2019
Office of Energy
ANNUAL REPORT

Dear Governor DeSantis, President Galvano and Speaker Oliva:

The Florida Department of Agriculture and Consumer Services is home to the state's Office of Energy, responsible by law for developing and implementing Florida's energy policies, programs and projects. As such, it is my honor to provide you with the 2019 Office of Energy Annual Report in accordance with Section 377.703(2)(f), Florida Statutes (F.S.).

Over the past decade, the Office of Energy has developed and implemented several outstanding programs to help Floridians use electricity and fuel more efficiently and generate more renewable energy. These successful programs need to be the starting point for energy policy in the state and not the finish line. For too long, the Office of Energy has been underutilized.

Energy is too critical of an issue that warrants more than casual consideration from elected officials. In the broadest sense, energy impacts every single one of us, every single day, all day long. We use energy to produce food, power our devices and homes, move around our communities, and drive our industries and economies. Each year climate change is posing an accelerating threat to our state, economy and daily life through more frequent flooding and sea level rises, algae blooms, red tides, Category 5 hurricanes, and other violent storm events. Our energy policy should be developed hand in hand with climate change adaptation and resiliency programs.

It is time that we, as state leaders, put energy and climate at the forefront of the conversation in Florida. While great work is being done at the local level in Florida, we can and need to be doing more statewide to protect our state and the people who call it home. I invite and encourage you all to work with me and the Office of Energy to create comprehensive energy policies that allow Florida to be a leader in energy innovation, while creating new opportunities for Florida's economy and addressing the growing crisis of climate change. By addressing the issues of today, we provide our future generations the opportunity to thrive.

Sincerely,

Nicole Fried

Nicole "Nikki" Fried
Florida Commissioner of Agriculture

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I. Florida's Energy Profile

Florida's energy profile is unique among the states in terms of fuel diversity, amounts of electricity generation and consumption, as well as the mix of transportation fuels and renewable resources used by various sectors. In addition to providing a summary of Florida's energy profile at the close of 2019, this section provides an outlook on trends that could continue into the next year as well as years to come.

Energy Consumption

Florida is the third most populous state in the United States. Home to an estimated 21.2 million people, Florida has experienced a 12.8 percent population growth between 2010 and 2019.[1] The energy demands that inherently result from a rapidly increasing population necessitates that Florida's energy needs be addressed as a top priority by state leaders and lawmakers.

- Florida typically ranks third or fourth in the nation in overall electricity consumption, behind Texas and California.[2] Florida is a net energy importer of fuels including natural gas, coal, uranium, and petroleum products.

- The transportation and residential sectors drive energy consumption in the state, and the magnitude of these sectors account for a heavy reliance on natural gas and petroleum (Figure 1).

- Natural gas is the dominant fuel source used for electric generation in Florida, due to numerous factors, including cost, availability, and environmental considerations.

- Florida ranks 47th in the nation in total energy consumption per capita, consuming 201 million BTUs[3] per person. In the previous year, Florida ranked 46th in consumption per capita, consuming 205 million BTUs per person. Florida's lower per-capita energy consumption ranking, relative to the national average, is due to its below-average industrial sector consumption (Figure 2).

- Florida's residential sector accounts for the majority of retail energy sales. Florida has over 9 million residential electric customers, accounting for 53.7 percent of all retail electricity sales in the state, with the remaining 46.3 percent of electricity being consumed by commercial and industrial users.[4]

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[1] University of Florida, Bureau of Economic and Business Research: Population Studies Program, *2019 Population Estimates*.
[2] United States Department of Energy (USDOE) Energy Information Administration (EIA), *State Profile and Energy Estimates*, available at https://www.eia.gov/state/?sid=FL
[3] 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.
[4] U.S. Energy Information Administration, June 2019 Electric Power Monthly (as reported by, The Florida Public Service Commission, *Review of the 2019 Ten-Year Site Plans of Florida's Electric Utilities*).

Figure 1: Florida Energy Consumption by End-Use Sector

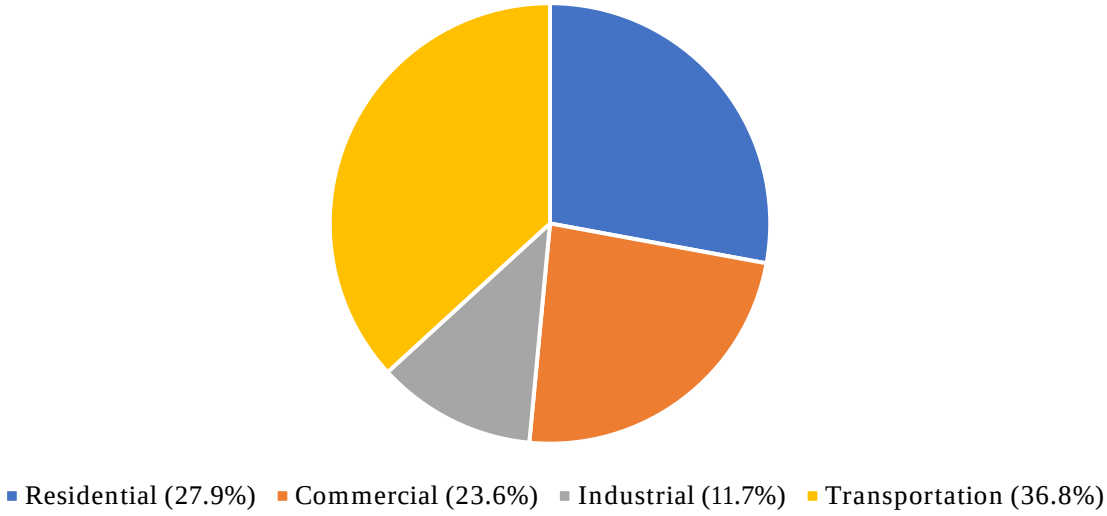
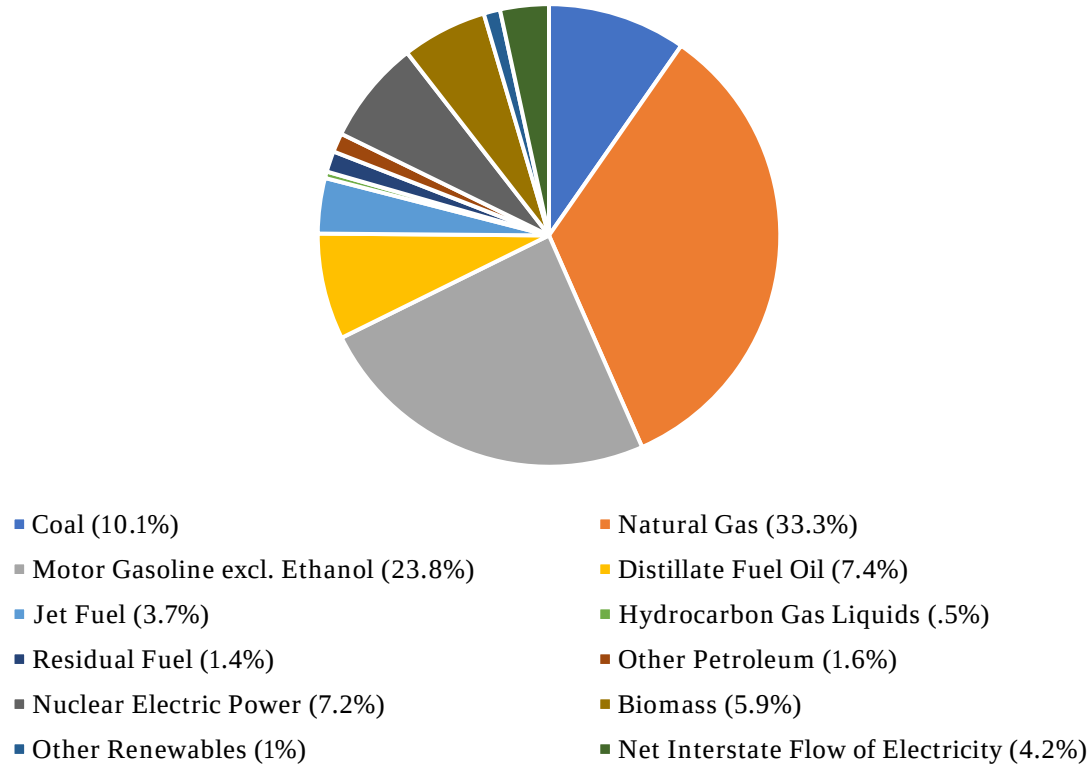


Figure 2: Florida Energy Consumption Estimates Trillion Btu



Source: EIA

Energy Sources in the Power Sector

Florida is one of the largest generators of electricity in the nation, second only to Texas. Florida's power sector utilizes various fuel sources to address the state's electrical needs. Figure 3 shows the current mix of fuel sources used in Florida to generate electricity, while Figure 4 shows the projected fuel mix over the next 10 years.

Figure 3: Florida's Current Fuel Mix

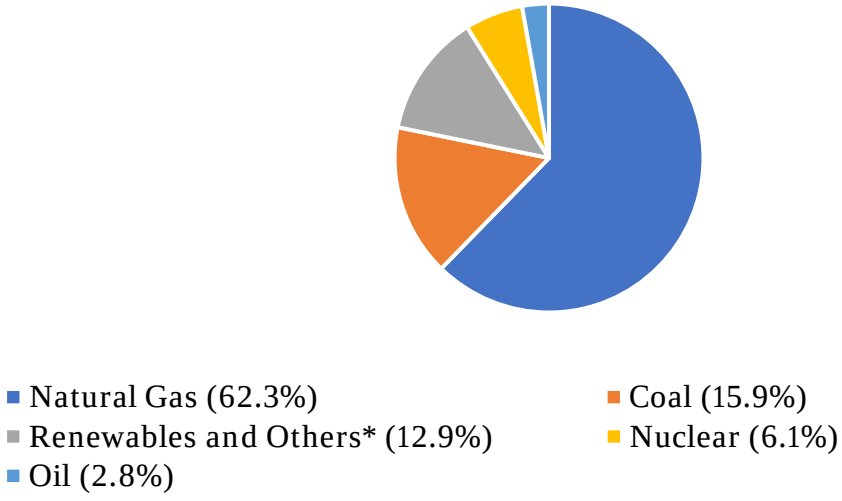
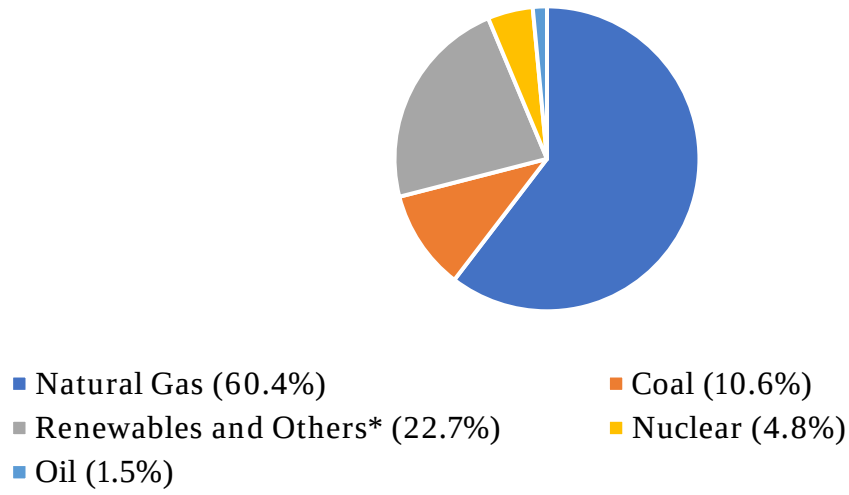


Figure 4: Florida's Projected Fuel Mix

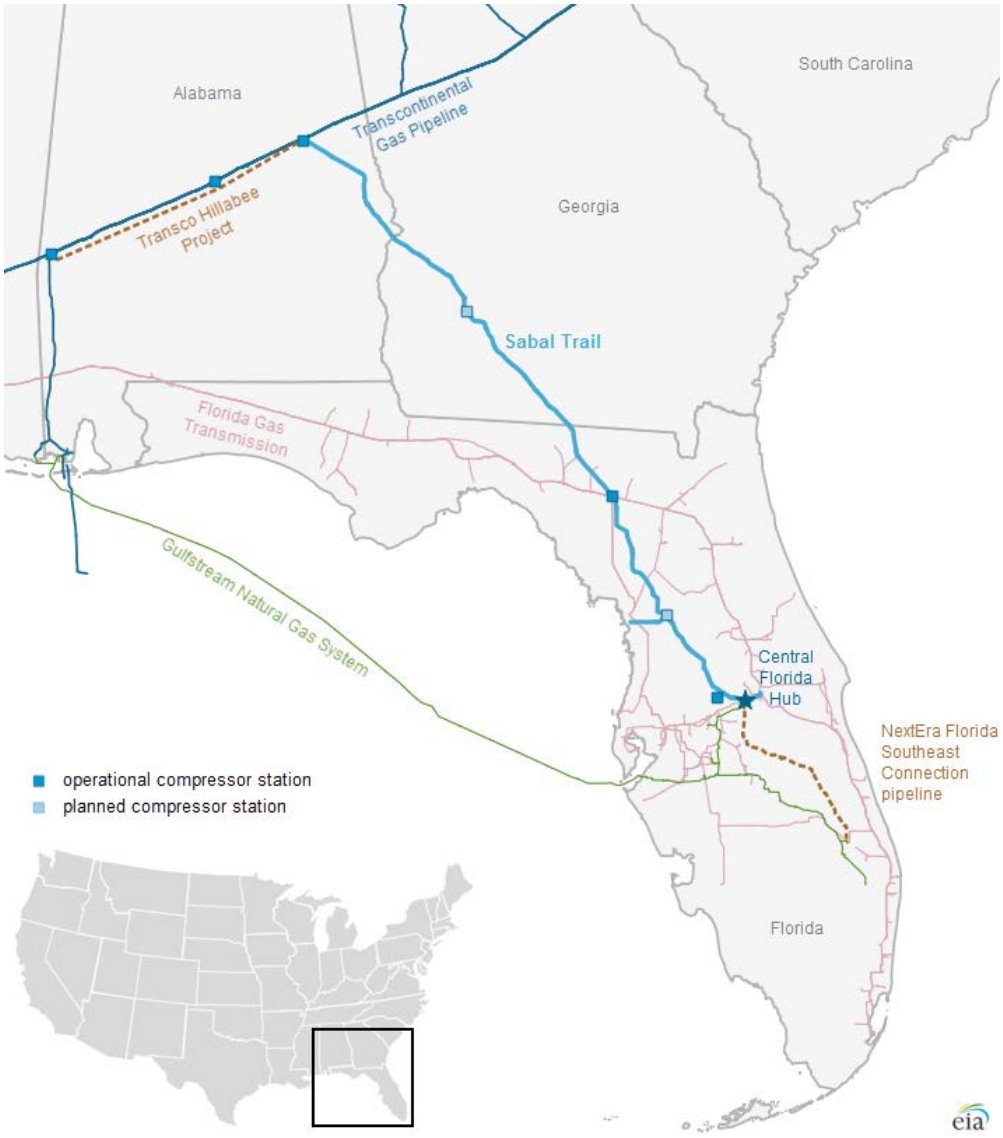


Source: 2019 Florida Reliability Coordinating Council Load & Source Plan and 2019 FPSC Ten-Year Site Plan Utilities Data Responses
*Others include interchange and non-utility generation.

Florida receives its natural gas supplies from three interstate pipelines:

- The Florida Gas Transmission line runs from Texas through the Florida Panhandle to Miami;
- The Gulfstream Gas System is an underwater pipeline running under the Gulf of Mexico from Mississippi and Alabama to Central Florida; and
- The Sabal Trail pipeline runs from Alabama to Orange County, Florida.

Figure 5: Florida's Natural Gas Supply



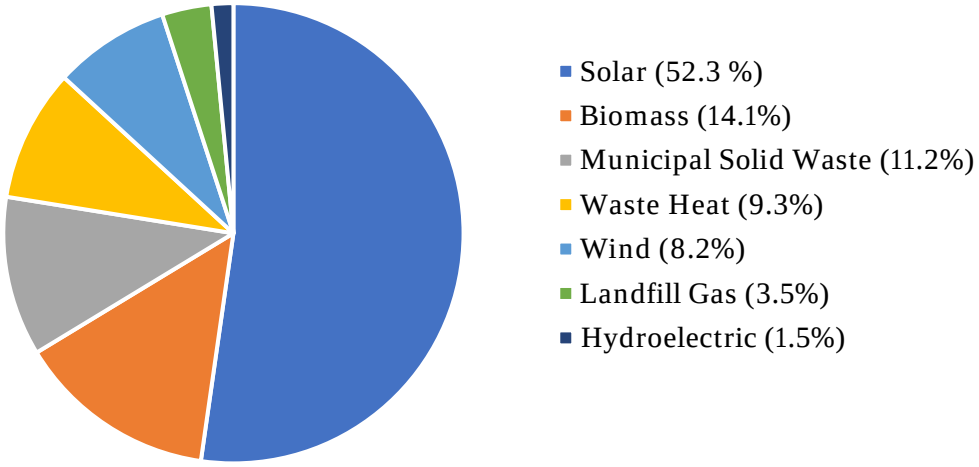
Source: EIA

The Jacksonville area also receives supplies from the liquefied natural gas import terminal at Elba Island, Georgia, via the Cypress Pipeline.

Renewable Energy

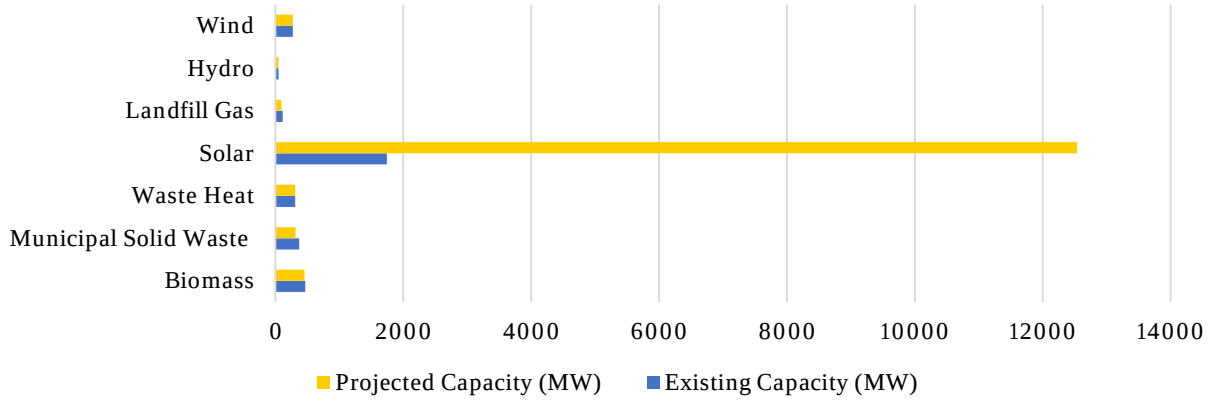
Currently, renewable energy accounts for 5.5 percent of Florida's overall electric generation, an increase of 1.2 percent from last year. Figure 6 summarizes the contribution by renewable type of Florida's existing renewable energy sources.

Figure 6: Existing Renewable Resources



Last year was the first year solar eclipsed biomass as the largest source of renewable energy in Florida, accounting for just over 31 percent. Solar's upward trend continued this year, as more than half of Florida's total renewable resources now comes from solar. Florida's total renewable resources are expected to increase by an estimated 10,704 MW over the next ten years with solar leading the way. Figure 7 summarizes the existing and projected renewable capacity by generation type.

Figure 7: Current and Projected Renewable Resources



Source: 2019 Florida Reliability Coordinating Council Load & Source Plan and 2019 FPSC Ten-Year Site Plan Utilities Data Responses

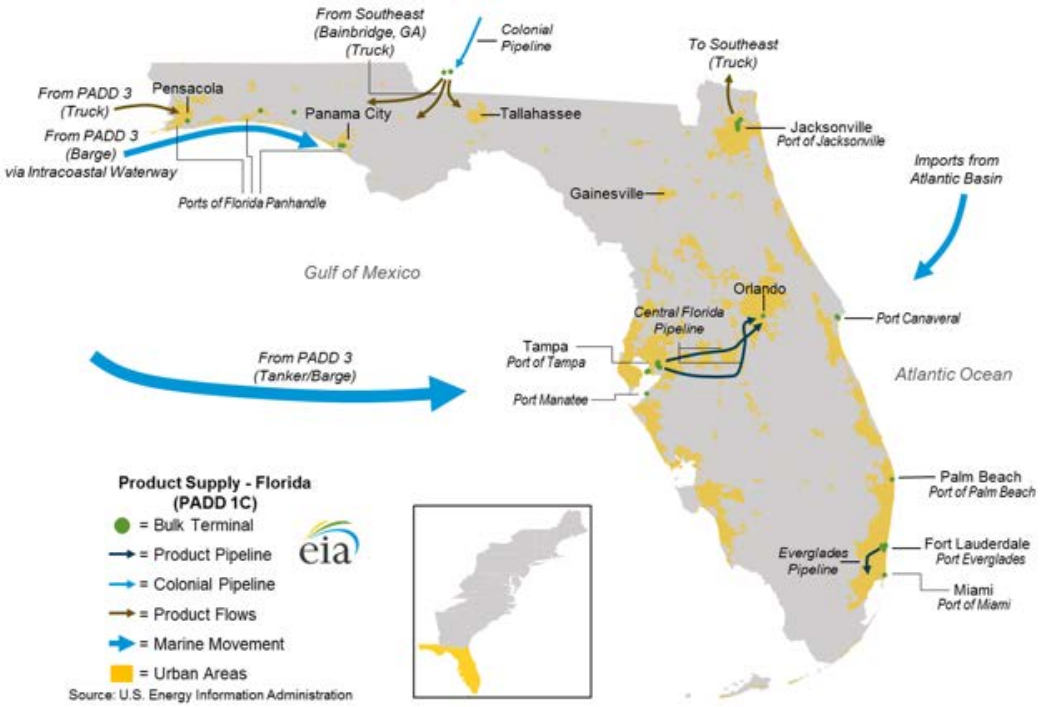
Transportation Energy

Florida's large population, evolving demographics and projected growth require the state to develop and maintain a reliable and conveniently accessible transportation system. 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. Year-over-year growth in tourism has remained above five percent since 2014. The 126 million tourists to Florida each year contribute to the state having the third-highest motor gasoline demand and sixth-highest jet fuel use in the nation.[5]

Petroleum

Florida's transportation sector uses more energy than any other sector in the state and nearly all the transportation fuel must be imported. Florida relies on petroleum products delivered by tanker and barge to Florida marine terminals, primarily in Jacksonville, Port Canaveral, Port Everglades, and Tampa. An intrastate pipeline transports petroleum products from Tampa across Central Florida to Orlando.

Figure 8: Transportation Fuel Supply



Source: EIA

- Florida ranks third in the nation in terms of all types of transportation fuel consumption, which accounts for approximately 5.5 percent of the United States' total share of transportation fuel.

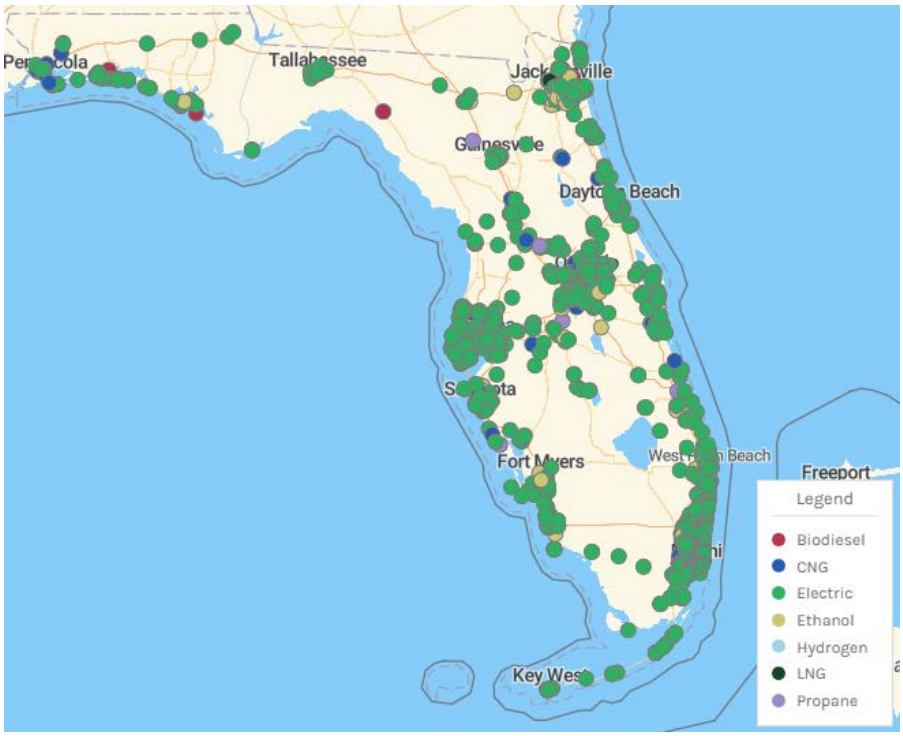
- Florida consumed more than 320.1 million barrels of motor fuel in 2016.

[5] Visit Florida and EIA

Alternative Fuel

Florida consumers, private businesses and local governments are realizing the benefits alternative fuel vehicles have to offer. Private commercial fleet owners, as well as local governments and school boards continue to convert their larger vehicle fleets to propane, compressed natural gas, and liquefied natural gas. Electric vehicle use is also expanding as technology increases, charging infrastructure expands, and consumer awareness grows.

- The state of Florida has 4,452 total public and private alternative fuel stations, of which 59 are compressed natural gas (CNG) stations, 138 are propane stations, and 4,151 are public and private electric vehicle (EV) charging stations.



Source: USDOE Alternative Fuels Data Center

- As of December 1, 2019, 82,673 electric vehicles were registered in Florida.[6]

- Florida has four USDOE designated Clean Cities Coalitions (CCCs): Southeast Florida, Central Florida, Tampa Bay, and North Florida. The CCCs are responsible for promoting clean energy and alternative fuels for transportation throughout the state.

[6] The Florida Department of Highway Safety and Motor Vehicles

Energy Trends

Flat Demand for Energy Use

The demand for energy grew significantly during the 1960s through the early 2000s, but with the introduction of energy efficiency building standards and appliances and the 2008 recession, the growth rate of energy usage is flattening out. In the Florida Public Service Commission's (FPSC) 2018 Statistics of the Florida Electric Utility Industry, net energy for load has fluctuated up and down by 2 percent to 3 percent from 2008 until 2017. Florida's utilities are projecting a 7 percent growth in net energy for load through 2027, which they are attributing to a growth in population. However, national projections are much lower. Nationally, flat demand or very small growth for energy is projected to continue over the next decade or two.

Electric Vehicle Minimal Impact

Nationally, estimates project Electric Vehicle (EV) new car sales may rise as much as 24 percent over the next 10 years. Florida is projecting a more modest growth in total EV new car sales. Currently, EVs account for less than 1 percent of new car sales, however the FPCS estimates sales are expected to grow by 12.5 percent by 2028.[7] Further, the FPSC reports that current estimates indicate no more than a 1 percent increase in net energy for load will result from an estimated ten-year increase in electric vehicles.

Coal Plants Shuttering

Florida has seen a steady decline in the use of coal as a fuel source in its electric generating facilities. According to the FPSC, Florida dropped from using 36,224 thousands of short tons of coal in 2008, to using 21,374 thousands of short tons of coal in 2017.[8] That is a 41 percent drop in coal usage. Further, the FPSC estimates that coal usage in generating electricity in Florida will continue to drop by another 19 percent by 2027, for a total projected reduction in coal usage of 60 percent in Florida from 2008 to 2027.

Fuel Mix

In Florida, utilities have been replacing coal fired electric generation facilities with natural gas combined cycle plants. Combined cycle natural gas facilities are viewed as a bridge from coal to eventually renewable energy. In its Review of the 2019 Ten-Year Site Plans of Florida's Electric Utilities, the FPSC states that renewable energy facilities represent 5.5 percent of Florida's overall generation, which is projected to grow to over 16 percent during the next ten years. According to the FPSC, some utilities are including a portion of solar resources as firm generation for reliability purposes. More renewables are being added due to the reduction in price of solar technology, available utility land with access to the grid, and positive performance data resulting from existing solar demonstrations. While it is expected that natural gas consumption will remain steady at

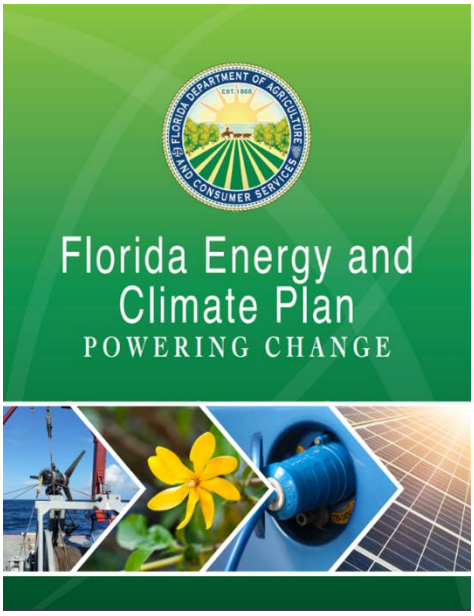
[7] FPSC Review of the 2019 Ten-Year Site Plans of Florida's Electric Utilities
[8] FPSC 2018 Statistics of the Florida Electric Utility Industry

approximately 68 percent over the next ten years, it is anticipated that more proposed generation facilities in Florida will be solar.

Price of Battery Storage Declining and Usage Up

Emerging energy storage technologies have the potential to increase not only the firm capacity contributions from solar PV installations but also solar power's overall functionality. The FPSC's Review of the 2019 Ten-Year Site Plans of Florida's Electric Utilities indicates that utilities are proposing firm storage capacity for inclusion in resource planning for the first time. All the proposed capacity consists of lithium ion battery storage. Lithium ion (Li-ion) battery storage is being extensively researched by Florida's utilities due to its declining costs, operational characteristics, scalability, and siting flexibility. Florida Power and Light, Duke Energy of Florida, and Tampa Electric Company have battery storage pilot programs under development. Battery storage is being deployed to test whether it will expand the number of storage applications including enhancing grid operations, increasing efficiencies, improving overall reliability, providing firm solar output during peak usage, contributing to contingency reserves, and providing backup generation during outages. Florida can expect battery storage investments to increase in the future.

II. Florida Energy and Climate Plan



The Florida Energy and Climate Plan (the Plan) was released in October 2019. This plan examines Florida's current energy landscape and provides realistic steps and strategies for Florida to secure clean, affordable energy while creating new opportunities for Florida's economy and addressing the growing crisis of climate change.

Ten years have passed since the state has considered a comprehensive energy plan. Since then, Florida's energy landscape has changed dramatically. Energy prices were more volatile, and renewable energy like solar was not as technically sophisticated, cost-effective, or extensively deployed. Further, energy storage was in its infancy and electric vehicle technologies were becoming more mainstream. Clean energy technologies have matured, and their costs have become more competitive with traditional fuel sources.

There are nine focus areas that the FDACS OOE believes are critical to Florida's progress. All nine focus areas are connected in some form because Florida's energy system is connected to everything from our health and wellness, to our environment, to our economy. The nine focus areas are as follows:

- Encourage Investments in Energy Efficiency and Renewable Energy;
- Encourage the Resiliency of Florida's Infrastructure;
- Clean, Safe, and Sustainable Transportation for Florida;
- Advance the Energy-Water Nexus;
- Expand Energy Education, Vocational Training, and Workforce Development;
- Research, Development, Demonstration, and Deployment;
- Electric Industry Infrastructure;
- Agriculture; and
- Decreasing the Energy Burden for Low Income Communities.

This Plan is meant to highlight important energy and climate change issues, and spark discussion around these topics. Additionally, the Plan will act as a guide for the Office of Energy in the years ahead.

The Florida Energy and Climate Plan is located on fdacs.gov/About-Us/Publications/Energy-Reports-and-Publications. The FDACS OOE encourages everyone to read the Plan and join the conversation so you too can keep Florida growing.

III. 2019 Florida Energy and Climate Summit

The FDACS OOE hosted the 2019 Florida Energy and Climate Summit on October 1-3 in Tampa, Florida at the Grand Hyatt Tampa Bay.

The summit's 225 attendees included leaders in energy efficiency, energy development, sustainability, climate change, agriculture, government, academic research, technology and finance from across the state and around the nation. They shared ideas on how our state is: diversifying its energy sources; promoting energy efficiency, renewable energy and alternative vehicle technology; spurring economic growth; and adapting to climate change.

This year's summit examined the interconnectedness of energy with other sectors including agriculture, transportation, and the environment. The summit agenda featured panel discussions on unique relations in the energy sector and how they affect one another. Summit attendees learned about unique collaborations and innovations in Florida's energy sector including how agricultural producers are combating climate change, what local governments are doing to protect their communities against sea-level rise, and what is being done to help low income communities be more energy efficient.

At this year's summit, Commissioner Nicole "Nikki" Fried released the Florida Energy and Climate Plan (see II. Florida Energy and Climate Plan) and announced her energy proposals for the 2020 Legislative Session (see VII. Recommendations).

For more information about the 2019 Florida Energy and Climate Summit, including presentations and videos please visit FloridaEnergySummit.com.

IV. 2019 FDACS Office of Energy Accomplishments

During the 2019 calendar year, the FDACS OOE continued to offer and implement programs that increase efficiency, install renewables, research new technologies and increase the use of alternative fuels in transportation. This section highlights those programs.

Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA)

The FDACS OOE worked with the FDACS Division of Aquaculture to develop ERICA to increase energy efficiency, reduce energy usage, and lower operating costs at commercial aquaculture facilities in Florida. ERICA provides grant reimbursement for technologies that significantly increase energy efficiency and renewable energy for eligible commercial aquaculture facilities and farms located in Florida. The total funding available under this program is $1,002,103. In 2019, FDACS OOE received 13 applicants and approved 10 applications totaling nearly $200,000.

Dustin Drawdy, pictured above, is Vice President of Operations of the Oak Ridge Fish Hatchery in Plant City. Oak Ridge Fish Hatchery replace old, inefficient lights with 75 new LED lights. They also replaced 12 pumps, a chiller and a standard AC unit. One of the pumps and chiller is pictured above to the right. All the equipment purchased and installed is used to help keep tropical fish in ideal conditions, so they can later be sold to retailers around the country. Oak Ridge Fish Hatchery is still tracking their energy savings.

Florida Small Community Energy Efficient Lighting Grant Program

The Florida Small Community Energy Efficient Lighting Grant Program is a competitive grant program that provided funding to eligible local governments to make energy-efficient upgrades to indoor or outdoor lighting in publicly accessible, community-oriented facilities, such as libraries, museums, parks and community centers. In 2018, the FDACS OOE awarded just over $2 million in grants to 18 local governments. All work under this program will be completed next year.

As pictured, the City of Oakland Park replaced 186 old, inefficient light fixtures with 78 energy efficient LED light fixtures and a smart control system at Wimberly Field. Installation was complete in October 2019. The City is still tracking energy savings.

Mapping the Energy Landscape of Water and Wastewater Treatment Facilities in Florida

Using a $75,000 competitive award from the USDOE, the FDACS OOE is working with stakeholders to determine the current energy landscape of water and wastewater treatment facilities in the state. The survey will document those facilities that need updating, as well as those facilities that have already performed energy efficient improvements, and whether those improvements resulted in energy and money savings. FDACS OOE will complete the survey in 2020.

Florida Building Commission

In accordance with Section 553.74, F.S., FDACS holds a seat on the Florida Building Commission (FBC) and participates on the Energy Technical Advisory Committee and the Education Product Oversight Committee. FDACS OOE Director Kelley Smith Burk serves as the FDACS appointee to the FBC. As a member of the FBC, FDACS OOE contributes to code development and other discussions relevant to building efficiency.

Florida Renewable Efficiency Demonstration (FRED)

The Farm Renewable and Efficiency Demonstration (FRED) Program provided free energy evaluations valued up to $4,500 to Florida farmers. FRED also provided Florida farmers grant reimbursement for 80 percent of the cost to implement the recommendations from the free energy evaluation up to $25,000. Examples of eligible projects for reimbursement included energy-efficient lighting and water pumps, and small-scale renewable energy generation such as solar or biomass. The total funding available under this program was $3 million. In 2019, the FRED Program provided 101 energy and water audits to agricultural producers and invested more than $1.6 million to implement the resulting recommendations.

Victoria Crow (left) and OOE Programs Administrator Alexander Mack (right) pictured above at Seahorse Connections in Alachua which installed a 12-kW photovoltaic system. Victoria and her seahorses are saving nearly $3,000 annually and diverting 24,000 kWs of energy a year from the grid.

Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast Act (RESTORE)

Working with the Office of Agricultural Water Policy, the FDACS OOE is providing agricultural producers in the Apalachicola and Suwannee River Basins with free energy and water audits as well as grant reimbursement for 75 percent of the cost to implement the recommendations from the free energy and water audit, up to $25,000. Examples of eligible projects for reimbursement include energy-efficient lighting and water pumps, and small-scale renewable energy generation, such as solar or biomass.

This program is utilizing $2.5 million of RESTORE Act funds. The RESTORE Act created a trust fund from penalties paid by companies responsible for the Deepwater Horizon oil spill and outlines a structure by which the funds can be utilized to restore and protect the Gulf Coast region.

Renewable Energy and Energy Efficient Technologies Grant Program (REET)

The FDACS OOE continues to administer the REET Grant Program. This was a competitive grant program designed to provide funding for projects 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 FDACS OOE awarded three successful applicants in 2018. The awarded entities include:

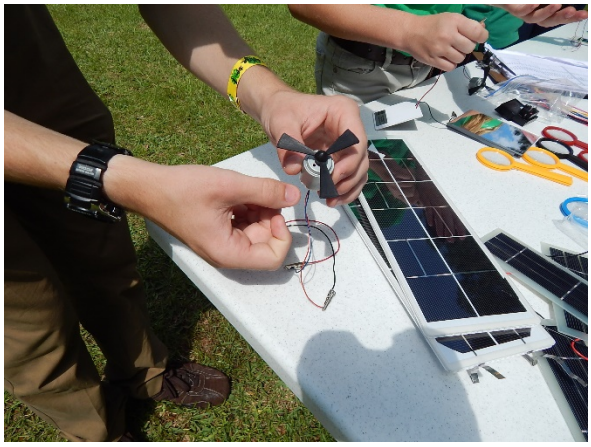
- University of South Florida: "Large-Scale Development of an Innovative Algae Technology as a Sustainable Source of Renewable Energy and Products to Enhance and Diversify Florida's Economy" — Grant Funds $250,002, Estimated Completion 4/2021
- University of Florida: "A Versatile Photovoltaic Window Technology for Building Integrated Photovoltaic Applications" — Grant Funds $399,919, Estimated Completion 4/2021
- T2C Energy LLC: "Catalytic Conversion of AD Biogas and Landfill Gas into Drop-in Fuel" — Partial Grant Funding $123,967, Estimated Completion 7/2020

Local Government Natural Gas Rebate Program

The Local Government Natural Gas Vehicle Rebate Program provided rebates to local government entities that submitted applications in the previous state-funded Natural Gas Fuel Fleet Vehicle Rebate Program under Fiscal Year 2016-17 but did not receive funding. In 2019, FDACS OOE received 71 applications, approved 59 applications and awarded $457,549.50 in rebates. Below is an example of a propane school bus at the School District of Seminole County (SDSC). SDCS purchased 17 propane buses and is saving 52,632 gallons of gasoline and $1,310 every year.

Energy Education Kits

K-12 public schools can apply for energy education kits designed to develop teamwork and problem-solving abilities, investigate environmental issues and gain hands-on science, technology, engineering and mathematics (STEM) skills. Energy kits include wires, motors, milliamp meters, multi-testers, propellers, UV detecting beads, thermometers, prisms, videos, watt meters, reference books, career guides, and various types and sizes of photovoltaic panels. FDACS OOE made 677 kits available under this program. In 2019, the program provided 205 kits to K-12 public schools.



Energy Clearinghouse of Information

The Florida Energy Clearinghouse is a consumer-friendly portal to compare energy-saving technologies and learn more about energy usage, energy production, renewable energy technologies and research being conducted in Florida. The FDACS OOE continues to host, update and expand the Florida Energy Clearinghouse in accordance with Section 570.0741, F.S.

State Energy Management Plan

In accordance with Section 255.257, F.S., the FDACS OOE continues to provide the department's building energy consumption and cost data to the Florida Department of Management Services (FDMS) for inclusion in the State Energy Management Plan Annual Summary Report. This report is designed to assist FDMS and other state agencies in the process of evaluating their energy conservation programs by measuring the ratio of annual energy consumption to square footage. Collected data from all state agencies is summarized annually.

State Heating Oil and Propane Program (SHOPP)

The SHOPP Program began in 2014 and continues to collect residential propane price information through a cooperative agreement with the EIA. Data is collected weekly from October through March, which the EIA then aggregates and posts on its website (http://www.eia.gov/petroleum/heatingoilpropane/). The FDACS OOE will continue to participate through the heating season of 2020-2021.

V. National and Regional Participation

The FDACS OOE participates with state, regional and national organizations that help fulfill the mission of the office. The FDACS OOE has a seat on boards in the following organizations.

National Association of State Energy Officials (NASEO)

NASEO is the association that represents energy officials from each of the 56 states and territories. Formed by the states, NASEO facilitates peer learning among state energy officials, serves as a resource for and about state energy offices, and advocates the interests of the state energy offices to Congress and federal agencies. NASEO aids in the oversight of $7 billion in funds derived from ratepayers and state appropriations annually and aids in emergency response and mitigation related to energy infrastructure, liquid fuels, and cyber security. FDACS OOE Director, Kelley Smith Burk serves as a Southeast Regional Representative to the NASEO Board.

Southeast Energy Efficiency Alliance (SEEA)

SEEA is the regional organization that promotes energy efficiency as a catalyst for economic growth, workforce development and energy security across 11 southeastern member states, including Florida. Through stakeholder engagement, SEEA focuses its efforts to advance energy efficiency in four work areas: state, local and utility policy; the built environment; energy equity; and innovative finance. FDACS OOE Director, Kelley Smith Burk serves as a SEEA Board member, and co-chair of the Policy Committee.

Southern States Energy Board (SSEB)

Section 377.711, F.S., establishes Florida as a member of the SSEB. The SSEB is a nonprofit interstate compact organization created by state law in 1960 and consented to by Congress, with a broad mandate to contribute to the economic and community well-being of the southern region. Its mission is to enhance economic development and the quality of life in the Southeast through innovations in energy and environmental policies, programs and technologies. Florida is represented by Governor Ron DeSantis, Senator Ben Albritton, Representative Mike La Rosa, and FDACS OOE Director Kelley Smith Burk.

Florida Energy Systems Consortium (FESC)

FESC was created in 2008 in Section 1004.648, F.S., and is unique in the United States because no other state has a statewide energy consortium that involves all of its public universities. The concept combines 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.

The FESC director reports to the FDACS OOE and is supported by the FESC Associate Director, Industrial Advisory Board, Oversight Board, and Steering Committee members. The Oversight Board is formed by the Vice President of Research (VPR) of

each member university. Steering committee members are assigned by the VPRs (one faculty member from each university).

Florida Solar Energy Center (FSEC)

FSEC was created by the Florida Legislature in 1975 to serve as the state's energy research institute. The main responsibilities of the center are to conduct research, test and certify solar systems, and develop education programs. FSEC's mission is to research and develop energy technologies that enhance Florida's and the nation's economy and environment and to educate the public, students and practitioners on the results of the research. FDACS OOE Director, Kelley Smith Burk serves as an FSEC Advisory Board Member.

Southeast Partnership for Advanced Renewables from Carinata (SPARC) Advisory Board

In 2013, the Farm to Fuel initiative authorized under Section 570.954, F.S., funded six projects through the Research and Development (R&D) Bioenergy Grant Program. One of the six projects studied the feasibility and best management practices for growing carinata in the southeast United States. Carinata is an inedible seed whose oil can be turned into jet fuel. Due to the initial success, the United States Department of Agriculture's National Institute of Food and Agriculture awarded the University of Florida Institute of Food and Agricultural Sciences a $15 million grant to further study carinata and develop the supply chain to commercialize the crop. SPARC project's goal is the commercialization of carinata as a biofuel crop that can be planted within existing crop rotations. FDACS OOE serves as a SPARC Advisory Board member.

Florida Green Building Coalition (FGBC)

In January 2017, the FDACS OOE joined the FGBC, a leading certifier of green construction projects in Florida with nearly 17,000 "Florida Green" certified projects to date. FGBC is focused on promoting Florida-specific green building and sustainability techniques through its regional education and certification program.

FDACS OOE staff participates on the FGBC Education Committee, which promotes student engagement and develops up-to-date training materials. Participation in FGBC helps to keep FDACS OOE staff informed on current sustainability trends in today's green construction industry.

Energy Services Coalition

The Energy Services Coalition is a national non-profit organization composed of a network of experts from a wide range of organizations working together at the state and local level to increase energy efficiency and building upgrades through energy savings performance contracting. Alexander Mack, OOE Programs Administrator, serves as the Public Sector Co-Chair for the Florida chapter. The Florida chapter is dedicated to providing an outreach program that provides information and education on performance contracting to the target audience within our state.

VI. Florida Public Service Commission FEECA Update

In 1980, the Florida Legislature created the Florida Energy Efficiency and Conservation Act (FEECA) to address four key areas. Those areas are (1) to reduce the growth rates of weather-sensitive peak demand and electricity usage, (2) increase the efficiency and use of electricity and natural gas, (3) encourage demand-side renewable energy systems, and (4) conserve expensive resources. Every five years since 1980, the FPSC has held yearlong investigations into the FEECA utilities' programs and set new goals.

In its deliberations, the FPSC must balance the importance of pursuing energy efficiency and conservation programs against the cost of the programs and their impact on all ratepayers. Because utility-sponsored FEECA programs are ultimately funded by all the utility's ratepayers, the FPSC and the FEECA utilities must ensure that the programs they create are cost-effective for all ratepayers and less costly than building new generation facilities.

During the last two FEECA proceedings, the evidence presented in hearings indicated that federal and state building codes and energy efficiency appliance standards resulted in more energy savings statewide than the FEECA goals and programs. Further, the higher the current energy efficiency standards and codes, the less opportunity there is for utility sponsored programs to be cost-effective. As a result, over the past 15 years FEECA numeric goals have trended downward towards zero. To address these concerns in 2015, the FPSC shifted the FEECA utilities' focus to energy efficiency and conservation programs targeted to low-income residential customers and to educate and assist these customers in reducing their energy demand.

Florida has the talents and resources to become a leader in residential energy efficiency and conservation, however, a significant amount of work still needs to be done. The recent focus on meeting the needs of low-income residential customers is absolutely necessary but not entirely sufficient. If Florida is going to break out from its middling national rakings on energy efficiency and conservation, all interested parties need to work together to reach our shared vision of more energy savings for the state. FDACS believes the first step in this process is having a robust and in-depth conversation about the best mechanisms to reach our shared vision with all stakeholders at the table.

The FPSC's 2019 FEECA decision was to maintain the utilities' conservation goals at the levels set by the FPSC in 2015, and initiate a discussion on how Florida can modernize the FEECA process. This discussion could be a great opportunity for all Floridians to benefit from energy efficiency programs instead of just Floridians in FEECA utilities. The FDACS looks forward to participating in those discussions.

VII. Recommendations

FDACS recommends the following items for new legislation for serious consideration by the Governor and Legislature. These are realistic steps and strategies that Florida can take today to help secure clean, affordable energy while creating new opportunities for Florida's economy and addressing the growing crisis of climate change.

- Renewable Energy Devices
  Clarify certain renewable energy source devices are included in the list of eligible home improvements protected under the Florida Homeowners Solar Rights Act and expand the list of eligible home improvements to include energy efficient roofing, also known as cool roofing technology.
- Lease of State-owned, manmade Stormwater Management Systems for Floating Solar Energy Systems
  Allow the Board of Trustees of the Internal Improvements Trust Fund to decide whether to lease state-owned, man-made stormwater management systems to develop and deploy floating solar energy systems.
- Greenhouse Gas Registry and Inventory
  Create a greenhouse gas reporting system for state entities in order to accurately identify emissions sources and amounts. The registry would be managed by FDACS, in coordination with Florida Department of Management Services and the Florida Department of Environmental Protection.
- Climate Adaptation Research Grant Program
  Establish a research grant program to study the effects of climate change specific to Florida and offer adaptation and mitigation strategies. This program would focus on funding research at Florida's state universities and colleges through a competitive grant program.
- Clean Energy Research, Development, Demonstration and Deployment Center
  Establish a large-scale research, development, demonstration, and deployment grant program to be used to create an energy research and development center, functionally similar to a national laboratory that provides industry support through collaboration.
- Farm Renewable and Efficiency Demonstrations
  Create a program that provides on-site energy and water evaluations to Florida agriculture producers and financial assistance for 80 percent of the cost to implement the recommendations from the evaluation, in an amount up to $25,000.
- Agriculture Resiliency Grant Program
  Create a research and development grant program that will take a systems approach to agriculture, energy, and water in order to develop innovative solutions that improve system function and management, address system stress, increase resilience, and ensure sustainability.

VIII. Next Steps

In 2020, FDACS OOE will continue to work with all stakeholders and interested parties to advance policies and programs with the objective to secure clean, affordable energy while creating new opportunities for Florida's economy and addressing the growing crisis of climate change. FDACS OOE is currently developing the following initiatives:

- 2020 Funding Opportunities
  FDACS OOE will be developing and opening funding opportunities related to energy efficiency, renewable energy and alternative fuel technologies. Funding opportunities will be announced, when available, on the FDACS OOE website at fdacs.gov/Divisions-Offices/Energy.
- Florida Advisory Council on Climate and Energy (FACCE)
  Florida is experiencing wetter wets and drier dries. Higher temperatures are reshaping our lands, water and cites. Floridians are facing greater threats from hurricanes, droughts, floods and fires. As the third largest state and the third largest consumer of energy, it is time to face the facts. In 2020, Commission Fried will bring together a group of industry experts to look at modernizing energy policy, diversifying energy sources, increasing energy efficiency, and creating opportunities for our most vulnerable citizens.

The actions pursued over the upcoming year are realistic and pragmatic. The FDACS OOE is keenly aware of the fiscal constraints facing the state and have targeted specific areas on which to focus in 2020. The state needs to invest in more energy efficiency, renewable energy, alternative fuels, and alternative vehicle technologies. This is the foundation to ensuring the state of Florida is a leader in energy and climate, not only in the Southeast but the United States.