FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

OFFICE OF ENERGY

2021 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 2021 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.

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. It is time for our energy policy to be developed hand in hand with climate change adaptation and resiliency programs.

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, create new opportunities for Florida's economy and address 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 2021, this section provides an outlook on trends that could continue for years to come.

Energy Consumption

Florida is the third most populous state and has experienced the second largest numeric increase in population among the United States over the past decade. Home to an estimated 21.5 million people, Florida has experienced a 14.5 percent population growth since 2010.[1] During the past decade, twenty of Florida's 67 counties have grown by more than 15%, and four of those counties grew by at least 30%. 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 residential and transportation 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).

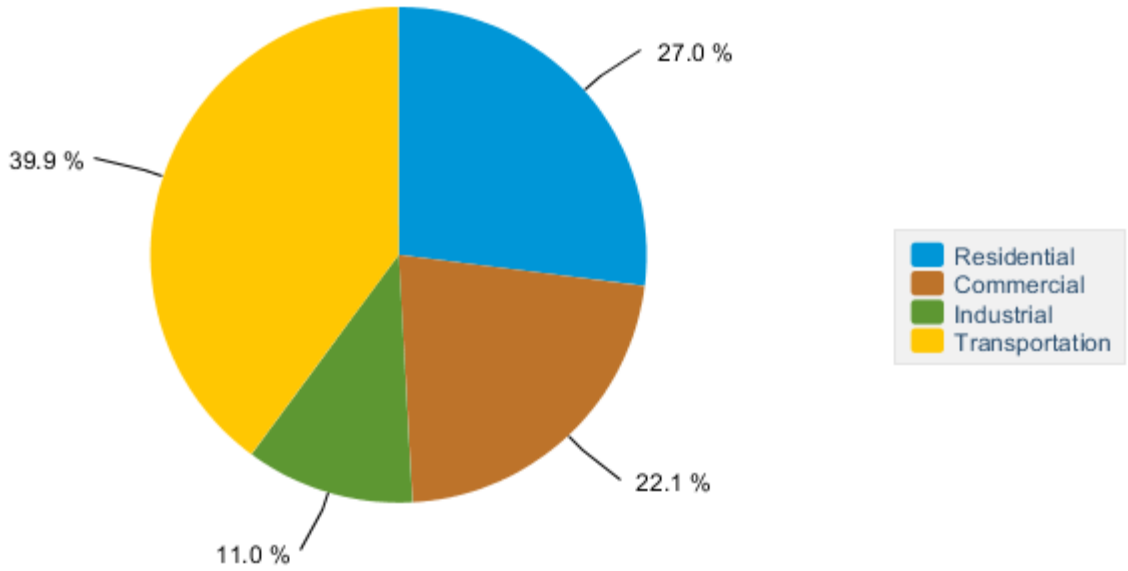
- Natural gas is the dominant fuel source used for electric generation in Florida, due to numerous factors, including cost, availability, and environmental considerations. Florida's percentage of natural gas electric generation is the highest in the nation, with 86 percent of the natural gas consumed in the state being used for electricity.

- Florida ranks 49th in the national average for total energy consumption per capita 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).

- There was a historic peak in total retail energy sales in 2020.[3] Utilities report this was primarily due to the COVID-19 Pandemic, during which more people worked and attended school from home. Residential customers were responsible for 54.9 percent of all retail electricity sales in the state.

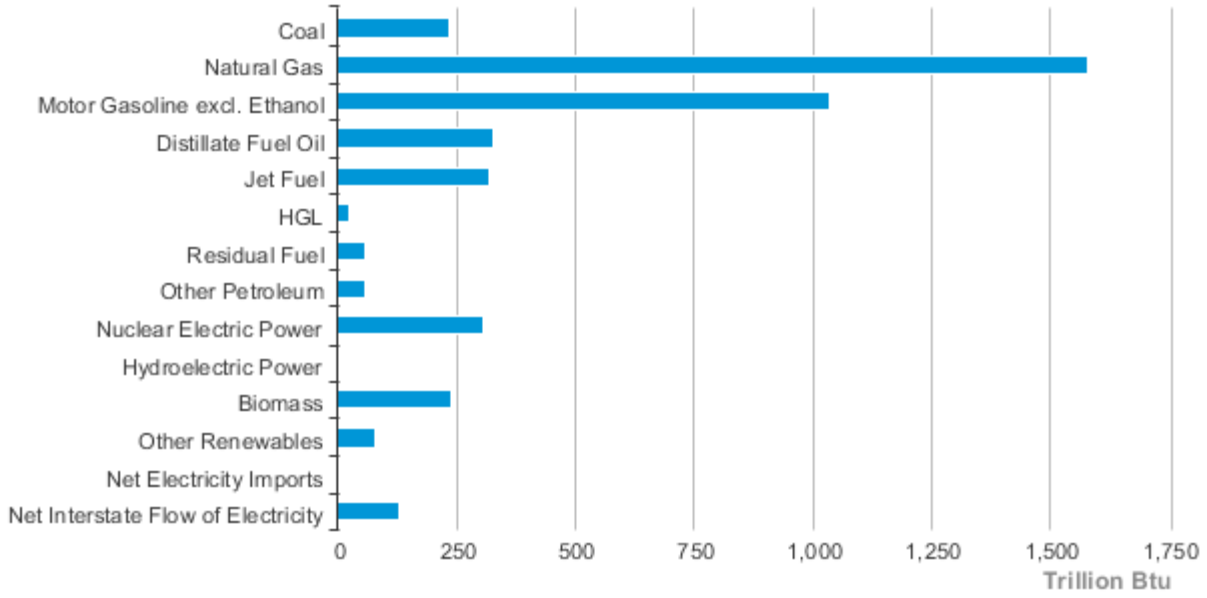
[1] University of Florida, Bureau of Economic and Business Research: *Revised Annual Population Estimates for Florida and Its Counties, 2010–2020, with Components of Growth* (Nov. 2021).
[2] United States Department of Energy (USDOE) Energy Information Administration (EIA), *State Profile and Energy Estimates*, available at https://www.eia.gov/state/?sid=FL
[3] The Florida Public Service Commission, *Review of the 2020 Ten-Year Site Plans of Florida's Electric Utilities* (Oct. 2021).

Florida Energy Consumption by End-Use Sector, 2019



Source: Energy Information Administration, State Energy Data System

Florida Energy Consumption Estimates, 2019

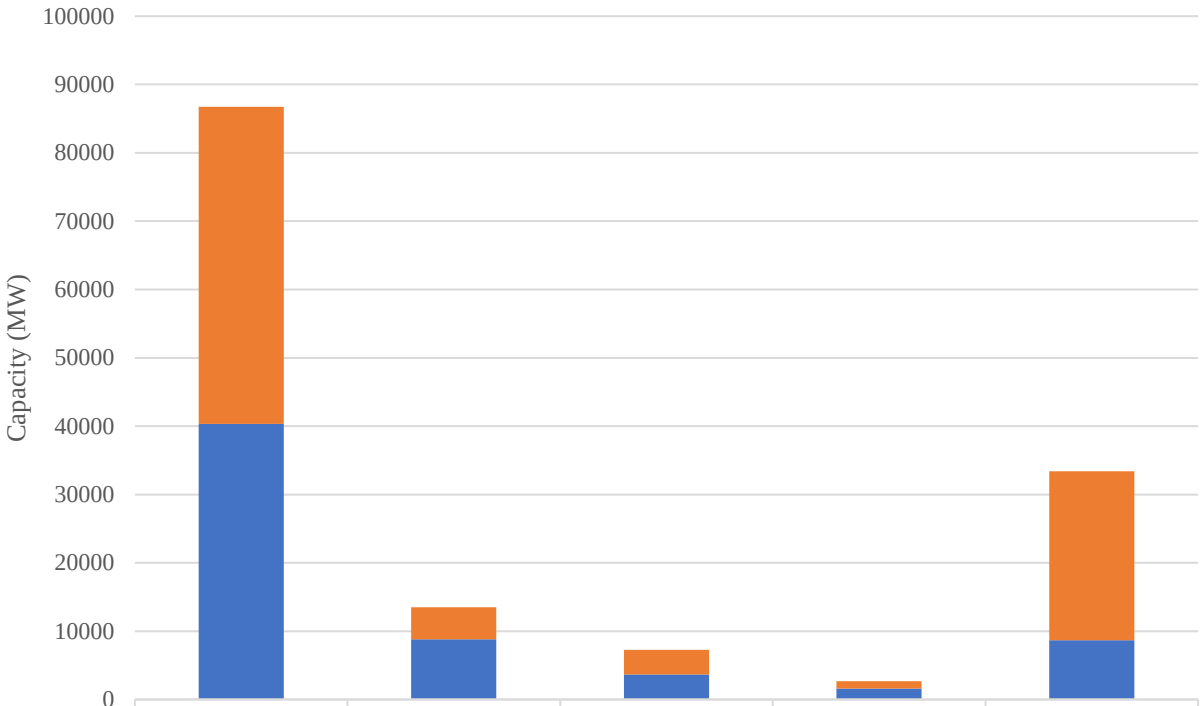


Source: Energy Information Administration, State Energy Data System

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 comparison of current and projected mix of fuel sources used in Florida to generate electricity in the next 10 years.

Figure 3. Florida's Current and Projected Fuel Mix



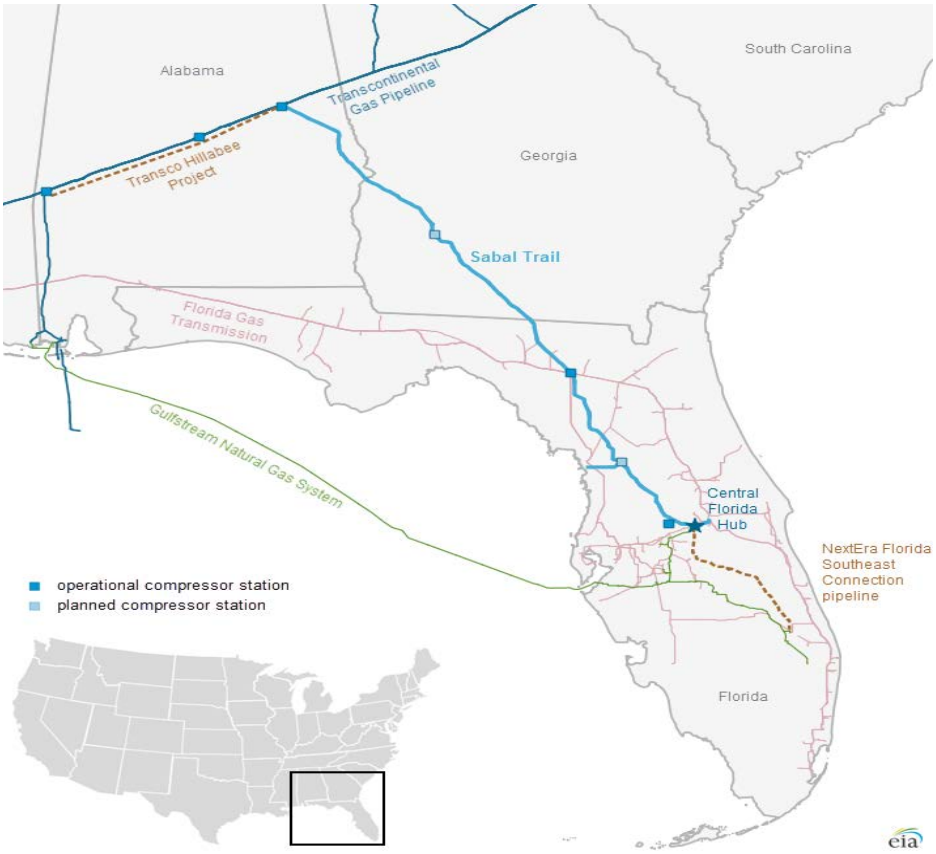
	Natural Gas	Coal	Nuclear	Oil	Renewables and Others
Projected	46454	4689	3643	1066	24711
Current	40307	8801	3645	1598	8681

Source: 2021 Florida Reliability Coordinating Council Load & Source Plan and 2021 FPSC Ten-Year Site Plan Utilities Data Responses *Others include interchange and non-utility generation.

Florida receives its natural gas supplies from four 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;
- The Sabal Trail pipeline runs from Alabama to Orange County; and
- The Cypress Pipeline supplies liquified natural gas to the Jacksonville area from Elba Island, Georgia.

Figure 5: Florida's Natural Gas Supply

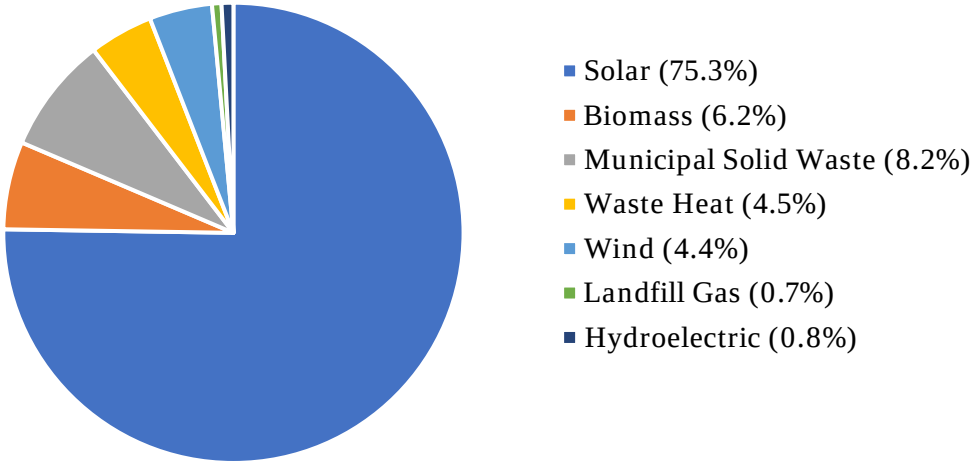


Source: EIA

Renewable Energy

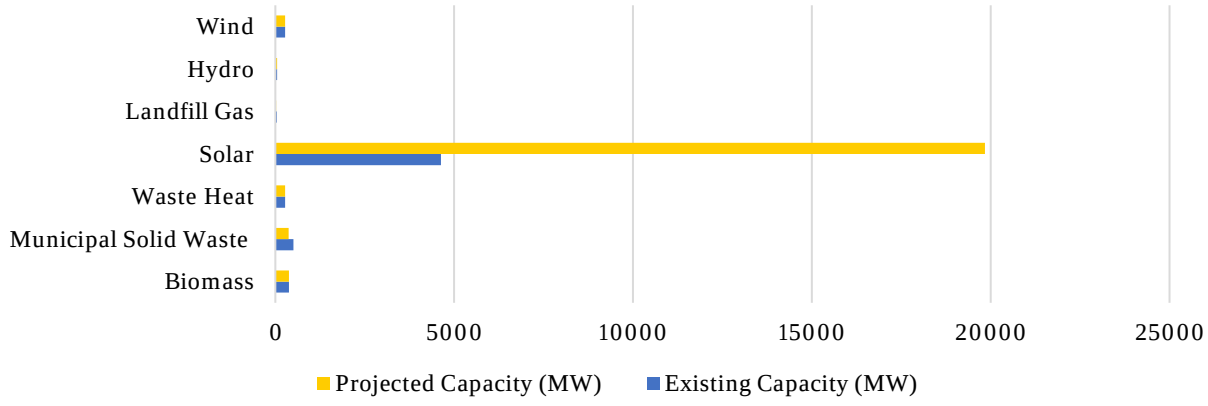
Florida's renewable energy generation continues to expand. Currently, renewable energy accounts for 9.8 percent of Florida's overall electric generation, an increase of 3.2 percent from last year. Figure 6 summarizes the contribution by renewable type of Florida's existing renewable energy sources.

Figure 6: Existing Renewable Resources



Solar's upward trend continues this year, as more than three-quarters of Florida's total renewable resources now comes from solar. Florida's renewable resources are expected to increase by an estimated 15,055 MW over the next ten years. This is a significant increase from last year's estimate of 13,212 MW. Figure 7 summarizes the existing and projected renewable capacity by generation type.

Figure 7: Current and Projected Renewable Resources



Source: Florida Reliability Coordinating Council Load & Source Plan and 2021 FPSC Ten-Year Site Plan Utilities Data Responses

Transportation Energy

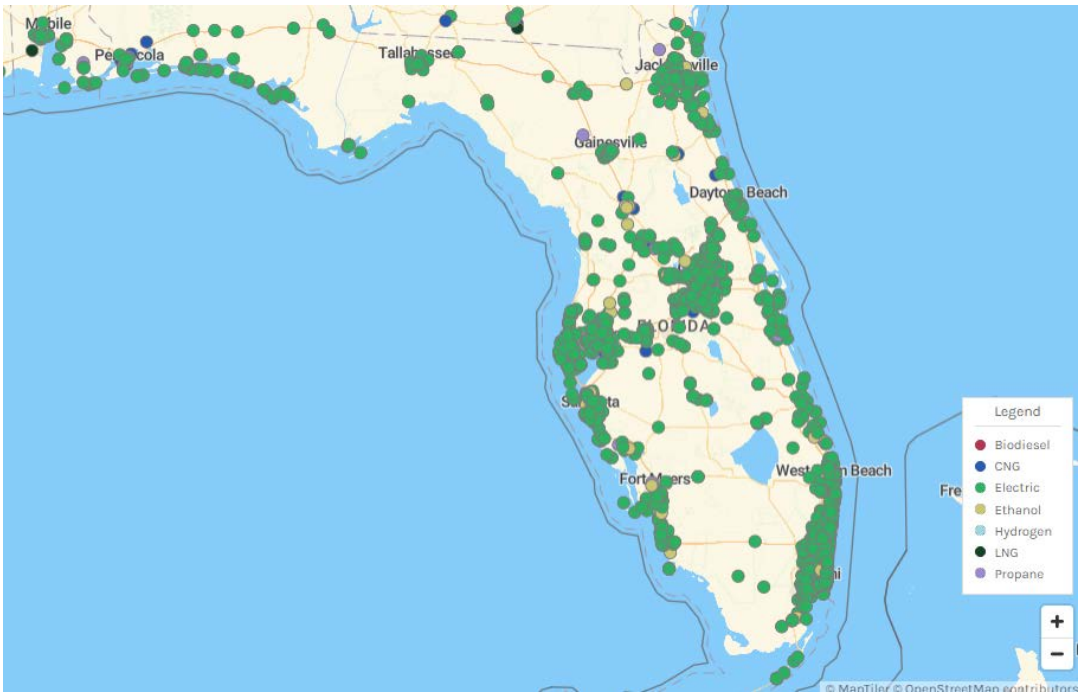
Florida has a vast transportation network comprised of interconnected roadways, airports, and seaports that move goods, residents, and tourists across the state. In fact, Florida ranks third in the nation in terms of all types of transportation fuel consumption, which accounts for approximately 6.13 percent of the United States' total share of transportation fuel[4]. This is driven in large part by Florida's tourism industry, which has historically been among the top contributors to the state's economy and has resulted in Florida's ranking as the third-highest motor gasoline and jet fuel demand in the nation. However, due to the COVID-19 Pandemic, tourism saw a drastic decrease in 2020 which has not fully rebounded in 2021[5]. 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 product from Tampa across Central Florida to Orlando.

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.



[4] Alternative Fuel Data Center's – EV Registrations by State (https://afdc.energy.gov/data/10962)
[5] Visit Florida - https://www.visitflorida.org/resources/research/

- The state of Florida currently has 3,020 alternative fuel stations for private and public use. Most of the stations are for EV, including 2,702 stations with 6,978 charging outlets. There are also 56 compressed natural gas (CNG) stations, 138 propane stations, 8 biodiesel stations, and 3 liquified natural gas (LNG) stations.
- Florida is the second largest adopter of light-duty EVs, with nearly 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.

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. Solar energy accounts for the vast majority of new renewable generation, in large part, due to strong customer demand, and falling costs of solar photovoltaic technologies. Distributed generation of solar energy is increasingly seen by residential customers as financially feasible, as they weigh the benefits of favorable tax policies, the ability to lease solar photovoltaic systems with few upfront costs, and the ability to participate in retail-rate net metering. The number of installations of customer-owned solar across the state increased from 59,476 in 2019 to 90,518 installations in 2020, with a corresponding 60% increase in MWh of customer-owned solar energy delivered to the grid.[6]

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. Of the total 6,156 MW of renewable generation in Florida, approximately 37.7% is considered firm. This trend is expected to continue as cost-effective forms of renewable generation will improve the state's fuel diversity portfolio and reduce its dependence on fossil fuels.

Clean Energy Economy

Critical investments in energy infrastructure could revitalize Florida's clean energy workforce, which is again down this year by 9 percent with 11,188 Floridians out of a job.[7] Energy efficiency employs 108,919 workers in Florida, representing 5.2 percent of all U.S. Energy Efficiency jobs. Prior to the COVID-19 pandemic, solar photovoltaic jobs were increasing in the U.S. at an annual

[6] For comparison, in 2020, there were a total 6,001,904 MW of energy produced by investor-owned solar PV facilities, and 387,996MW produced by customer-owned solar PV facilities. Florida Public Service Commission, 2020 Statistics of the Florida Electric Utility Industry (Oct. 2021).

[7] U.S. Dep't of Energy, United States Energy & Employment Report (2021); NASEO, Wages, Benefits, and Change Report (2021).

rate of 104.4 percent with a median annual wage of $39,490. Florida led the nation in solar job growth in 2019 and was second in the nation for solar photovoltaic jobs in 2019, with 12,202 jobs.

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 can meet the needs of the market. Smart appliances, cloud-based customer engagement, and alternative fuel vehicles all require a highly skilled labor force that Florida's educational institutions are attempting to address.

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. Except for 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

The penetration rate of electric plug-in vehicles operating in Florida at the end of 2021 is estimated at 0.46 percent of all automobiles registered with the Florida Department of Highway Safety and Motor Vehicles. However, electric vehicle ownership is expected to grow rapidly 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 can help balance renewable energy peaks and valleys, which will be important as more renewable energy comes online in the state.

II. 2021 FDACS Office of Energy Accomplishments

The FDACS OOE released new programs and implemented 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 following counties were awarded this grant: Broward County BOCC, Orange County, Miami-Dade County and Sarasota County BOCC. A total of approximately $399,998 in funding was awarded. All work is expected to be completed by the end of 2023. The FDACS OOE is also collecting energy data to determine the success of the program.

Within the first month of Orange County's Climate Efficiency Program, installation retrofits for 1 of 53 customers was completed. As pictured below, the customer 1 received and A/C replacement and weatherization upgrades, such as weather-stripping, door replacement and window sealing/caulking.

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 May of 2022. The FDACS OOE is also collecting energy data to determine the success of the program.

Norton's Tampa Bay Fisheries (pictured above) used ERICA funds to replace water pumps, air conditioning units and LED lights. The company is a second-generation tropical fish farm and wholesale distributer that started in 1987. They operate 200 ponds on 35 acres of land. In the year after the upgrades were complete, Norton's Tampa Bay Fisheries reduced their usage by 47664 kWh and 43.35 KW which resulted in a $1,509.33 savings that year.

Florida Wastewater Treatment Plant Energy Program

This new grant initiative was developed by the FDACS OOE based on the findings of their study entitled 'Mapping the Energy Landscape of Water and Wastewater Treatment Plants in the State of Florida.'

This recently completed study provides a baseline on energy efficiency and renewable energy measures and practices at water and wastewater treatment plants in Florida as well as specific data and information on how to reduce energy use and operating costs.

The FDACS OOE approved applications for City of Altamonte Springs, Coral Springs Improvement District, City of Cooper City, Pinellas County BOCC and South-Central Regional Wastewater Treatment and Disposal Board. The total amount of funding awarded was $1,956,000. They are currently under contract and are working on the projects.

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 **Florida Institute of Technology** (FIT) completed their project this year, which 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. Completion of this project yielded many lessons learned that will be used to inform future decisions. For example, increasing thermal resistance (R-value) of the building walls and roof has a lower impact on building energy efficiency in hot climates in comparison with cold climate. This is due to the relatively low temperature difference between the indoor and outdoor air in comparison with the cold climate zone.

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 2021, the program provided 14 kits to K-12 public schools, with a total of 266 distributed since the program's inception.

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/).

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 $50,000. 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 thirteen cost share agreements have been executed in the Suwannee River Basin and $223,703.88 in reimbursements have been issued. To date three cost share agreements

have been issued in the Apalachicola River Basin and $63,831.25 in reimbursements have been issued.

Energy Equity Study

The FDACS OOE commissioned a study that investigates the distribution of benefits and burdens from energy production and consumption and the disproportionate impact of environmental and health hazards on low- and moderate-income Floridians. The study will evaluate the extent to which energy equity and insecurity affects vulnerable and underserved populations within the state. It will also address the barriers to implementation and recommendations of policies and programs that will help achieve a more equitable economy that uses energy more efficiently, reduces energy costs, and promotes the health, safety, and well-being of all. The FDACS OOE released a request for proposals in June of 2021. The Balmoral Group was selected as the contractor in October of 2021. The study is scheduled to be complete in July of 2022.

EV Master Plan (EVMP)

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.

The FDACS OOE participated on the project team and provided background and research information instrumental to the development of the EVMP. Efforts of the office included coordinating 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 and final work products. The Final EVMP, published in July 2021.

III. 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. The roadmap is available at https://www.fdacs.gov/Energy/Florida-Electric-Vehicle-Roadmap.

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 the topic of energy equity.

FACCE members attended a substantive virtual meeting where they heard from industry experts and participated in facilitated discussions on energy equity.

Please visit https://www.fdacs.gov/About-Us/Advisory-Councils-and-Committees/Florida-Advisory-Council-on-Climate-and-Energy for complete meeting details including meeting recordings.

V. 2021 Florida Energy and Climate Summit

The 2021 Florida Energy and Climate Summit was held on November 15 – November 17 in Orlando, Florida. The summit examined what it takes to achieve a net zero carbon future including the required technology, economic, financial, and societal changes.

The summit's 110 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; addressing energy equity; and adapting to climate change.

A pre-summit tour featured Orlando Utilities Commission's Gardenia facility. The tour walked attendees through the facility's ground mounted community solar carport, EV charging stations, a living wall and garden, and OUC's Nanogrid – a living laboratory used to study developing green technologies.

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

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 Jeff Brandes, Representative Bobby Payne, 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. Ryan McKibben, Government 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, FDACS 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 recommended emissions reductions goals; a greenhouse gas inventory; a low-income residential energy efficiency upgrades program and other items for legislation for serious consideration by the Governor and Legislature during the 2022 legislative session. The recommendations were 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. While the bill did not pass, FDACS encourages the state to provide support to develop programs, policies, and goals to increase renewable energy, the use of energy efficiency technologies, access to alternative fuels and alternative vehicle technologies within the state.

VIII. Next Steps

In 2022, 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.

- 2022 Funding Opportunities
  President Biden's Bipartisan Infrastructure Bill will yield exciting 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 2022 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.

- 2022 Legislative Session
  FDACS OOE will review session bills and the impacts on the state. Including HB 1411 – Floating Solar Facilities and SB 1764 – Waste to Energy.