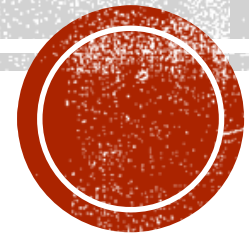


# **FLORIDA'S ENERGY FUTURE: CHALLENGES & OPPORTUNITY**

2018 NSU Environmental Law Symposium

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# WHY IT MATTERS ...



# THE ROAD ONCE TRAVELED ...



## Florida's Energy & Climate Change Action Plan *October 15, 2008*

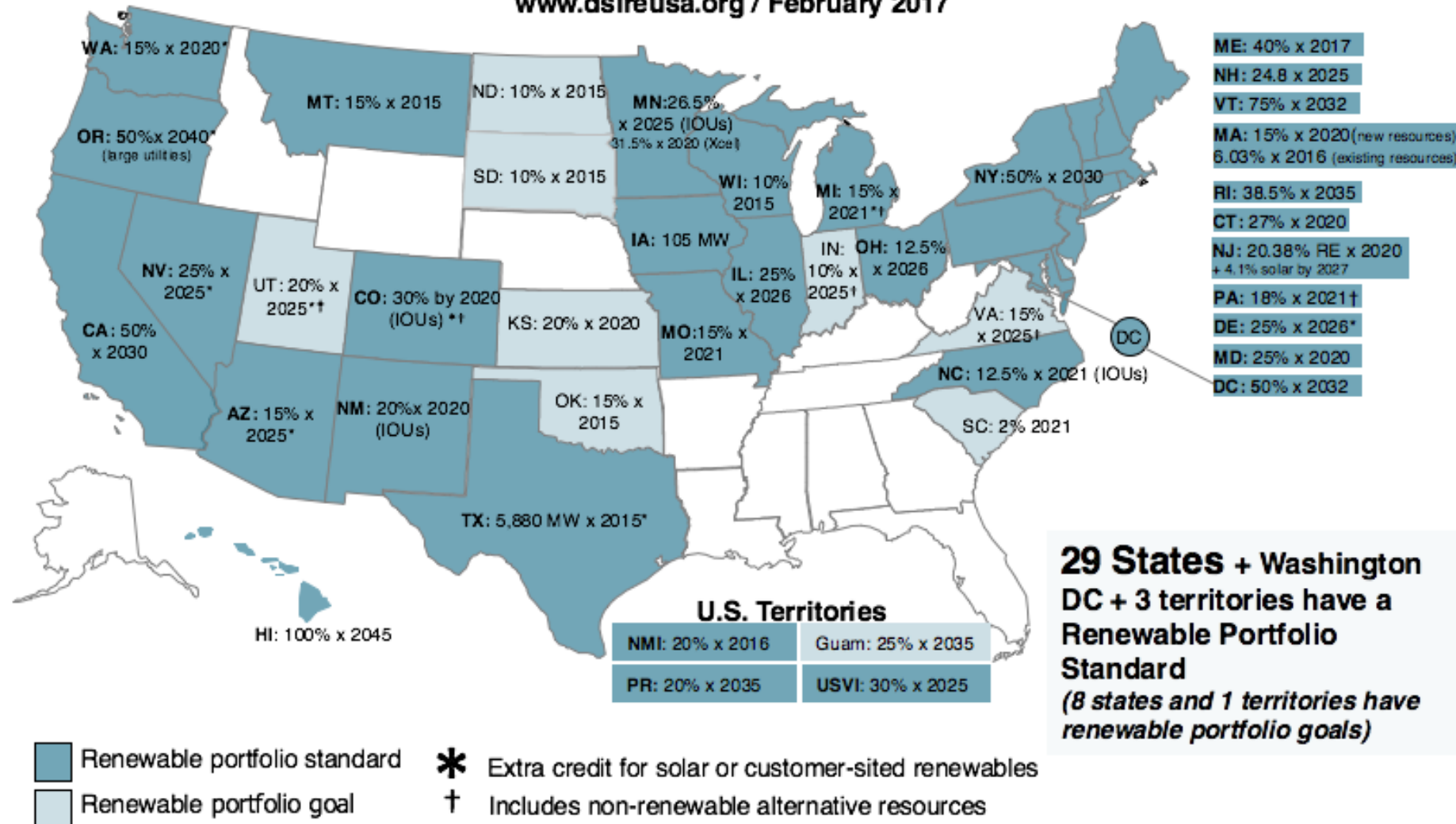
*Governor's Action Team on Energy & Climate Change*





# Renewable Portfolio Standard Policies

www.dsireusa.org / February 2017



# ENERGY RESOURCES

**Energy**

**Transportation**  
- oil



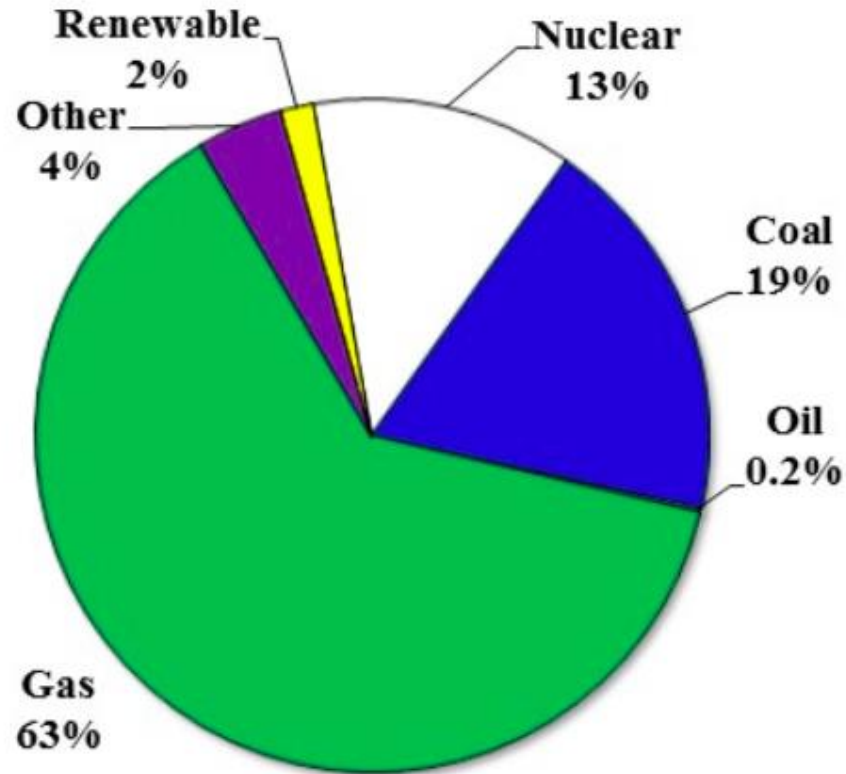
**Electricity**

- coal
- natural gas
- uranium
- renewables
- 'energy efficiency'



# FLORIDA'S ELECTRICITY GENERATION MIX

SOURCE: FLORIDA REGIONAL RELIABILITY COUNCIL



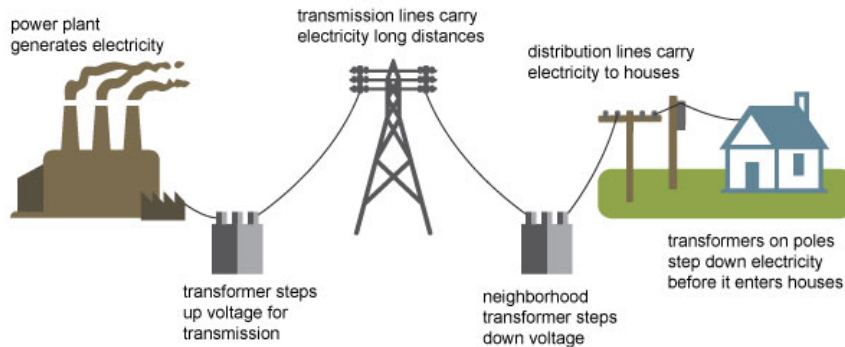
- Coal went from 34.5% in 2001 to 19% today. Further drops coming.
- Natural Gas went from 18.5% in 2001 to 63% today.
- Oil went from 16.5% in 2001 to almost zero today.
- Nuclear has remained relatively steady.



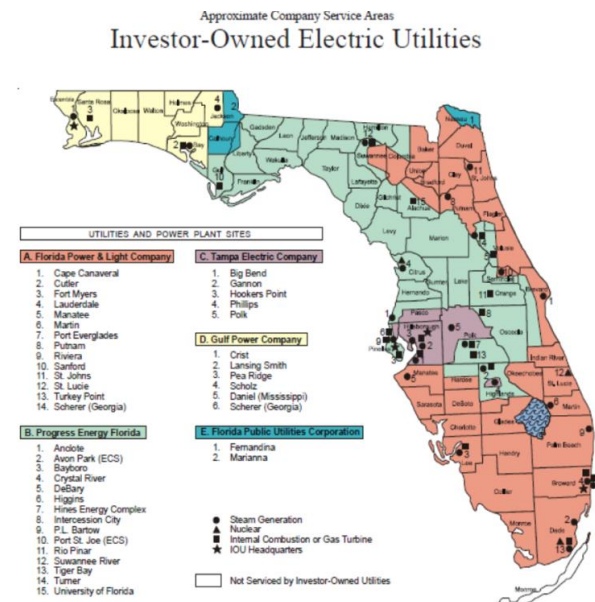
# HISTORICAL PERSPECTIVE

- ❑ §366.01, Fla. Stat. - Legislative declaration.—“The regulation of public utilities as defined herein is declared to be in the public interest ....”
- ❑ Investor-owned utilities are a “natural monopoly” - regulated by the Public Service Commission, to provide:
  - Low cost, reliable, non-discriminatory service.
- ❑ Model worked well for many years, but ....

## Electricity generation, transmission, and distribution



Source: Adapted from National Energy Education Development Project (public domain)





# AGENCIES THAT PLAY A ROLE





# FLORIDA PUBLIC SERVICE COMMISSION

*THE MOST IMPORTANT AGENCY YOU'VE NEVER HEARD OF*

- Charged with setting fair and reasonable rates (§366.05, Fla. Stat.)
- Approving the need for new power plants that can't be reasonably met with energy efficiency or renewable sources (§403.519, Fla. Stat.),
- Setting “appropriate” conservation goals (§366.82, Fla. Stat.)
- Approving utilities' Ten Year Site Plans (§186.801, Fla. Stat.)
- 5 members appointed by governor w/input from legislative committee
- Proceedings governed by: State Administrative Procedures Act (APA): Chapter 120, Fla. Stat.
- Final orders subject to judicial review (FL Supreme Court – Fla Const. Article V, Section 3)



# DO \$\$ DRIVE INVESTMENT DECISIONS?

$$R = B \times r + O$$

- 10.5%
- $R$  = revenue requirement
- $B$  = rate base
- $r$  = return on investment
- $O$  = expenses



# CUSTOMERS WANT BILL SAVINGS AND CHOICES

- Energy Efficiency



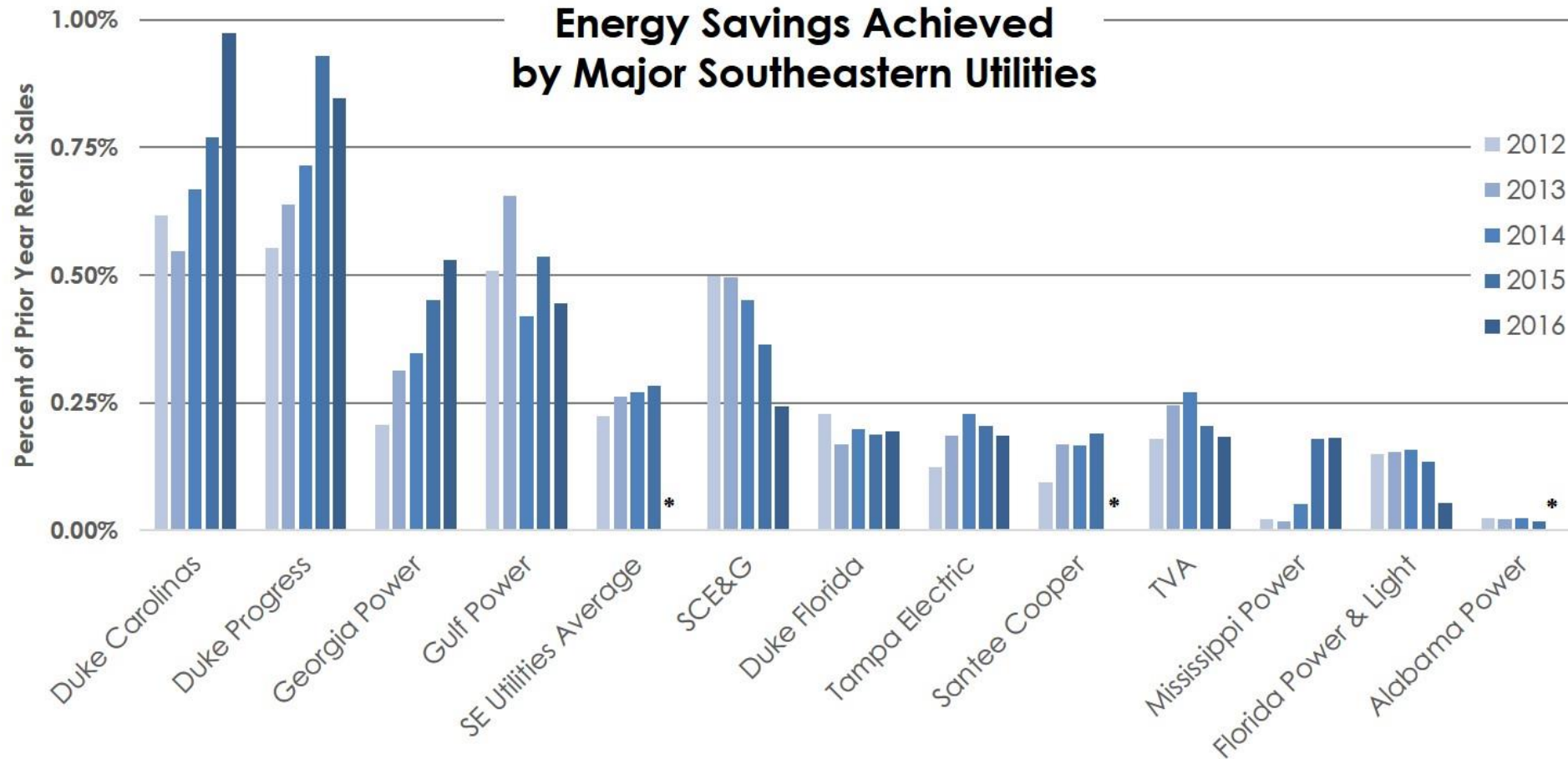
- Net Metering<sup>Demand</sup>





# UNTAPPED RESOURCE: EFFICIENCY

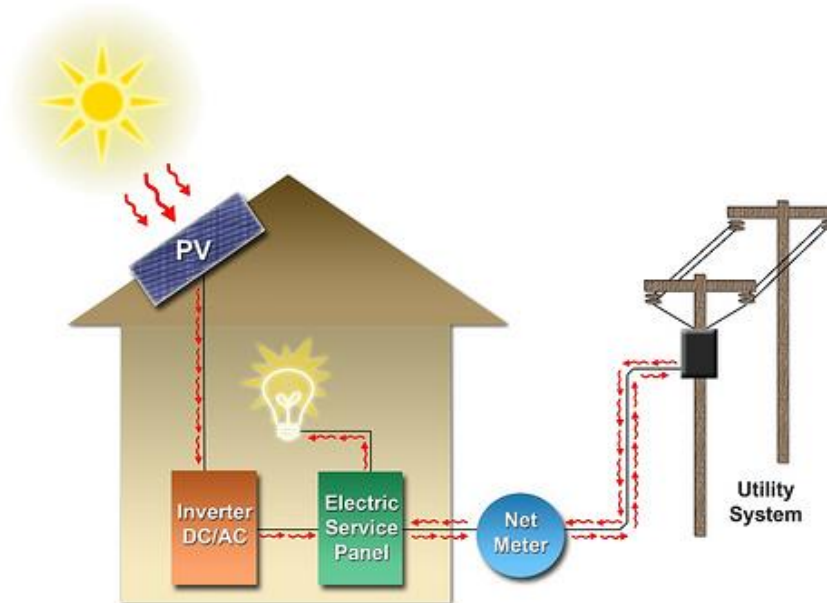
SOURCE: SOUTHERN ALLIANCE FOR CLEAN ENERGY



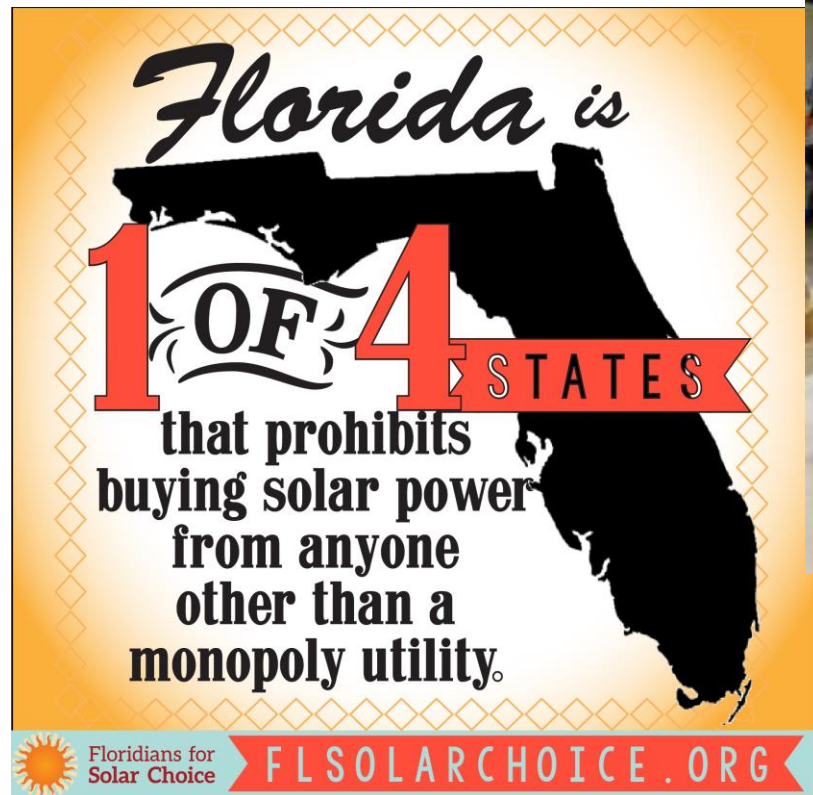
# NET METERING & ROOFTOP SOLAR

§366.91, FLA. STAT.; R. 25-6.065, F.A.C.

- System size up to 2 MW
- Excess power sent back to the grid receives a kWh 1:1 credit
- If excess at end of calendar year at utility's wholesale rate
- System must be on customer's property
- Certain insurance and interconnection requirements based on the size of the system.



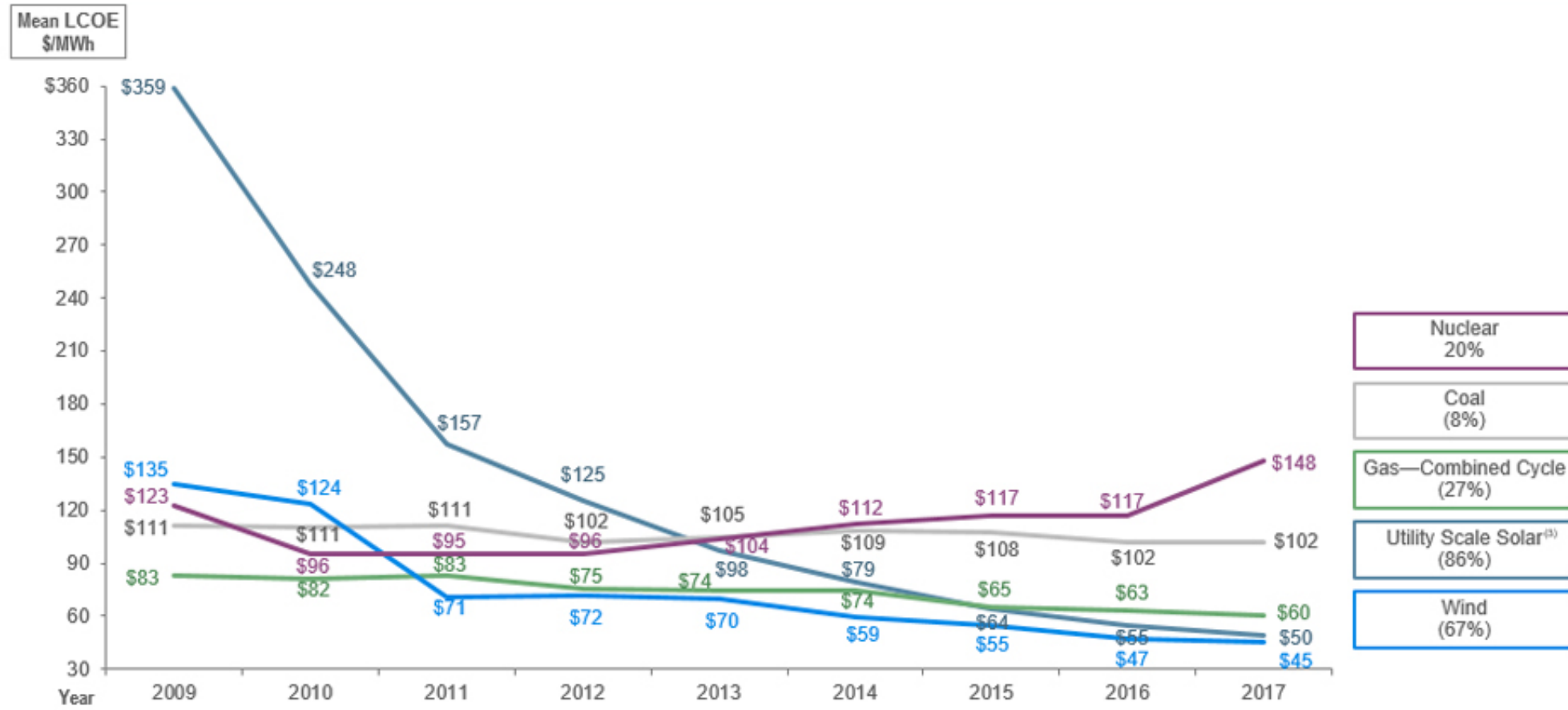
# ROOFTOP SOLAR BATTLES IN 2015-16





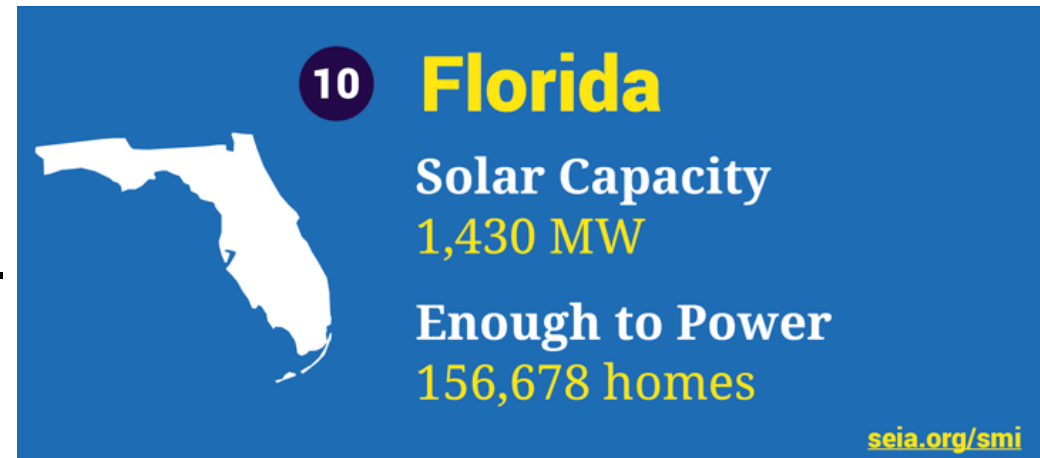
# MARKET FORCES DRIVING DEVELOPMENT

SOURCE: LAZARD, LEVELIZED COST OF ENERGY, 2017



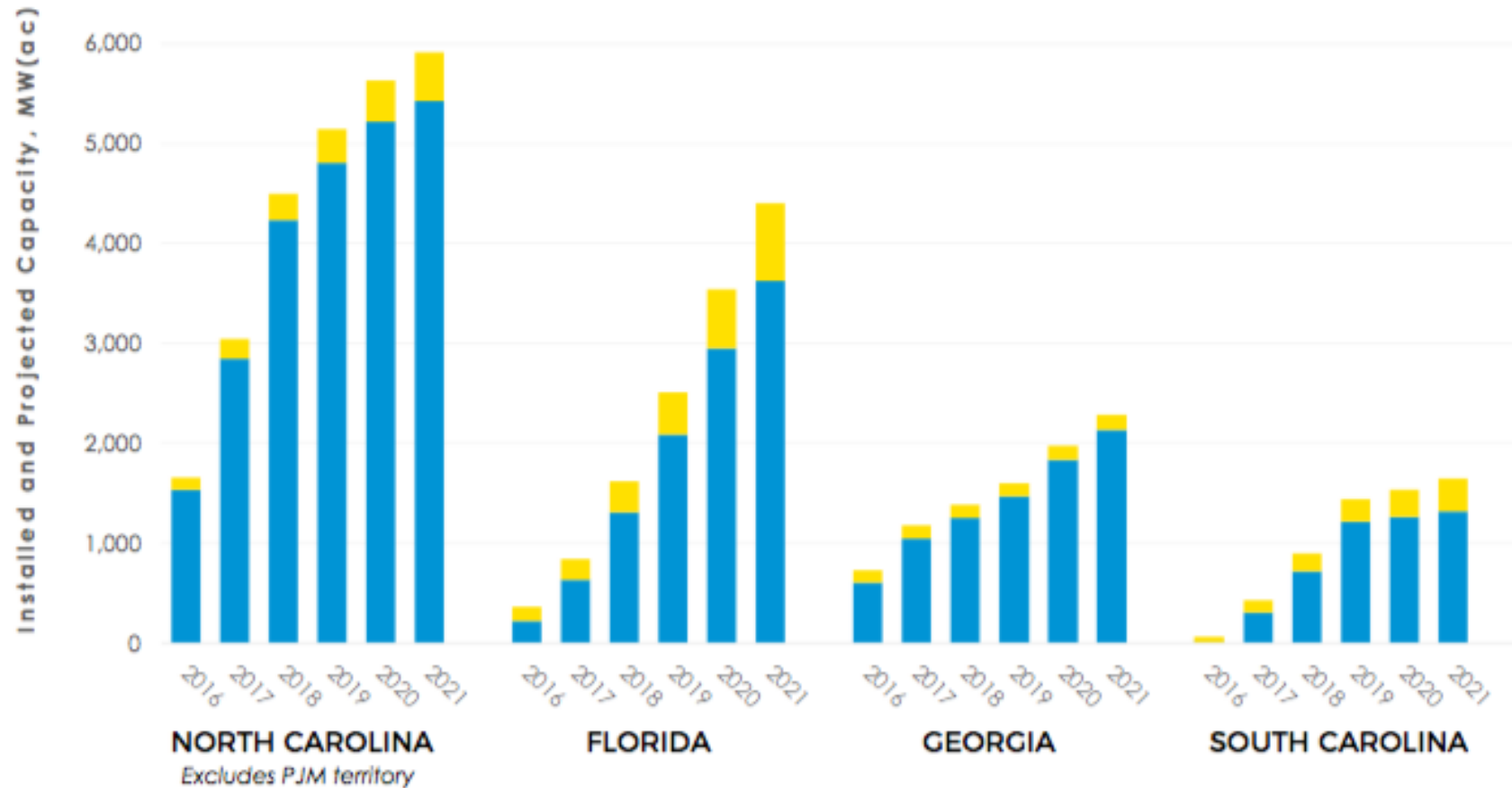
# FLORIDA BREAKS TOP-10 STATE RANKINGS FOR 2017 SOLAR DEVELOPMENT — DRIVEN BY UTILITY SCALE

- Levelized cost of utility-scale solar has dropped 86% in 8 years. Source: Lazard, November 2017
- Significant new utility-scale solar additions in Florida over next 3 years by investor-owned and municipal utilities.
- Rooftop solar permits up 110% in Sunshine State.
- More cities are committing to 100% renewable energy.
- Solar co-ops expanding.
- Utility-scale pilot battery projects launched.



# SOLAR IN THE SOUTHEAST RAMPS UP

SOURCE: SOUTHERN ALLIANCE FOR CLEAN ENERGY





# SIZE MATTERS: WATTS PER CUSTOMERS

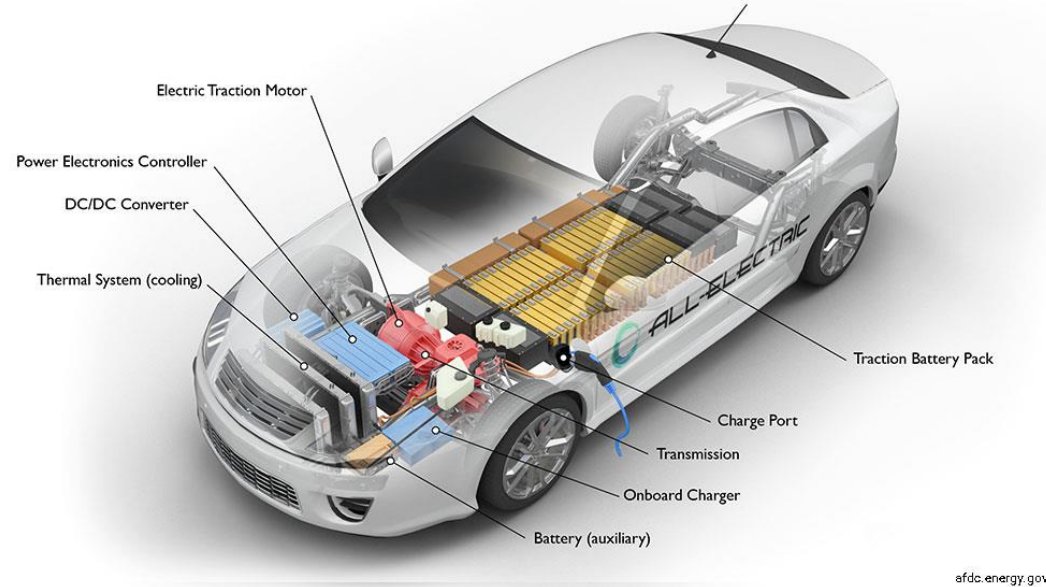
SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
SOUTHEAST AVERAGE	208	523
GULF POWER	151	311
LAKELAND	139	184
ORLANDO (OUC)	124	211
FLORIDA POWER & LIGHT	109	389
TALLAHASSEE	106	567
STATE AVERAGE	83	425
DUKE ENERGY FLORIDA	65	679
JACKSONVILLE (JEA)	58	667
GAINESVILLE (GRU)	45	95
TAMPA ELECTRIC	37	818
SEMINOLE	17	50



# TRANSPORTATION: PLUG INTO THE FUTURE

All-Electric Vehicle



- **§366.94, Fla. Stat.** “The rates, terms, and conditions of electric vehicle charging services by a nonutility are not subject to regulation under this chapter.”
- **VW Environmental Trust Mitigation Agreement - \$116 Million to FL – 15% can go to EV infrastructure.** Comments being accepted by DEP.
- **Aligns with utility business model.**



# QUESTIONS?

