Office of Energy

Renewable Energy Systems and Sustainability Conference

August 1, 2017

Functions & Responsibilities

- Legislatively designated state energy policy development office within Florida
- Evaluate energy related studies, analyses, and stakeholder input
- Promote and advocate for the development and use of renewable energy resources and energy efficiency technologies
- Use available state and federal funds to develop and manage energy efficiency, renewable energy, and energy education programs
- Produce an Annual Energy Report
- Serve as the State clearinghouse for all energy information

Florida Building Commission

- In May 2016, the Office of Energy was appointed to the Florida Building Commission by Governor Rick Scott, per Section 553.74(1)(x), Florida Statutes.
- The Florida Building Commission:
  - Modifies the existing Florida Building Code every three years through rulemaking workshops.
  - Incorporates any legislative changes when needed, through rulemaking workshops.
  - Reviews requests for Accessibility Waivers across the state.
  - Develops Declaratory Statements to clarify questions regarding codes.
  - Approves products and applications for building code trainers and courses.

Areas of Focus

- Renewable Energy
- Transportation
- Energy Efficiency
- Education

and

- What's ahead

Renewable Energy

- Florida Renewable Efficiency Demonstration (FRED)
- Renewable Energy and Energy Efficiency Technologies (REET)
- Bioenergy Demonstration Grant
- Florida Alliance for Accelerating Solar and Storage Technology Readiness (FAASSTeR)

Farm Renewable and Efficiency Demonstrations (FRED)

- Promotes the adoption of technologies and practices that increase energy efficiency and renewable energy use in Florida agriculture.
  - $1 million from U.S. Department of Agriculture, Natural Resources Conservation Service
  - $2 million from Farm to Fuel
- Provides Florida farmers with energy evaluations and helps them implement the recommendations with up to $25,000 for eligible projects including energy efficient lighting and water pumps, fuel efficient tractors and generators, and small scale renewable energy generation such as solar or biomass.
- To date, the FRED program has received 11 applications.

Renewable Energy and Energy Efficient Technologies (REET)

- The REET Grant Program is 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 Notice of Funding Availability closed in November of 2016. Currently, there are five grants conducting research utilizing REET grant funds.

Renewable Energy and Energy Efficient Technologies (REET)

- **University of Central Florida** – "Unlocking the High Efficiency Potential of Bifacial Silicon Solar Cells by Advanced but Simplified Techniques" – Grant Funds $400,000
- **Florida Agricultural and Mechanical University** - "Enhancing sustainable production of algal biofuels using electromagnetic field energy" – Grant Funds $399,038
- **Florida Institute of Technology** – "Demonstration of a Cost-Effective, Scalable Zero-Energy Commercial Building Design for Florida Climates" – Grant Funds $282,008
- **Florida Atlantic University** – "Demonstrating Technology Enhancements to Achieve Economic Competitiveness of Gulf Stream Electricity Production" – Grant Funds $400,000
- **University of Florida** – "Self-running buildings: An autonomous system for reducing energy consumption and increasing demand flexibility of commercial buildings in hot-humid climates" – Grant Funds $400,000.

Bioenergy Demonstration Grants

- Provided bioenergy grants for research, development, and commercialization relating to bioenergy technologies and innovative technologies that significantly reduce fossil fuel consumption for transportation and/or electric generation.
- Projects optimized cultivation of certain biofuel feedstocks for production in Florida.
- Researchers explored the suitability and potential of algae, pine terpenes, oilseed crops such as carinata, sweet potatoes, and sugar beets for drop-in biofuels and processing into ethanol and jet fuel.
- One project utilized a pilot scale biorefinery in northern Florida to test various cellulosic feedstocks for ethanol production.
- Six grantees were awarded a total of $3.9 million. Project work on all of these grants has been completed as of 2016.

Florida Alliance for Accelerating Solar and Storage Technology Readiness (FAASSTeR)

- The Florida Municipal Electric Association (FMEA), Nhu Energy and the Office of Energy have been awarded a $1.75 million grant through the U.S. Department of Energy SunShot Initiative to bring more solar plus storage to Florida.

- The goals of this three-year project include conducting detailed solar energy studies and analysis, and developing strategies that will expand solar, energy storage, and other distributed energy resources.

- Project participants include the National Renewable Energy Laboratory, Lawrence Berkeley National Laboratory, City of Tallahassee electric utility, Gainesville Regional Utilities (GRU), JEA (Jacksonville), Lakeland Electric, Orlando Utilities Commission (OUC) and Florida Municipal Power Agency (FMPA), and the Southern Alliance for Clean Energy.

Transportation

- Initiative for Resiliency in Energy through Vehicles (iREV)
- Drive Electric Orlando
- Biofuels Infrastructure Partnership (BIP)

iREV

- Collaborated with the National Association of State Energy Officials and national stakeholders to develop iREV.
- iREV is a national effort to catalyze state and local acceptance and deployment of alternative fuel vehicles and infrastructure in preparing for and responding to manmade and natural disasters and emergency situations.
- Focuses on alternative fuels such as biodiesel (B100), propane, natural gas, and electricity.
- iREV will educate, coordinate, and provide the emergency management community with data, tools, and resources they need to make optimal fleet investment decisions in their jurisdictions.

For more information: www.naseo.org/irev

Drive Electric Orlando

- Using a $400,000 award from the U.S. DOE Clean Cities to work with the Electrification Coalition and the Central Florida Clean Cities Coalition promote Drive Electric Orlando.

- Drive Electric Orlando offers:
  - An option to rent an electric vehicle in Orlando, Florida.
  - Incentives for renting an electric vehicles including:
  - VIP treatment at Epcot's Test Track ride
  - free valet parking,
  - preferred parking spots,
  - ample charging stations,
  - free three-month membership to CLEARLane Access which allows travelers to skip the identification check point at the airport and head straight to the physical screening

Drive Electric Orlando

- Program partners include:

- Since the program launched in October 2015:
  - 1,672 electric vehicle rentals with over 373,000 miles driven.
  - Trained over 250 rental car company employees to help ensure renters have a seamless and superior rental experience.

Biofuels Infrastructure Partnership (BIP)

- Received a $16 million, Biofuels Infrastructure Partnership award from the U.S. Department of Agriculture.
- Goal is to increase the availability of infrastructure capable of dispensing higher blends of biofuels.
- Retrofits under this program began in May 2016. From May through April 2017, there have been 155 blender pumps and two dedicated E85 pumps installed at a total of 35 fuel station locations in Florida.
- Post-installation data collection and reporting will continue for approximately five years after retrofit work is completed.

Energy Efficiency

- Farm Energy and Water Efficiency Realization (FEWER)
- Multifamily Demonstration Projects

Farm Energy & Water Efficiency Realization (FEWER) Program

- Pilot program in Suwannee County provides on-site energy and water audits to farms.
- FEWER also provides farmers with a 75% cost share (up to $25,000) to implement the recommendations.
- Eligible measures include upgrades to center pivots, diesel pumps, upgrades from a diesel pump to an electric pump, solar pumps, lights, and cooling equipment. The program opened on June 25, 2015.
- Since the program launched on June 25, 2015 through May 31, 2017:
    - 233 applications received
    - 193 audits complete
    - 133 cost share approvals
    - $2,439,344.00 paid to farmers

Multifamily Energy Demonstration Projects

- Based on the recommendations in the Florida Multifamily Energy Efficiency Opportunities Study.
- FDACS OOE partnered with two housing authorities to implement energy related shallow retrofits - West Palm Beach HA and Pinellas County HA.
- 320 units were retrofitted: 84 units at Robinson Village in West Palm Beach, and 236 units at Crystal Lakes Manor in Pinellas Park.
- Retrofits included R-38 ceiling insulation, air duct insulation, 18 SEER air conditioning units, energy efficient lighting, and energy efficient hot water heaters.
- Energy data was collected for 12 months prior to and following installations.
- Initial data analysis shows daily kilowatt hour usage decreased 8% in Pinellas County and 25% in West Palm Beach. Analysis continues.

Education Projects

- Energy Clearinghouse of Information
- Energy Education Kits for Public Schools

Florida Energy Clearinghouse

www.FreshFromFlorida.com/Energy/Florida-Energy-Clearinghouse

- Continues to host, update, and expand the Florida Energy Clearinghouse in accordance with Section 570.0741, Florida Statutes.
- Designed to be 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.
- My Florida Home Energy is a major component of the Florida Energy Clearinghouse.
  - Takes users on an interactive home tour and offers tips for how they can improve its energy efficiency.
  - Uses information provided by the homeowner and publicly accessible data to provide a customized report which identifies energy efficient products, services, and potential energy and monetary savings.
  - Even includes all available financial incentives in the area.

Energy Education Kits for Public Schools

- Provided K-12 public schools with 244 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.
- Kits include materials such as solar panels and electric motors which provide opportunities for hands on STEM education.
- An estimated 79,400 children will have the opportunity to learn from these kits.

What's Ahead

- Continue to seek Federal funding for energy efficiency programs critical for Florida and local governments
- Continue to administer current programs and develop new programs
- Work with the Legislature and Governor's office to collectively advance Florida's energy policy
- Work with the Florida Energy Systems Consortium to expand energy research at Florida's universities

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