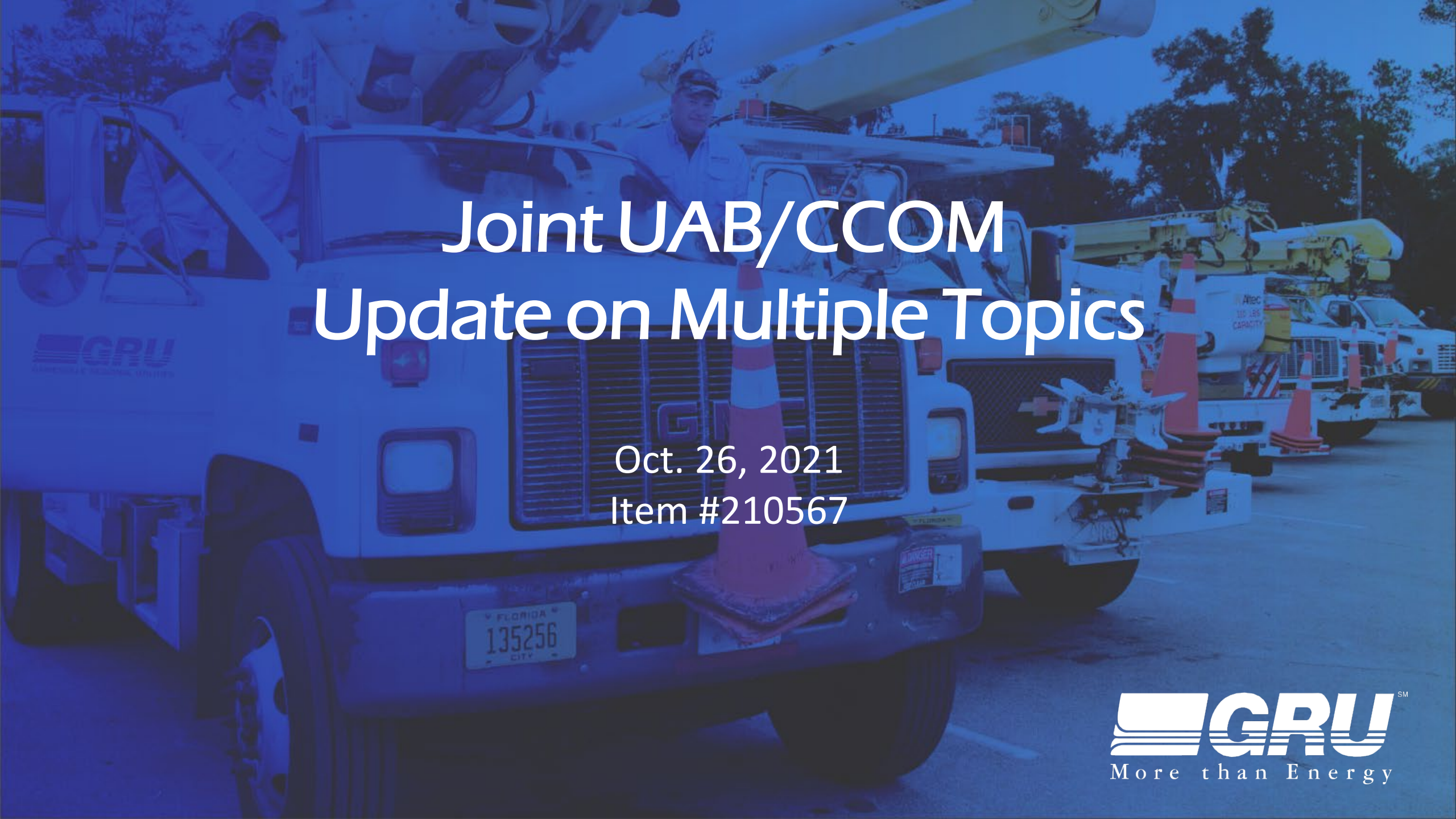




Joint UAB/CCOM Update on Multiple Topics

Oct. 26, 2021
Item #210567

Issues Requiring Discussion

- Conservation-Related Incentive Programs
- Electric Vehicle (EV) Incentive Programs
- Solar Circuit Limitations

Conservation Programs

Jim Gilmartin, Engineer and Utility Designer II

Current Conservation Programs

Demand-side Management (DSM) Programs

Actions designed and taken by the customer to manage and optimize energy consumption and cut costs.

- On-Site Home Survey
 - Average 1,200 energy surveys annually
- Net Metering for Solar PV Systems
 - 800 NEM customers
- Low-income Energy Efficiency Program^{plus} (LEEP^{plus})
 - See Pg. 5
- Other Active DSM Programs
 - Residential Duct Testing, Home Energy Calculator, annual commercial rate reviews

LEEP^{plus}



- LEEP^{plus} annual budget is \$425,000 with the goal of improvements to 100 homes
- Program has improved more than 2,200 homes
- Annual average savings of 2,072 kWh/participant
- In 2021, the average cost is approaching \$6,200 per home
- Rising material and labor costs will limit the number of homes we can address with current LEEP^{plus} budget



LEEP^{plus} Historical Perspective

Fiscal year	Homes in LEEP ^{plus}	Total LEEP ^{plus} investment
2007	40	\$ 117,240
2008	122	\$ 342,236
2009	114	\$ 324,713
2010*	181	\$ 596,930
2011*	253	\$ 934,851
2012*	200	\$ 693,547
2013	151	\$ 529,415
2014	133	\$ 460,946
2015	123	\$ 459,328
2016	112	\$ 422,525
2017	103	\$ 415,420
2018	105	\$ 433,711
2019	104	\$ 419,330
2020**	72	\$ 278,105

*Includes federal assistance

**Abbreviated due to COVID-19

Current Conservation Programs

Demand-side Management Programs

- Appliance rebates benefit contractors and homeowners capable of affording upgrades
- Energy Surveys and educational outreach inform homeowners of the economic benefit of investing their own money in energy efficient upgrades
- GRU demand-side management investment should target customers with limited resources

Discontinued Energy Efficiency Programs

Added Insulation
Home Performance with Energy Star® Program
Central AC Maintenance
Irrigation Maintenance
Compact Fluorescent Lamp (CFL) Program
LED Exit Sign
Custom Business
Low Interest Energy Efficiency Loan
Duct Leak Repair
Pool Pump
Energy Star® Certification for Affordable Housing Construction
Reflective Roof Coating
GRU Building Energy-efficient and Sustainable Training (BEST)
Refrigerator Buyback & Recycling
Heat Pipe Enhanced AC
Solar Feed in Tariff (FIT)
Heat Recovery Unit
Solar Photovoltaic (PV)
High Efficiency Central AC
13 SEER AC
15 SEER AC
Super SEER
Solar Water Heater
High Efficiency Room AC
Vending Miser

These programs are separate from LEEP^{plus}.

Original Purpose for Implementation

- Delay building a power plant for future demand
- More cost effective than new generation

Reasons for Subsequent Termination

- Budget cutback to reduce upward rate pressure
- New generation available
- Energy usage decline

Other Utility Rebates

Tallahassee's "Neighborhood Reach"

Neighborhood REACH program launched in 2010. No longer as active. (Source: Michael Ohlsen, Manager, Clean Energy & Resource Planning, City of Tallahassee)

Tallahassee EV and battery-related rebates?

- Do not currently offer a battery-related rebate (Ohlsen)
- Tallahassee offers on-bill financing (i.e. loans) for home EV chargers, rooftop solar, and window incentives.

JEA solar + battery incentive

JEA replaced their net metering program with net billing. JEA now offers an energy storage rebate to mitigate the loss of the storage service provided by net metering.

OUC/JEA Drive Electric/ Kissimmee EV and EV charger rebates/Lakeland EV, EV charger and solar battery rebates

We studied all programs and will seek direction in the fiscal year 2023 budget.



Conservation Questions?

Electric Vehicle (EV) Incentives

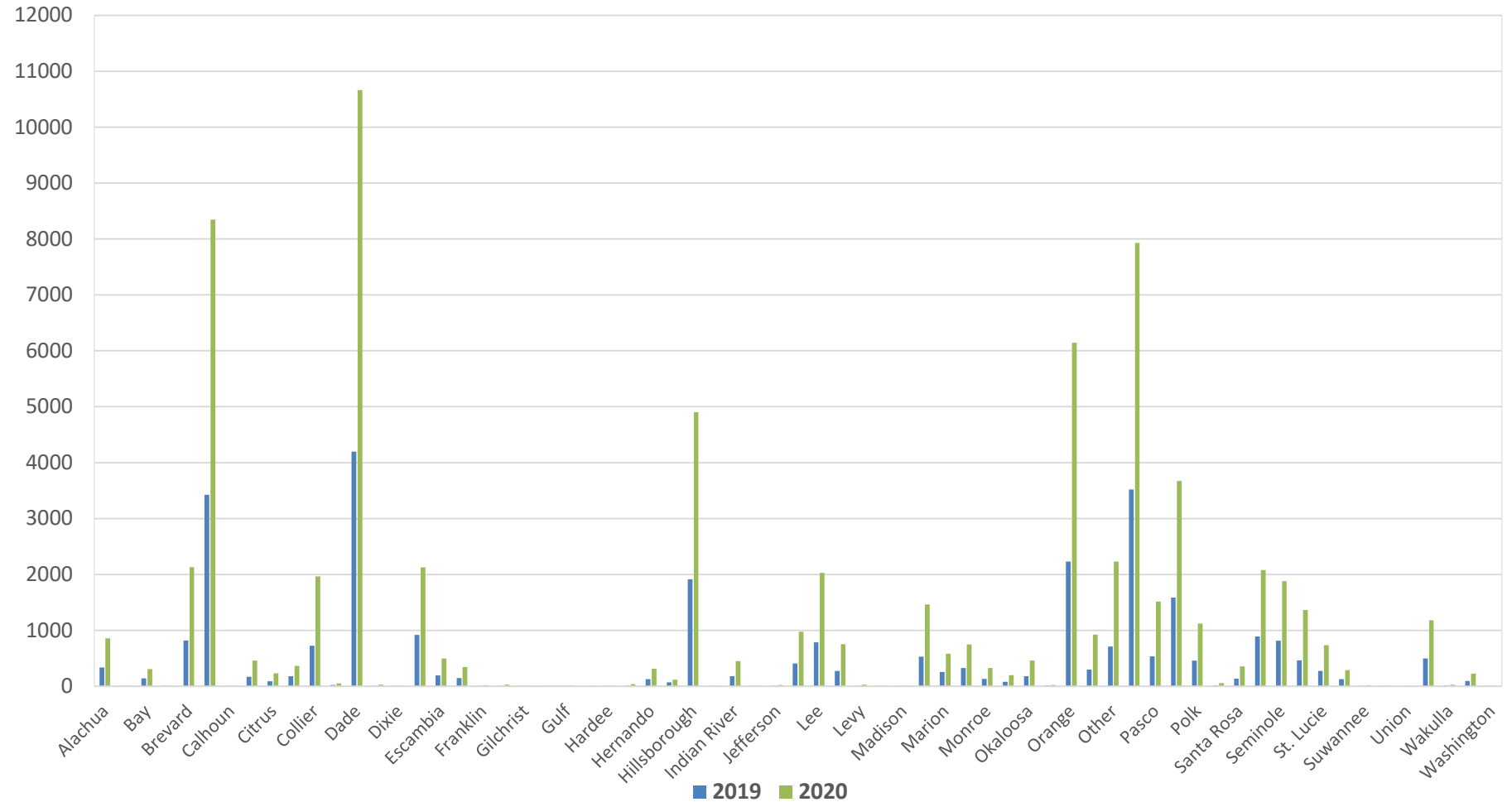
Jim Gilmartin, Engineer and Utility Designer II

Electric Vehicle Incentive Programs

Electric Vehicles

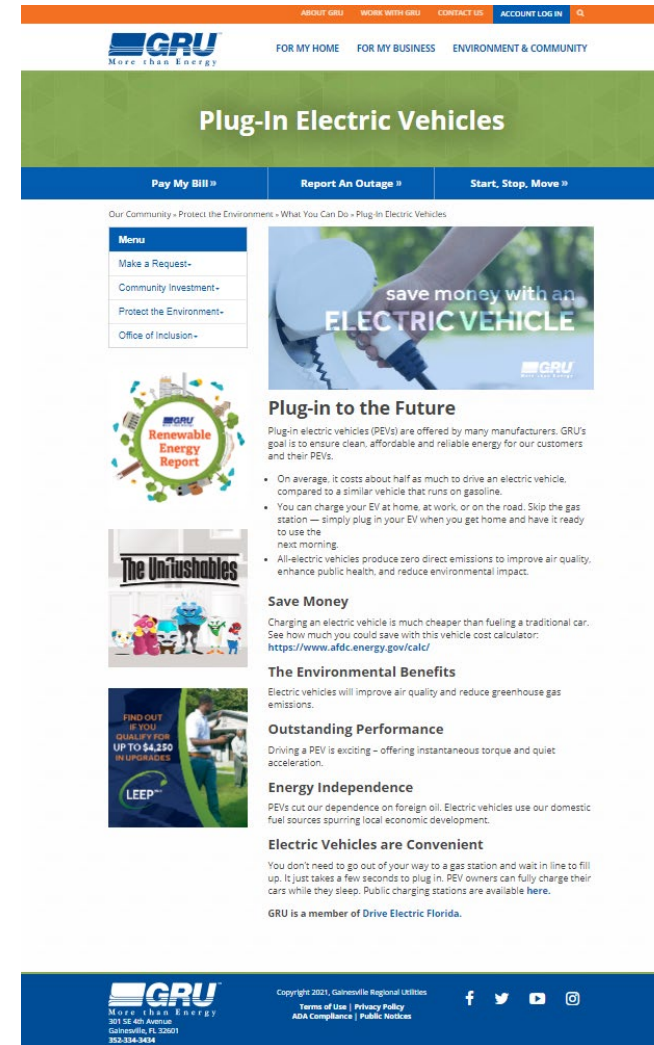
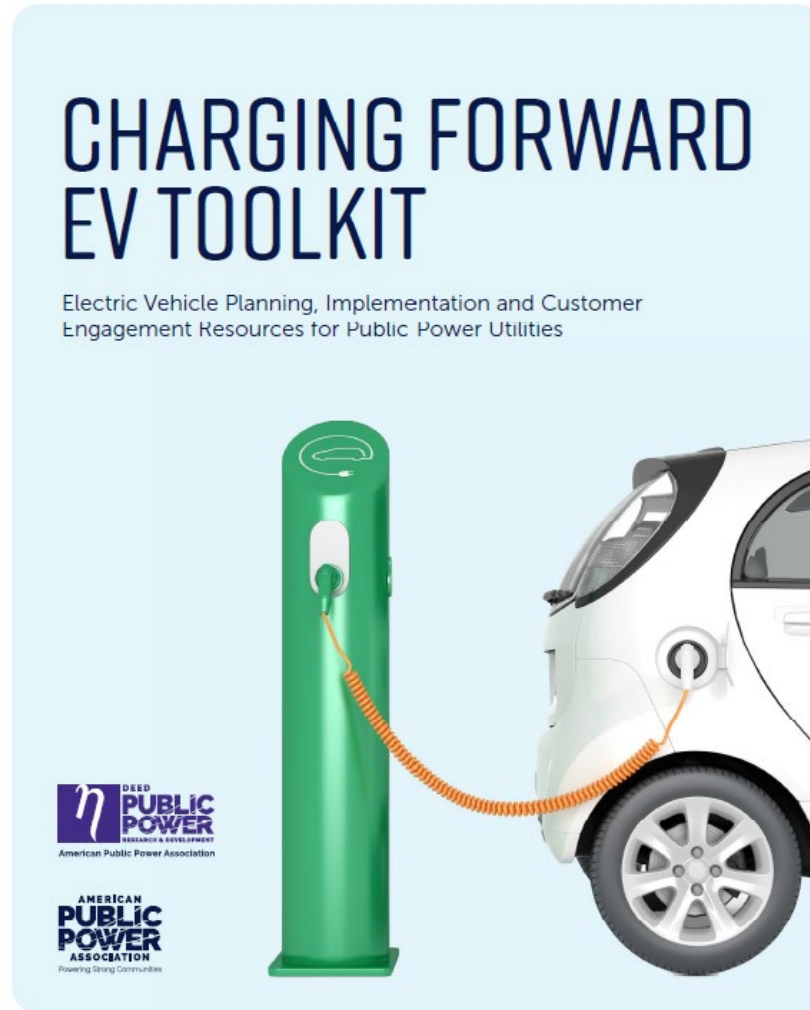
All registered vehicles
7,841,189 (FL '19)
EV: 58,160

Alachua County
174,181
EV: 966 (1/1/21)



EV: Public Outreach

GRU is using promotional and marketing materials from the *Charging Forward EV Toolkit* on Instagram and Facebook



GRU has linked resources from the *Charging Forward EV Toolkit* on our EV webpage

GRU is a member of [Drive Electric Florida](#)

Potential Programs to Encourage EV Adoption

Home charging incentive

- Provide EV owners a rebate to purchase and install a hardwired Level 2 charger at their home or business
 - *Level 2: Minimum \$1700; Maximum \$2,700*

Smart charging

- Time-of-Use (TOU) rate to encourage customers to charge during off-peak hours

Building Code

- Require charging infrastructure for a percentage of all parking spaces in multi-family buildings

EV Tier

- Modest interim EV Tier 1 kWh allowance program until EV TOU program is viable



EV Questions?

Solar Circuit Limitations

Ziaur Rahman, Utility Project and Team Leader III
Milvia Hidalgo, Principal Engineer and Utility Designer

Solar Circuit Limitations

Overview

Solar power generation is intermittent due to clouds, storms or component failures. For these reasons, it is considered supplemental power instead of reliable power by regulatory bodies and puts the reliability and stability of the electric grid at risk. GRU has developed policies to mitigate the potential risks to its grid in order to allow its customers to install solar generation and to meet the 100% net zero goal by 2045.



GRU Solar Generation

30 MW of distributed solar generation currently and PPA for another 50 MW of community-scale solar from Origis.

Solar Circuit Limitations

Background: GRU Policy on Solar Penetration

California Rule 21

- GRU adopted California Rule 21 as an industry best-practice to streamline distributed solar interconnection applications
- 2 MW of solar per protected segment
- Implemented around 2011

Area Control Error (ACE)

To avoid violating federal standards, study found a combination of the following would be needed to add 40-75 MW of solar generation:

- Quick-starter or fast-charging generation
- Generation online to secure higher power reserves to mitigate sudden loss of solar generation
- Implement load shedding (brownouts or scheduled blackouts)
- Implement battery storage with solar

Solar Circuit Limitations

Real-Life Case Study

UF-GRU Collaboration

- Evaluated one circuit on how much distributed solar generation to allow on the circuit providing service to a Target store. GRU will allow 700 kW of distributed solar load beyond its initial allotment
- Study indicated 2.1 MW of solar could be in the circuit
- Evaluation took three months for one circuit; it may take one year to complete more than 70 distribution circuits

Note: NERC has multiple working groups. Even with improved installation requirements, Inverter-Based Resource performance issues continue to occur in the U.S. and around the world.

We will report final results from the assessment in a future UAB/CC Joint meeting



Additional Questions?