSM programs—along with individual efforts to save electricity—are key in reducing electric demand and energy usage.

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

² Order No. PSC-14-0696-FOF-EU, Docket Nos. 130199-EI through 130205-EI, In re: Commission review of numeric conservation goals, issued December 16, 2014.