



New Initiatives in Distributed Energy Resources

Joint Action Agency
Conference

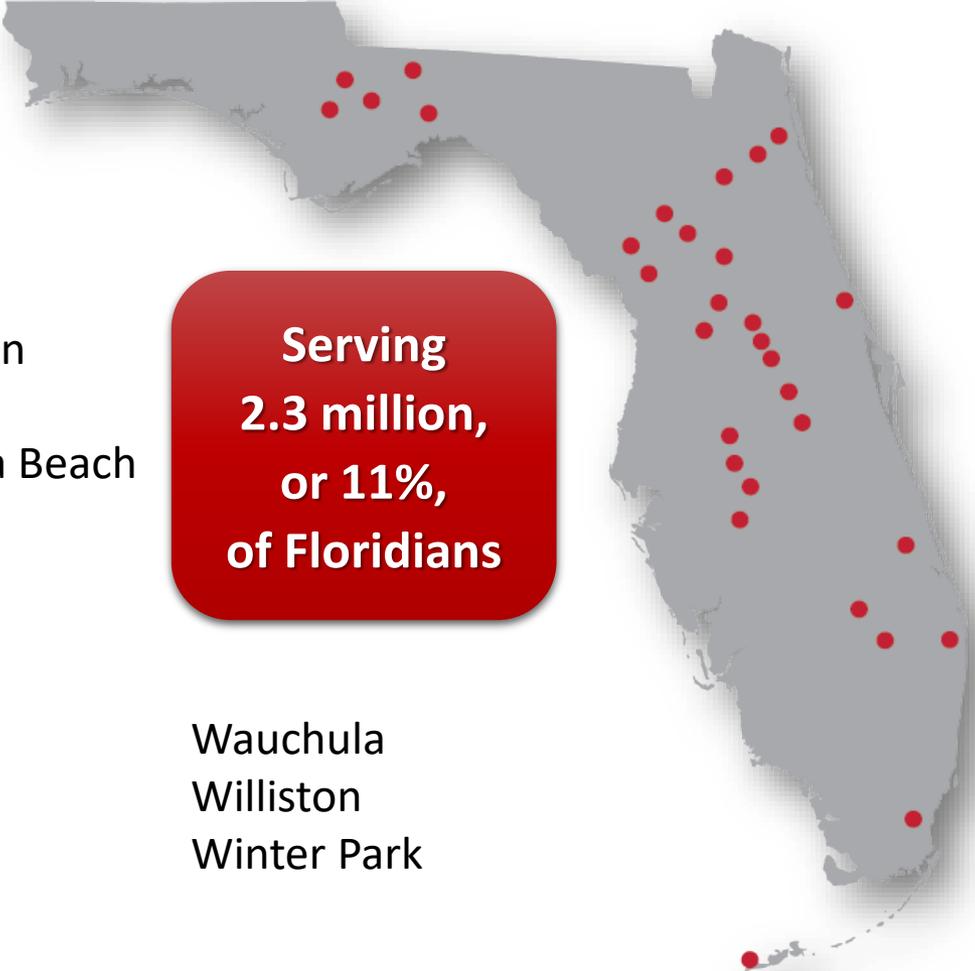
Jan. 7, 2019

31 Municipals Are Members of FMPA

Mission: Low-Cost, Clean and Reliable Power

Alachua
Bartow
Blountstown
Bushnell
Chattahoochee
Clewiston
Fort Meade
Fort Pierce
Gainesville
Green Cove Springs
Town of Havana
Homestead
Jacksonville Beach
Key West

Kissimmee
Lake Worth
Lakeland
Leesburg
Moore Haven
Mount Dora
New Smyrna Beach
Newberry
Ocala
Orlando
Quincy
St. Cloud
Starke
Tallahassee

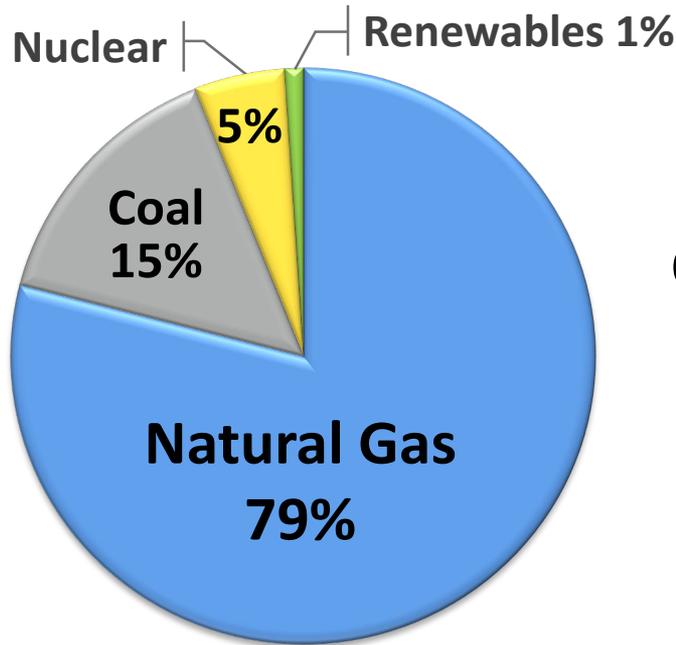


**Serving
2.3 million,
or 11%,
of Floridians**

Wauchula
Williston
Winter Park

FMPA Controls 1,670 MW of Generation

Nearly 80% of Energy from Natural Gas

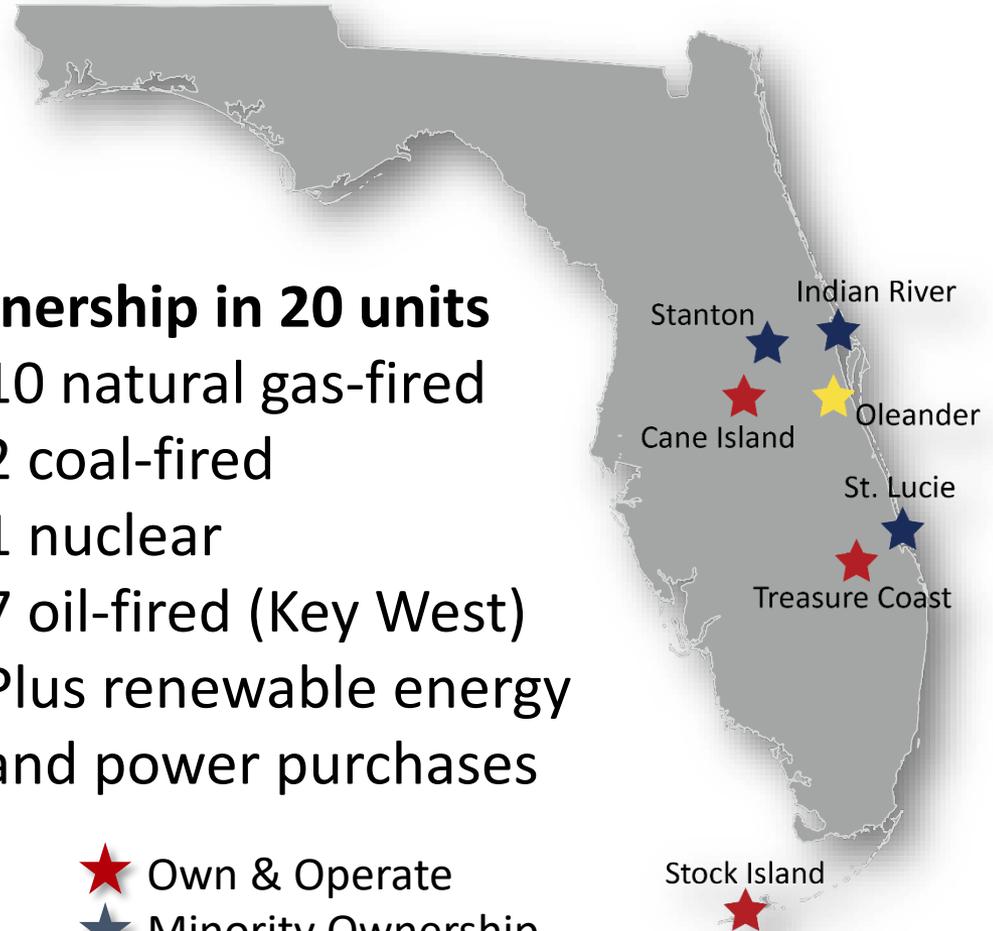


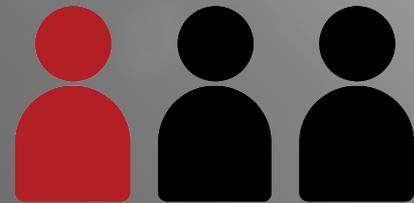
Fiscal 2017 ARP Energy Sources

Ownership in 20 units

- 10 natural gas-fired
- 2 coal-fired
- 1 nuclear
- 7 oil-fired (Key West)
- Plus renewable energy and power purchases

- ★ Own & Operate
- ★ Minority Ownership
- ★ Power Purchase

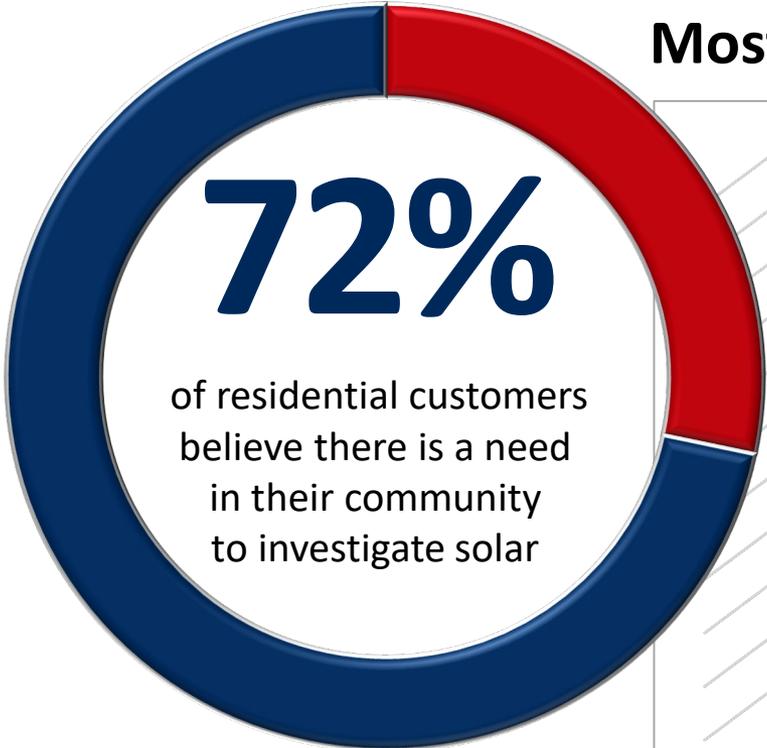




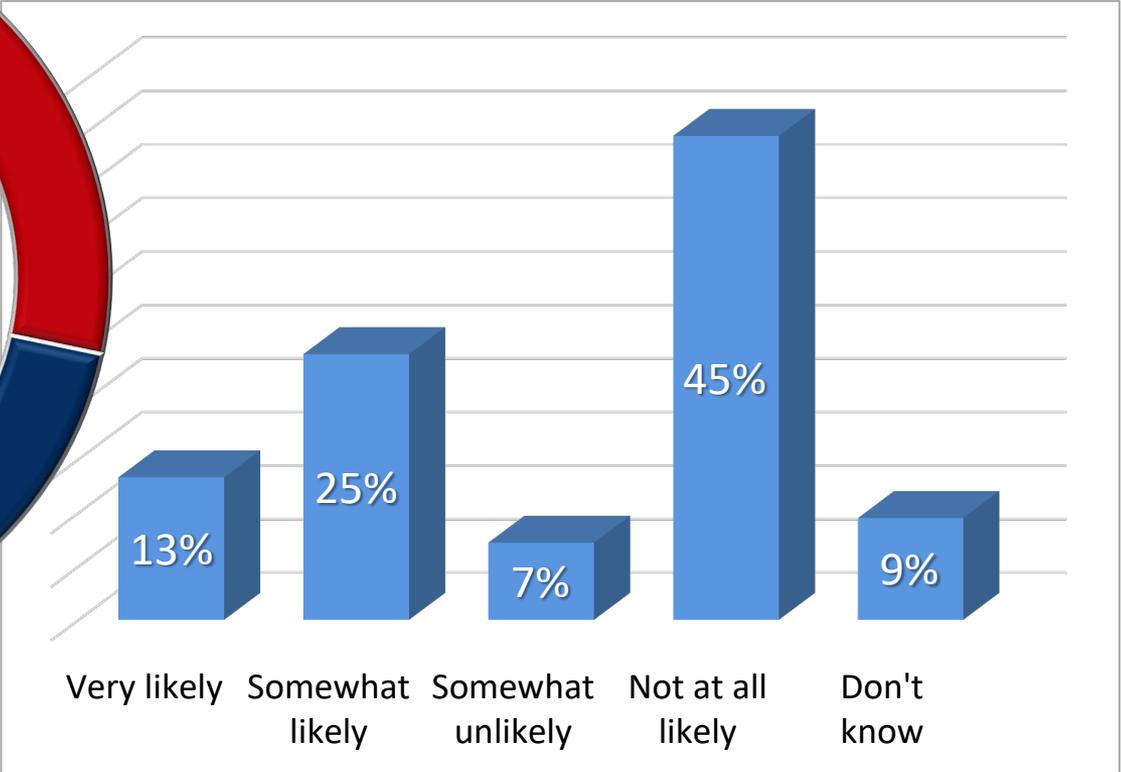
**Nearly 1 in 3
Floridians,
10% of disposable
income goes to the
electric bill**

Customers Support Solar Power

But Most Customers Don't Want to Pay More



Most Customers Not Likely to Pay More



SOURCE: 2017 FMPA Solar Energy Survey Market Assessment Study

FMPA Has Excess Capacity, For Now

Embrace New Initiatives to Maintain Sales

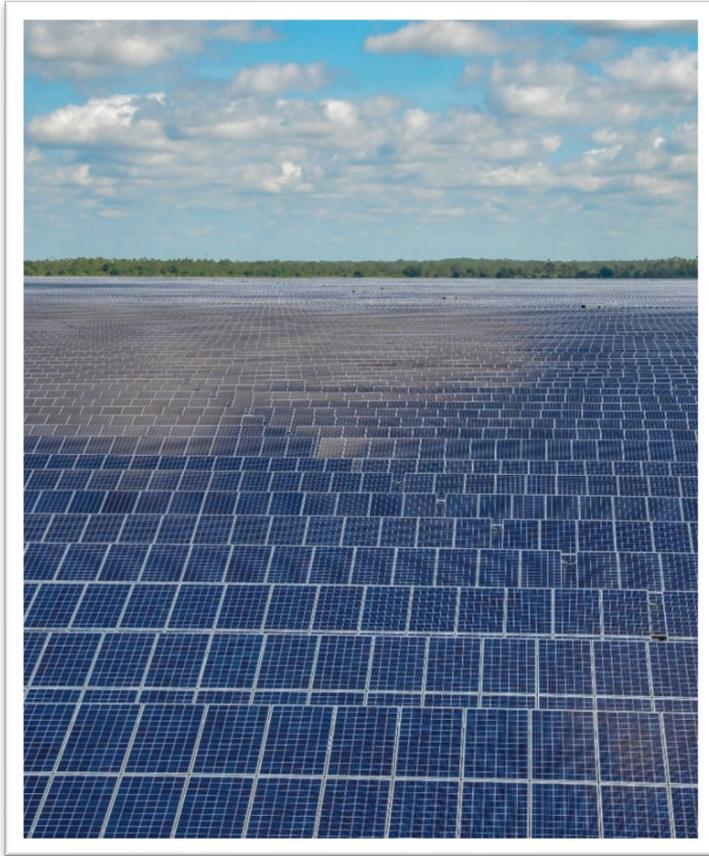
- 100+ MW of excess capacity forecast through 2025
- Existing combined cycle operating cost at \$20-25/MWh
- Large-scale solar cost at ~\$40/MWh
- Allow member cities who want, to pay more for solar



Treasure Coast Energy Center Unit 1

Florida Municipal Solar Project

One of Largest Municipal Solar Projects in the U.S.



- 12 FMPA members participating
- Three 74.5 MW sites, 223.5 MW project
- Equal to 37,250 rooftop systems
- Cost is one-third that of a typical, rooftop system
- Construction start January 2020
- Operation expected June 2020

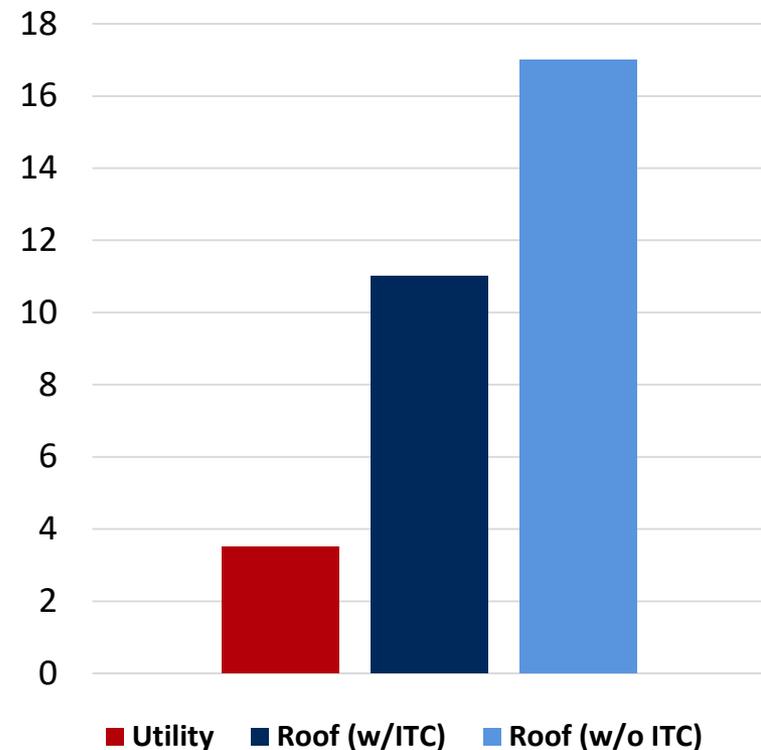
Utility-Scale Solar: Lowest Cost Solution

Market Utility Through Community Solar

- Market subscriptions (or slices) of utility-scale solar
- Customers only pay a small adder to their billed rate
- Ideal for multi-family units
- Great for utility branding – sign in yard “Solar power from ___ Utility”

2-Part Strategy: Raising Fixed Charge
+ Offering Cheaper PV Alternative

Cents per kWh Cost for Solar



SOURCE: NREL, FMPPA



Rate Structure Changes

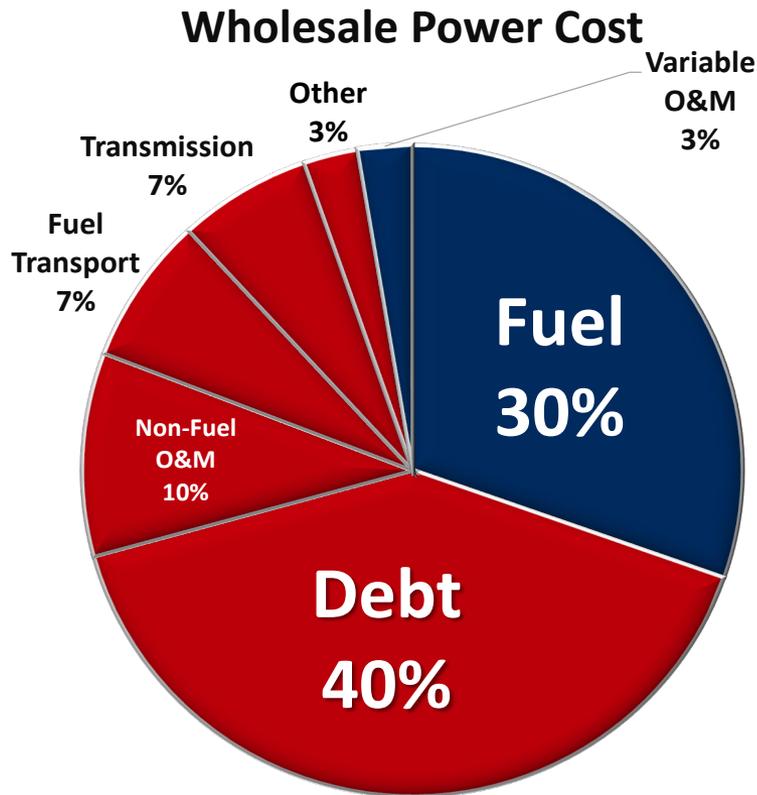
Rates Should Align with Costs

Majority of Costs for Service Are Fixed

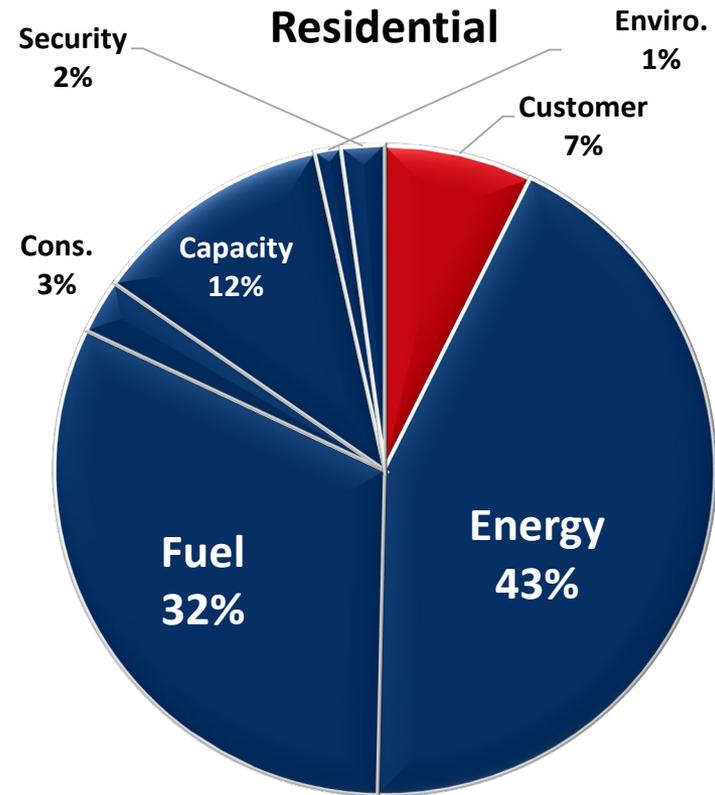
- Variable costs limited to fuel (2-3 cents per kWh)
- Traditional residential rates ignore cost to serve for social reasons and collect most money in a variable manner
 - Residential solar takes advantage of cost misalignment, harming customers without solar
- Actions nationwide focused on increasing fixed charges for alignment
 - Raising customer fixed charge is appropriate to prevent consumers with solar from being “subsidized” by lower income consumers

Majority of Power Delivery Costs Fixed

Traditional Cost of Service Not Aligned



60%+ of costs are fixed, and distribution is almost entirely fixed

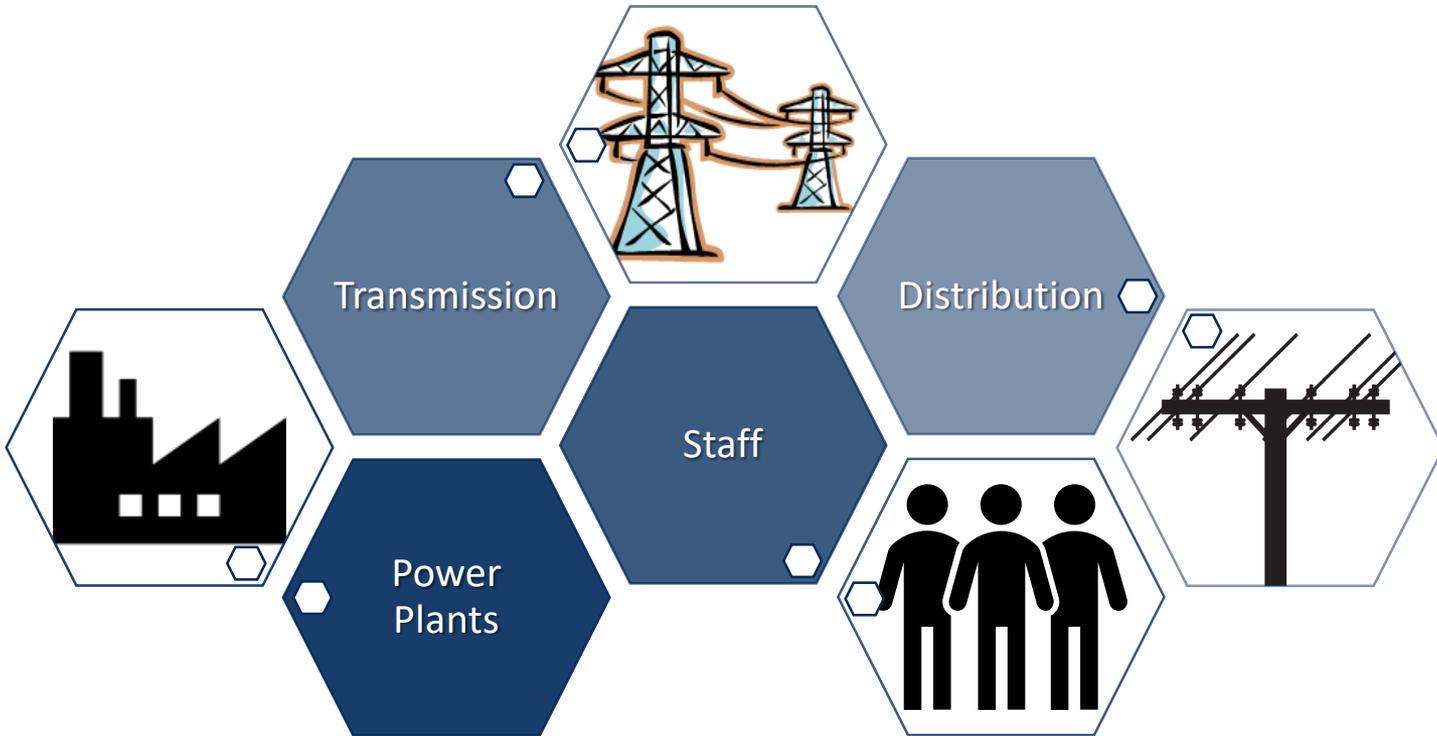


Over 90% of recovery is variable

Source: Duke March 2018 rates for 1,000 kWh

Residential Solar Reduces Energy Costs

Other Aspects of Utility Costs Unaffected



Value generally found in energy + losses that would otherwise have to be served

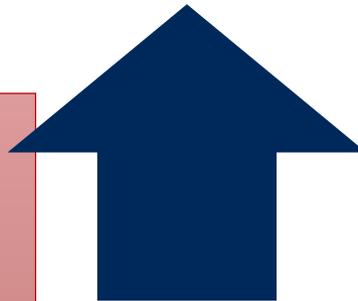
Rooftop Solar a Loss for Utilities

Reduced Revenue, Fixed Costs Remain

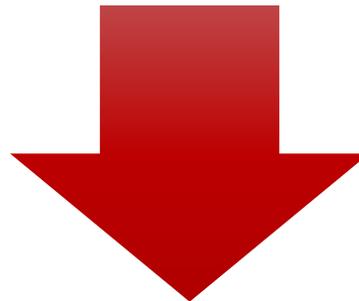
Example: 50% of Residential Customers Get Rooftop Solar

Approximate Customers	Avg. kW-AC Installed	kW @50% Adoption	Annual Energy Loss (MWh)
12,000	4.0	24,000	52,560

If half of residential customers adopted rooftop solar, city could lose 52,000 MWh annually.



Customer charge increase of around \$33/month per customer



Revenue reduction of ~\$5.3M a year, or ~\$400,000 per month

Charges at Co-ops & IOUs Moving Up

Forward Looking Municipals Also Increasing

- Florida co-op customer charges range from \$15-45
- IOUs customer charges moving from \$5.25-10 in 2005 to \$7.94-19.50 in 2018
- Gulf Power has requested a \$48/month customer charge
- Municipals starting to increase fixed charges



Customer Charge Increase Appropriate

Gradual Increase Sends Right Market Message

- Increasing (gradually) customer charge per month sends appropriate price signal and better aligns costs
- If solar net metering credit remains at full retail rate, adjust toward energy-only cost to eliminate cost burden for non-solar customers
- Group customer charge based on lower (e.g. <800 kWh/mo.) versus higher consumption levels to limit impact on lower consumption (multi-unit apartment and lower income) customers



Tiered (Varying) Customer Charges

Precedent Exists for Tiered Charges

Primarily Low Income Programs

- In Florida, customer (base) charges generally the same and not tiered by kWh
- Tiers (or implied tiers) exist across the country, primarily discounts for low income customers
- Possible tiering involves:
 - Less than 600-800 kWh/month
 - 100 or 200 amp service
 - Demand vs. non-demand customers





Communication is Key

Messaging Can Overcome Objections

Anticipate and Plan for Public Reaction

Stakeholder Opinion	Communication Strategy
Higher fixed charges will punish customers who don't use as much energy in favor of larger users.	Create tiers of fixed charges based on usage levels to limit impact on lower income customers.
Rooftop solar provides incremental energy and is on during the peak, so why can't you credit me for capacity (demand) benefit?	Solar is not a consistent source of power. It is not reliable during the winter peak, and generation is needed in summer and winter. Solar does not reduce the need for existing generation.
My rooftop system means you can save money on all of those poles and wires – I should actually see a lower customer charge.	Rooftop customers use the distribution system during non-solar hours, so they need and use poles and wires. Solar in small increments doesn't defers costs.
You're not doing the valuation right, because you aren't counting the social cost of pollution.	We can lower emissions even further using economic, utility-scale solar that can be allocated to customers at a fraction of the cost of rooftop installations.



[/FloridaMunicipalPowerAgency](https://www.facebook.com/FloridaMunicipalPowerAgency)



[@FMPANews](https://twitter.com/FMPANews)



[/company/fmpa](https://www.linkedin.com/company/fmpa)