2020
Office of Energy
ANNUAL REPORT

Dear Governor DeSantis, President Simpson and Speaker Sprowls:

The Florida Department of Agriculture and Consumer Services (FDACS) is home to the state's Office of Energy (OOE), 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 2020 Office of Energy Annual Report in accordance with Section 377.703(2)(f), Florida Statutes (F.S.).

This year our state faced unprecedented challenges due to COVID-19. Florida's economy which relies heavily on the tourism industry was especially hard hit leaving 770,000 Floridians jobless. Florida is not likely to see its four percent unemployment rate that economists consider full employment, for almost a decade. In the meantime, our state is facing a financial outlook that is at its worst since the Great Recession, with a $2.7 billion budget shortfall next year that is almost certain to force cuts that all Floridians will feel.

Moving forward, we as leaders of this state need to examine how energy can be a solution in this economic downturn, as well as a way to protect our most vulnerable and underserved populations. With a robust clean energy industry, we can put more Floridians to work and stimulate the manufacturing industry to help bolster our state revenue. It is also imperative we do not let Florida's vulnerable and underserved populations fall further behind. Almost one million low-income Floridians pay more than 50 percent of their income on housing. This number is sure to rise with high unemployment numbers. All households and communities should have reliable access to clean energy and be able to afford the quantity of energy needed to keep their homes and neighborhoods safe and healthy.

I look forward to working with you and invite you to work with 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. 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 2020, 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 21.5 million people, Florida has experienced a 12.6 percent population growth between 2011 and 2020.[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's percentage of natural gas electric generation is the highest in the nation, with 86 percent of the natural gas consumed in the state being used for electricity.

- Florida continues to drop in the national average for total energy consumption per capita, ranking 49th this year, consuming 202 million BTUs[3] 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. Residential customers are responsible for 53.9 percent of all retail electricity sales in the state, compared to the national average of 38.3 percent.[4]

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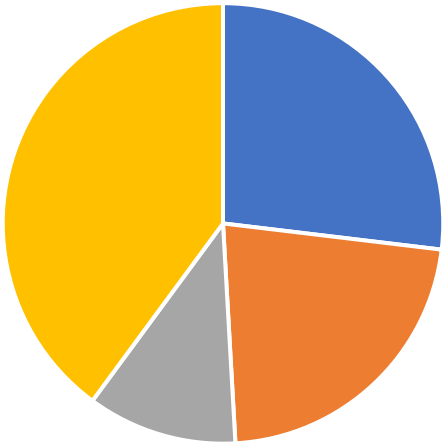
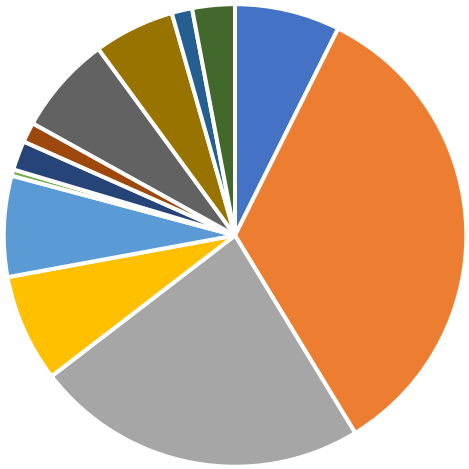
[1] University of Florida, Bureau of Economic and Business Research: Population Studies Program, *2020 Population Estimates*.
[2] United States Department of Energy (USDOE) Energy Information Administration (EIA), *State Profile and Energy Estimates*, available at https://www.eia.gov/state/?sid=FL
[3] 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]The Florida Public Service Commission, *Review of the 2020 Ten-Year Site Plans of Florida's Electric Utilities*).

Figure 1: Florida Energy Consumption by End-Use Sector



Residentail (26.9%) Commercial (22.2%) Industrial (11%) Transportation (39.9%)

Figure 2: Florida Energy Consumption Estimates Trillion Btu



- Coal (7.4%)
- Natural Gas (33.9%)
- Motor Gasoline excl. Ethanol (23.3%)
- Distillate Fuel Oil (7.5%)
- Jet Fuel (7.0%)
- Hyrocarbon Gas Liquids (.4%)
- Residual Fuel (2.1%)
- Other Petroleum (1.4%)
- Nuclear Electric Power (6.9%)
- Biomass (5.7%)
- Other Renewables (1.4%)
- Net Interstate Flow of Electricity (3%)

Source: EIA

Energy Sources in the Power Sector

Florida is one of the largest generators of electricity in the nation, second only to Texas. 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

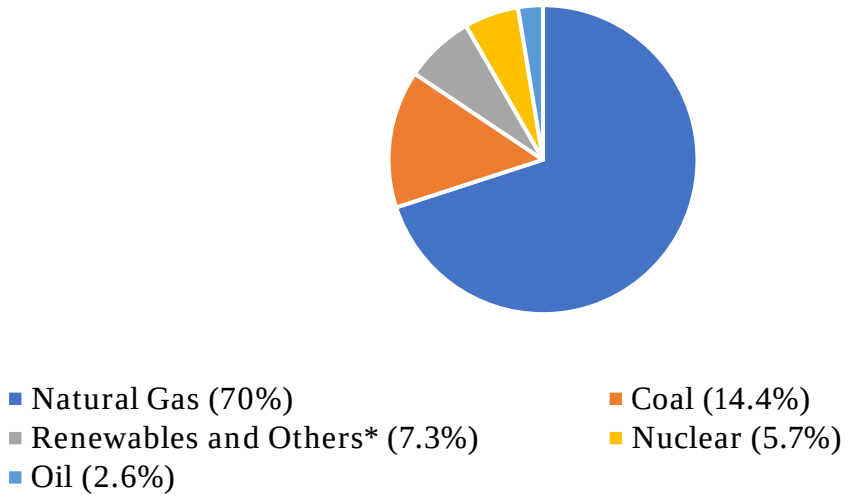
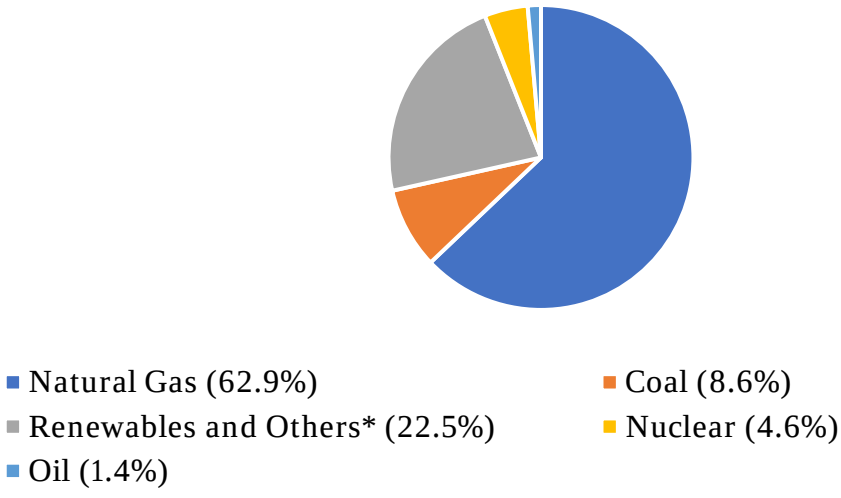


Figure 4: Florida's Projected Fuel Mix

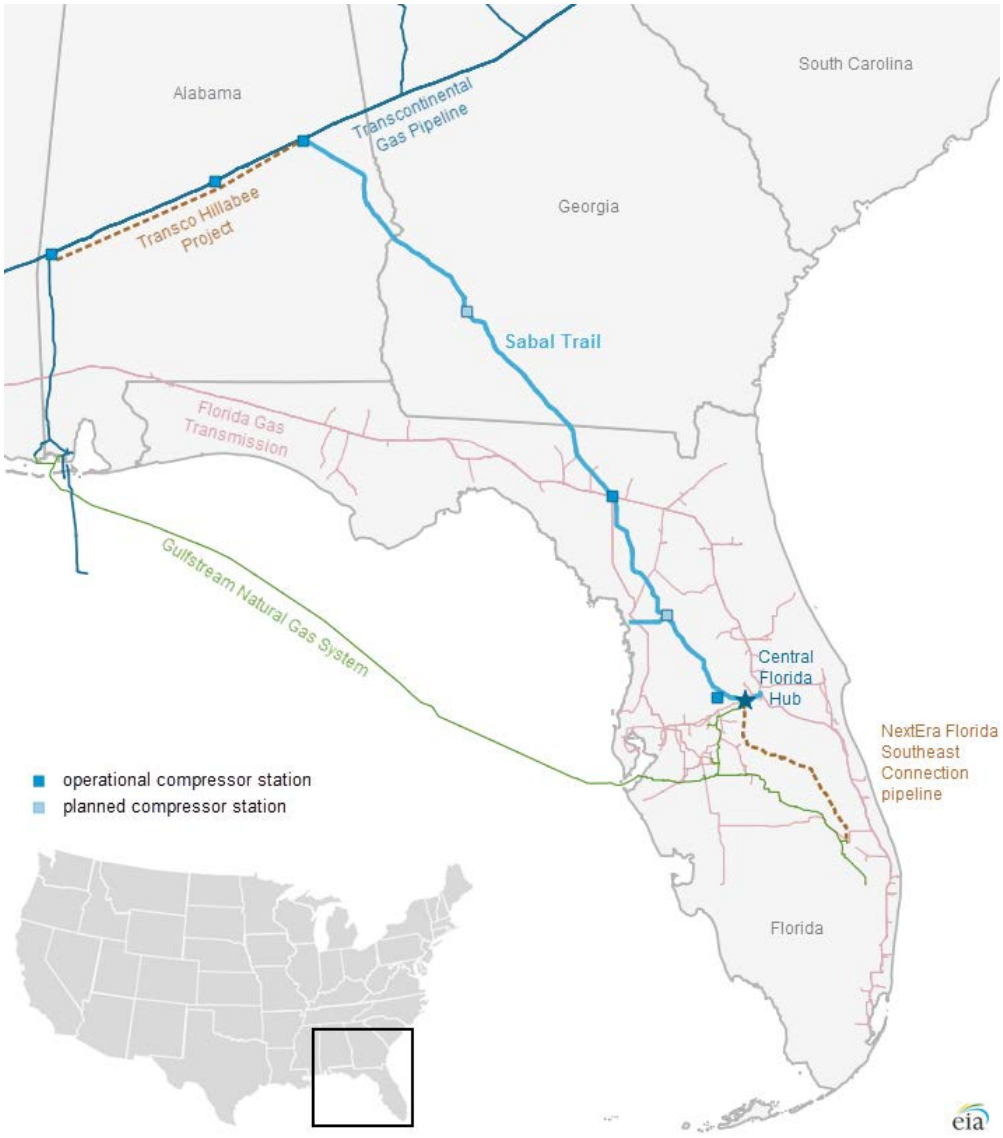


Source: 2020 Florida Reliability Coordinating Council Load & Source Plan and 2020 FPSC Ten-Year Site Plan Utilities Data Responses
*Others include interchange and non-utility generation.

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.

Figure 5: Florida's Natural Gas Supply



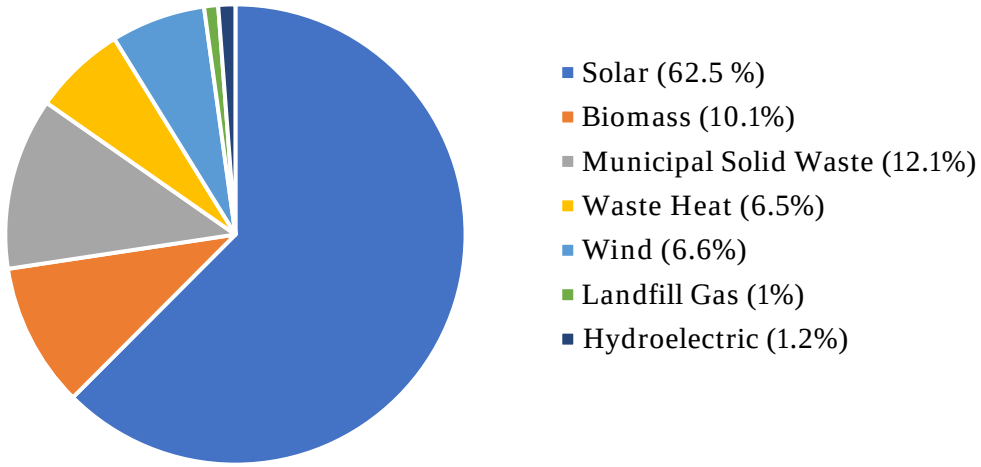
Source: EIA

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

Renewable Energy

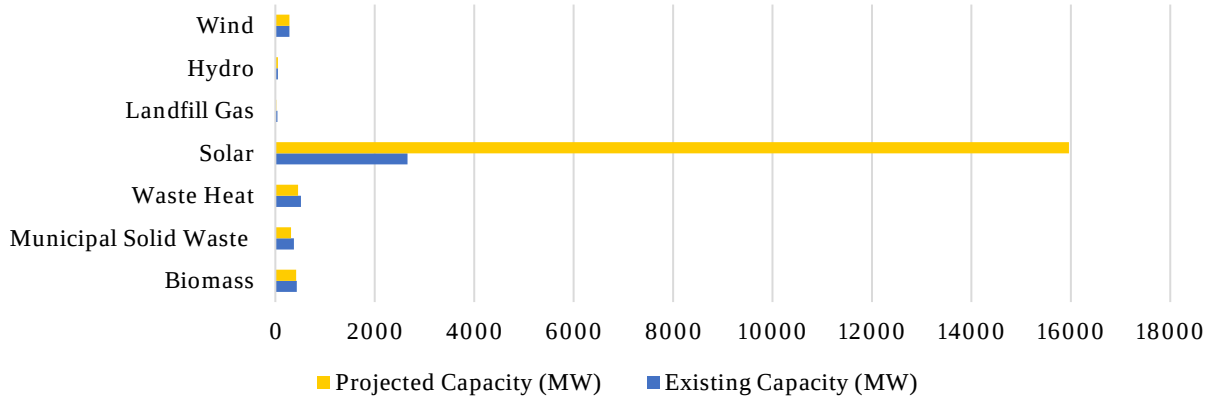
Florida's renewable energy generation continues to expand. Currently, renewable energy accounts for 6.6 percent of Florida's overall electric generation, an increase of 1.1 percent from last year. Figure 6 summarizes the contribution by renewable type of Florida's existing renewable energy sources.

Figure 6: Existing Renewable Resources



Solar's upward trend continues this year, as more than half of Florida's total renewable resources now comes from solar. Florida's renewable resources are expected to increase by an estimated 13,212 MW over the next ten years. This is a significant increase from last year's estimate of 10,704 MW. 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

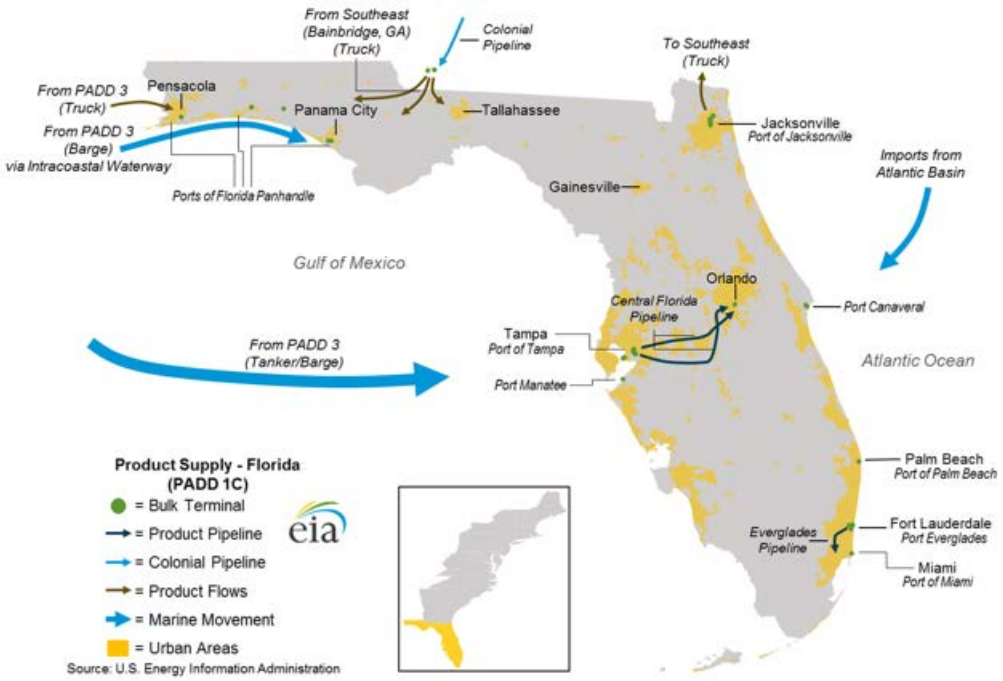
Transportation Energy

Florida's roadways are some of the most traveled in the nation. That along with evolving demographics and projected growth require the state to develop and maintain a reliable and conveniently accessible transportation system. Historically, Florida's tourism industry has been one of the largest contributors to the state's economy and also the reason for Florida having the third-highest motor gasoline demand and sixth-highest jet fuel use in the nation.[5] However, in the 2nd quarter of 2020, tourism fell by 60.5 percent in the state due to the COVID-19 pandemic.[6] A progressive and diversified transportation system will be vital to the returning tourist industry.

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.

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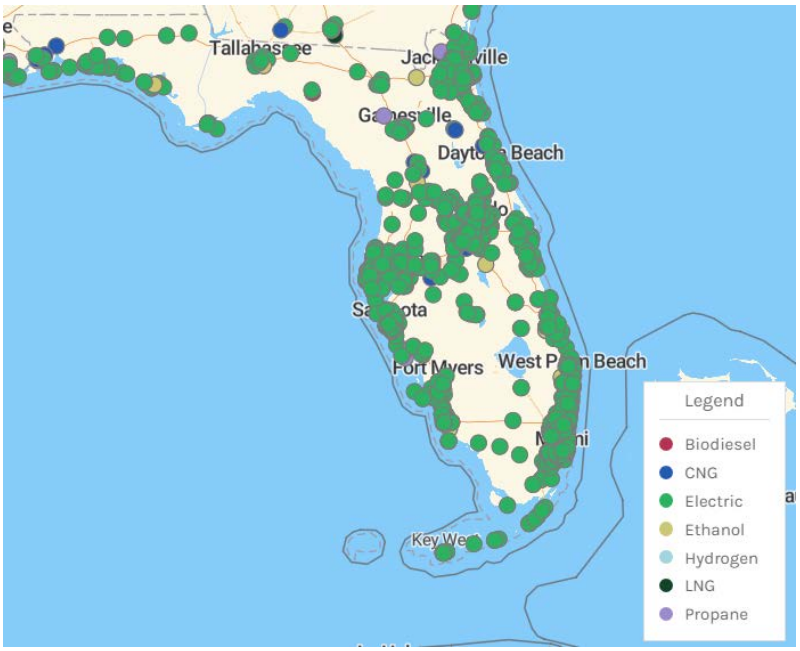
[5] United States Department of Energy (USDOE) Energy Information Administration (EIA), *State Profile and Energy Estimates*, available at https://www.eia.gov/state/?sid=FL

[6] Visit Florida, Florida Visitor Estimates, available at https://www.visitflorida.org/resources/research/

Alternative Fuel and Alternative Fuel Vehicles

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 (EV) use is also expanding as technology increases, charging infrastructure expands, and consumer awareness grows.

- The state of Florida currently has 1,961 alternative fuel stations for private and public use. The majority of the stations are for EV, including 1,814 stations with 5,475 charging outlets, which increased from last year. There are also 55 compressed natural gas (CNG) stations, 24 propane stations, and 3 liquified natural gas (LNG) stations.



Source: USDOE Alternative Fuels Data Center

- There are over 60,000 light-duty EVs registered in Florida, and most of them are within a few miles from one of our coasts.

- 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.

Clean Energy Economy

Energy efficiency now employs more workers than the fossil fuel industry in 41 states, including Florida. There are a total of 118,412 energy efficiency jobs in Florida. Prior to the COVID-19 pandemic, solar photovoltaic jobs were increasing in the U.S. at an annual rate of 104.4 percent with a median annual wage of $39,490. Florida led the nation in solar job growth in 2019 and is second in the nation for solar photovoltaic jobs with 12,202 jobs. Since the beginning of the COVID-19 pandemic, Florida's clean energy workforce is down 16 percent with 26,521 Floridians out of a job.

There are challenges beyond the pandemic that hinder growth in Florida's clean energy economy. A poll taken by the Solar Foundation in their annual Solar Jobs Census found 53 percent of Florida solar employers find it very difficult to hire qualified employees. As advances in technology continue, Florida needs a skilled workforce that is able to meet the needs of the market. Smart appliances, cloud-based customer engagement and alternative fuel vehicles all require a highly skilled labor force.

Energy Trends

Renewable Energy as Firm Generation

Florida's renewable energy generation capacity continues to outpace all other forms of new generation in our state, with solar energy accounting for the vast majority of that generation. Traditionally solar energy has been considered a non-firm generation source, as it is available only under certain conditions outside the control of the operating facility and therefore cannot be counted on for reliability purposes. However, due to advances in technology, the use of battery storage, and the coincidence of solar generation and the summer peak demand, solar energy is now being used for firm generation capacity that can be relied on to serve customers and can contribute toward the deferral of new fossil fuel power plants. This trend is expected to continue as cost-effective forms of renewable generation will improve the state's fuel diversity portfolio and also reduce its dependence on fossil fuels.

Natural Gas to Decline Slightly

Since 2010, natural gas has been the dominant fuel source in Florida and generated more energy than all other fuels combined. With the exception of 2012, the usage of natural gas has steadily increased over the last ten years. However, over the next ten years natural gas electric generation is anticipated to decline by approximately six percent. Along with a reduction in natural gas generation, we can expect more oil and coal-fired power plants to retire. The retired power plants and loss in natural gas generation will be replaced with solar generation. Even with this slight decline in natural gas generation, it is still expected to continue to be Florida's primary fuel source over the next decade.

Vehicle-to-Grid

Electric vehicle ownership is expected to grow rapidly over the coming years due to reduced cost of ownership, associated emissions, and an increased availability of charging infrastructure. Despite this expected rapid growth rate, electric utilities estimate an impact of less than 1 percent on net energy load by 2029. However, it is relatively unclear what the projected impacts of electric vehicles on system peak demand will be. There is new technology that could help electric utilities better position themselves to respond accordingly.

Vehicle-to-grid is a system in which electric vehicles can communicate with the electric grid in order to respond to demand spikes by either returning electricity back to the grid or by slowing their rate of charging. Leveraging electric vehicles as an energy storage source has the potential to provide additional capacity and storage. Having additional battery storage available has the ability to help balance renewable energy peaks and valleys, which will be important as more renewable energy comes online in the state.

II. Florida Electric Vehicle Roadmap

In 2019, the FDACS OOE began working on the Electric Vehicle (EV) Roadmap for the state of Florida. The goals of this roadmap are to:

- Identify EV charging infrastructure impacts on the electric grid.
- Identify solutions for any negative impacts.
- Locate areas that lack EV charging infrastructure.
- Identify best practices for siting EV charging stations.
- Identify technical or regulatory barriers to expansion of EV charging infrastructure.

In addition to the goals mentioned above, the FDACS OOE also sought to elevate the visibility of EV infrastructure within the state and enhance discussion on how to prepare for increased EV use. This was achieved through stakeholder and end user engagement. Gathering information from end users is crucial to understanding the performance of the existing infrastructure, and the planning needed for future infrastructure.

Six webinars were held to discuss future infrastructure considerations with stakeholders. Individual webinars addressed the considerations with stakeholders representing power service providers, infrastructure network providers, advocacy groups, planners, and state agencies. A total of 15 industry representatives from stakeholder groups participated as facilitators for the webinars. More than 500 stakeholders attended over eight hours of webinars. Discussions during the webinars were very productive and feedback from participants was very positive.

An online survey of EV owners was conducted as an additional means of gathering stakeholder input. The survey sought feedback on the existing infrastructure and also posed other questions about reliability and availability, as well as equitable EV fees in-lieu-of gasoline taxes. We believe this is the first survey of this nature to be conducted in Florida.

Three interim reports were posted prior to the release of the final Florida EV Roadmap. The purpose of the interim reports was to provide transparency in our work process as well as provide stakeholders and the public additional opportunities for input. The reports included:

- **Future EV Infrastructure and Infrastructure Models Interim Report:** This report provides a preliminary high-level technical and operational review of the current and future EVC infrastructure as well as available models used for planning.

- **Emergency Evacuation of Florida Electric Vehicles Interim Report:** This report explores the opportunities and obligations our state has in supporting the evacuation and safety of a rapidly growing population of EV owners.

- **Electric Vehicle Infrastructure Deployment Recommendations Interim Report:** Based on information contained in this and previous interim reports as well as feedback from stakeholders, the following recommendations are offered for consideration.

Two supplemental reports were also posted that furthered the analytical work of the interim reports. These supplemental reports included:

- **Argonne National Laboratory Supplemental Analysis**: This supplemental report contains Florida-specific information and an analysis on plug-in electric vehicles in Florida.

- **Electric Vehicle Owner Survey Analysis**: This supplemental report addresses the survey responses of Florida EV owners as well as outlines the methodology, results, and conclusions from the survey.

The FDACS OOE released the Florida EV Roadmap on December 31, 2020 based on the stakeholder involvement and the reports listed above. The roadmap is available at https://www.fdacs.gov/Energy/Florida-Electric-Vehicle-Roadmap.

III. EV Infrastructure Master Plan

The 2020 Legislature passed Senate Bill 7018 directing the Florida Department of Transportation, Florida Public Service Commission, and FDACS to develop and recommend a master plan for current and future plans for the development of electric vehicle charging station infrastructure along the State Highway System.

Since the legislation was enacted, the FDACS OOE has participated in bi-weekly conference calls with the EV Infrastructure Master Plan project team. Discussions centered around existing infrastructure and different approaches to projecting Florida's EV infrastructure needs in terms of quantities and locations.

The FDACS OOE provided background and research information to the project team. As part of this research, the Argonne National Laboratory at the U.S. Department of Energy was asked to perform an analysis on Florida's registered plug-in electric vehicles. The FDACS OOE coordinated follow-up research and consultation with the National Renewable Energy Laboratory and the project team. In addition, work products from the Florida EV Roadmap were provided to share insights and rational to the project team. The FDACS OOE also reviewed and provided comments for all draft work products.

The FDACS OOE will continue to participate in the EV Infrastructure Master Plan process until the project is complete. The final plan is due to the Governor, the President of the Senate, and the Speaker of the House of Representatives by July 1, 2021.

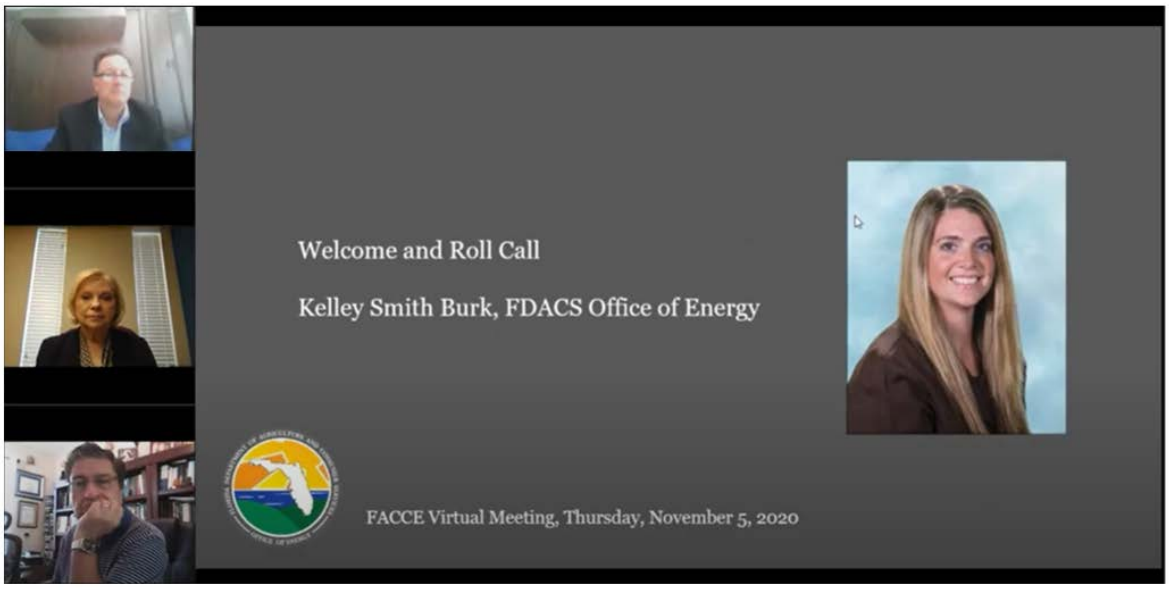
IV. Florida Advisory Council on Climate and Energy

Florida Commissioner of Agriculture Nicole "Nikki" Fried created Florida Advisory Council on Climate and Energy (FACCE) to explore how our state can modernize energy policy, diversify energy sources, increase energy efficiency, and create opportunities for our most vulnerable citizens.

While the COVID-19 pandemic prevented FACCE members from meeting in person this year, the 26-member committee met virtually to share their diverse industry expertise on a broad range of energy issues like energy conservation, renewable energy, climate change, sea-level rise, and alternative vehicle technologies.

In addition to an organizational conference call, FACCE members attended three substantive virtual meetings where they heard from industry experts and participated in facilitated discussions on various energy-related topics.

Please visit fdacs.gov/Energy/Florida-Advisory-Council-on-Climate-and-Energy for complete meeting details including meeting recordings.



V. 2020 FDACS Office of Energy Accomplishments

Even in midst of COVID-19, the FDACS OOE continued to release new programs and implement existing programs that increase efficiency, install renewables, research new technologies, and increase the use of alternative fuels in transportation. This section highlights those programs.

Florida Counties Low-Income Residential Energy Efficient Grant Program

In 2020, the FDACS OOE released a competitive funding announcement to create more energy-efficient dwellings to improve the lives of low-income families and reduce the burden of residential high energy cost expenditures. Energy is one of the highest monthly expenses for low-income residents as they typically pay more to operate older, less efficient HVAC, water heaters, and kitchen appliances, increasing their energy burdens substantially. The FDACS OOE approved applications for Miami-Dade, Broward, Orange, and Sarasota counties and is in the process of negotiating and executing the Subrecipient Agreements awards under this program.

Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA)

In order to increase energy efficiency, reduce energy usage, and lower operating costs at commercial aquaculture facilities in Florida, the FDACS OOE worked with the FDACS Division of Aquaculture to develop ERICA. This program provided $1,006,900 to commercial aquaculture facilities and farms located in Florida to implement projects that significantly increase energy efficiency and renewable energy. Sixty-three producers applied for funding and forty were approved. All work is expected to be completed by the end of 2021. The FDACS OOE is also collecting energy data to determine the success of the program.

American Mariculture, Inc. used ERICA funds to replace 48 small blowers (pictured on the left) with 2 larger, more energy efficient blowers (pictured on the right). The

company sells its “Sun Shrimp” to large companies including Disney, Costco, Kroger and many of the nation’s top restaurants. American Mariculture is still tracking their energy savings.

Florida Small Community Energy Efficient Lighting Grant Program

The FDACS OOE awarded $2 million in grants to 18 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. All work under the program is completed and grantees are currently collecting energy data. An analysis of the reported data will be provided in an economic impact of the program.

The Village of Palmetto Bay pictured above, received $199,720 to remove and replace 108 light fixtures with energy efficient LED lights at their local Palmetto Bay Park. After twelve months of use, the Village of Palmetto Bay is now using 32 percent less energy resulting in an estimated $11,125 in savings.

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

Using a $75,000 competitive award from the U.S. Department of Energy, the FDACS Office of Energy recently completed a study which provides a baseline on energy efficiency and renewable energy measures and practices at water and wastewater treatment plants in Florida along with recommendations on how to reduce energy use and operating costs. The study found that Florida’s wastewater treatment plants could save 26,763,827 kilowatt-hours of electricity and 6,354 tons of carbon dioxide annually through energy efficiency improvements.

Florida Wastewater Treatment Plant Energy Program

Based on the results of the above study, the FDACS OOE launched the Florida Wastewater Treatment Plant Energy Program in the summer of 2020. In addition to reducing energy use and greenhouse gas emissions, the FDACS OOE is continuing its efforts to achieve energy equity by investing in projects that aim to reduce energy burden for Florida consumers. The Florida Wastewater Treatment Plant Energy Program will consider factors that will reduce the total energy consumption but also the costs of wastewater treatment. The FDACS OOE anticipates announcing awards early next year.

Florida Renewable Efficiency Demonstration (FRED)

FRED provided free energy evaluations valued up to $4,500 to Florida agricultural producers. FRED also provided Florida agricultural producers 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, water pumps, and renewable energy generation, such as solar or biomass. The total funding available under this program was $3 million. The FRED Program provided 101 energy and water audits to agricultural producers and invested more than $1.6 million to implement the resulting recommendations. The FDACS Office of Energy is currently performing an analysis to determine the energy and economic impacts of the program.

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

FDACS OOE worked with the FDACS Office of Agricultural Water Policy to develop and administer a program for agricultural producers in the Apalachicola and Suwannee River Basins. Using $2.5 million of RESTORE funds, this program provides 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. To date eight cost share agreements have been executed in the Suwannee River Basin and $139,445 in reimbursements have been issued.

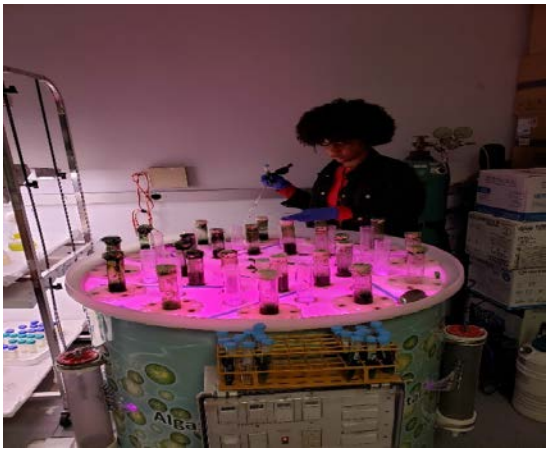
Renewable Energy and Energy Efficient Technologies Grant Program (REET)

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. Below are some highlights from the projects.

The Florida Institute of Technology (FIT) used $282,000 for its project Demonstration of a Cost-Effective, Scalable Zero-Energy Commercial Building Design for Florida Climates.

The project features a test platform employing a suite of high efficiency energy technologies, solar energy, and smart building automation system to demonstrate a zero-energy building design and potential large-scale commercialization of the design applicable to new construction and renovation of commercial buildings. The test facility is located on the FIT campus pictured above.

Florida Agriculture and Mechanical University (FAMU) used $399,040 for its project Enhancing Sustainable Production of Algal Biofuels Using Electromagnetic Field Energy



Pictured above on the left are airlift photobioreactors and on the right is a picture of a FAMU student taking samples from the bio stimulation unit. This project aims to decrease the produced cost of biofuels by maximizing lipid production through the manipulation of the environment through the application of different growth hormones and growth mediums.

Florida Statewide Alternative Fuel Resiliency Plan

The FDACS OOE received a $350,000 award from the U.S. Department of Energy to develop the Florida Statewide Alternative Fuel Resiliency Plan. FDACS OOE is working with the Tampa Bay Clean Cities Coalition and the National Renewable Energy Laboratory to examine how our state can maximize its existing alternative transportation fuels and identify new ways we can use alternative fuels after a natural or man-made disaster so that Floridians can return to a normal way of life as quickly as possible.

Based on data collected and analyzed, the Florida Alternative Fuel Resiliency Plan will provide best management practices for alternative fuel technology vehicles. The best management practices will be shared through the Florida Clean Cities Coalition's network with stakeholder engagement and training workshops. All work under this project is expected to be completed by September 30, 2022.

Energy Education Kits

The FDACS OOE has made a total of 677 energy education kits available to K-12 public schools. The kits come in three levels specifically targeting elementary, middle school, and high school students. Each kit comes with various equipment designed to develop teamwork and problem-solving abilities, investigate environmental issues and gain hands-on science, technology, engineering and mathematics (STEM) skills. In 2020, the program provided 56 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

The State Energy Management Plan was developed by the Florida Department of Management Services (FDMS) to help state agencies reduce energy consumption and costs. As part of the plan, state agencies are required to provide building energy consumption and cost data to FDMS for inclusion in the State Energy Management Plan Annual Summary Report. Collected data from all state agencies is summarized and evaluated on energy conservation programs by measuring the ratio of annual energy consumption to square footage. The FDACS OOE is responsible for submitting all energy data on behalf of FDACS.

State Heating Oil and Propane Program (SHOPP)

The SHOPP Program is a joint effort between the EIA and State Energy Offices to monitor local pricing for residential propane prices in the winter months. 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 began participating in this program in 2014 and will continue to participate through the heating season of 2020-2021.

VI. 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.

At this year's annual meeting, FDACS OOE Director, Kelley Smith Burk was elected to serve as chair for the board of directors. In this role, Ms. Smith Burk is responsible for providing leadership to the board of directors. During her term as chair, she will propose policies and practices, monitor the performance of the board, members and committees, propose the creation of committees and appoint members to such committees.

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. April Groover Combs, Senior Management Analyst, 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.

VII. Recommendations

FDACS recommends the following items for new legislation for serious consideration by the Governor and Legislature. These recommendations are aimed at protecting our state from the present and growing threat of climate change while helping create jobs for those 770,000 Floridians left jobless from the COVID-19 pandemic. By addressing the issues of today, future generations will have the opportunity to thrive.

- Greenhouse Gas (GHG) Reduction Goals
  Set statewide goals to reduce 2030 greenhouse gas emissions by at least 50%, 2045 greenhouse gas emissions by at least 90%, and 2050 greenhouse gas emissions by 100% of the levels of statewide greenhouse gas emissions that existed in 2005.
- Greenhouse Gas 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.
- Resilient Farms Pilot Program
  Create a program that provides up to 75 percent the cost of the equipment and materials required to properly implement the practice or at an established per acre rate based on established industry standards in order to promote resiliency practices that support carbon farming across the landscape of agricultural production.
- Farm Renewable and Efficiency Demonstration Program
  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.
- Public Shelter Space
  Capture the backup power generation capabilities at each of the emergency shelter in the state in the existing Florida Division of Emergency Management biennial survey.
- Life-cycle Cost Analysis
  Establish a benchmark and require certain state-owned buildings to study whether the design and construction of an alternative design containing a renewable energy technology system would have the potential to save long term state operational expenses.

VIII. Next Steps

The FDACS OOE is deeply aware of the struggles Floridians are facing due to the COVID-19 pandemic and the resulting fiscal constraints facing the state. In 2021, FDACS OOE will continue to work with all stakeholders and interested parties to advance policies and implement programs that utilize energy as a solution to the issues our state faces. We will seek ways 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:

- 2021 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.

- FACCE
  FACCE members will continue to meet in 2021 to examine how our state can modernize energy policy, diversify energy sources, increase energy efficiency, and create opportunities for our most vulnerable citizens. Meeting announcements and materials will be posted on the FDACS website at fdacs.gov/Energy/Florida-Advisory-Council-on-Climate-and-Energy.