# An Overview of Lake Worth Beach Electric Utility Efforts

Lake Worth Beach City Commission

Sept. 21, 2021

# Lake Worth Beach Electric Utility Has Come a Long Way
## Most Carbon-Free Supply in State and Low-Cost

- **Will have highest percentage of carbon-free supply in Florida**
  - Greater than 50% of supply carbon free by 2025
  - 51% improvement in $CO_2$ by 2025 compared to 2005 levels, with solar covering 40% of peak load
- **Power Cost reductions paying off with competitive power rates**
  - Negotiated new lower wholesale power deal and blended with clean nuclear debt strategy to save over $11 million annually in wholesale power costs, additional $5 million expected over next 6 years
  - Residential costs lower today than in 2006, U.S. rates up 27%
  - FPL settlement expected to increase neighbor residential rates ~$13 per month over next four years
- **Reliability improving and will improve further under SHRIP**
  - Invested over $14 million during past two years, additional $100 million in coming years
  - Working on second tie with FPL to improve redundancy, reduce outages and support long-term resiliency

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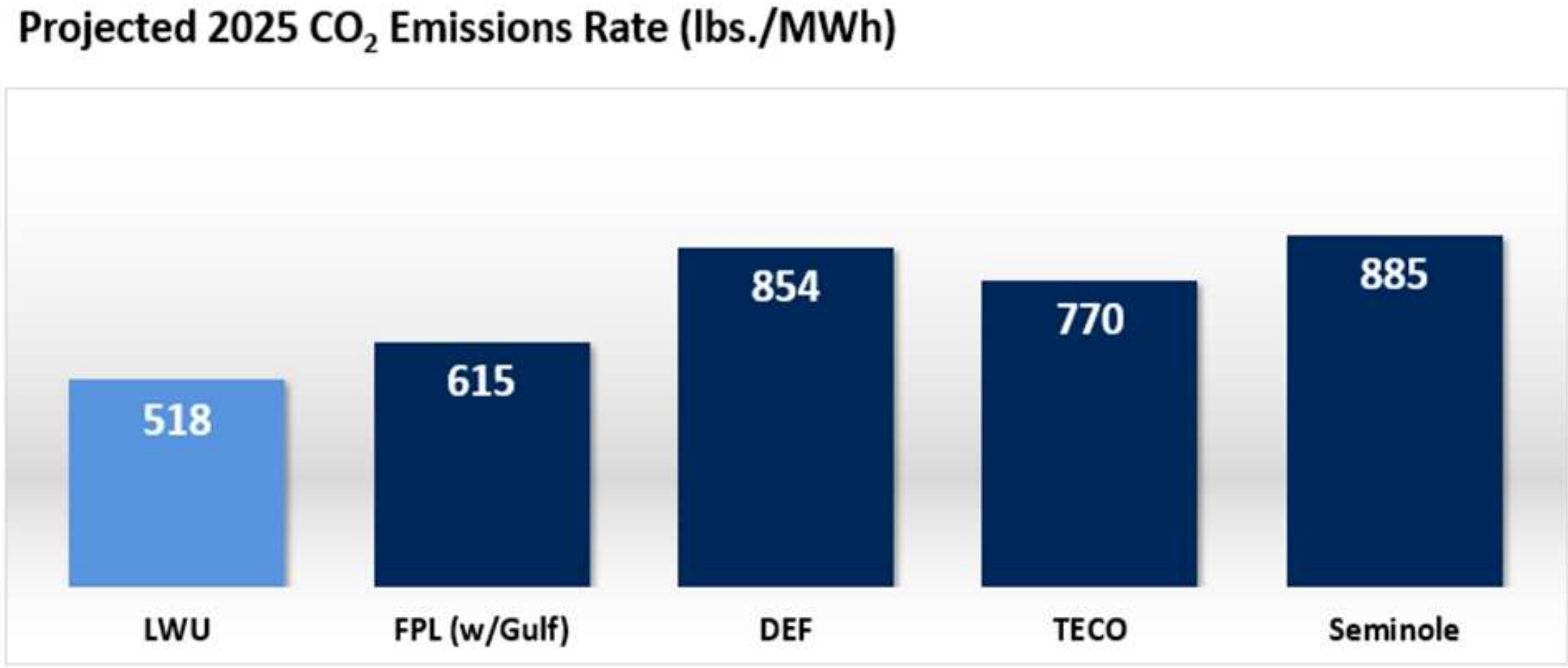
# Utility Projected to Have Lowest CO2 Rate

*51% Reduction from 2005 Levels**




*Based on Ten-Year Site Plans filed in April 2021 and other publicly available data. Reflects estimated typical emissions rates.

# City to Have More than 38 MW of Solar by 2024

*Carbon-Free Solar Resource ~40% of Peak Load*

1.7 MW from 5-acre solar farm in Lake Worth Beach

City of Lake Worth Beach FLORIDA

FLORIDA MUNICIPAL SOLAR PROJECT

36.5 MW from one of the largest municipal-backed solar projects

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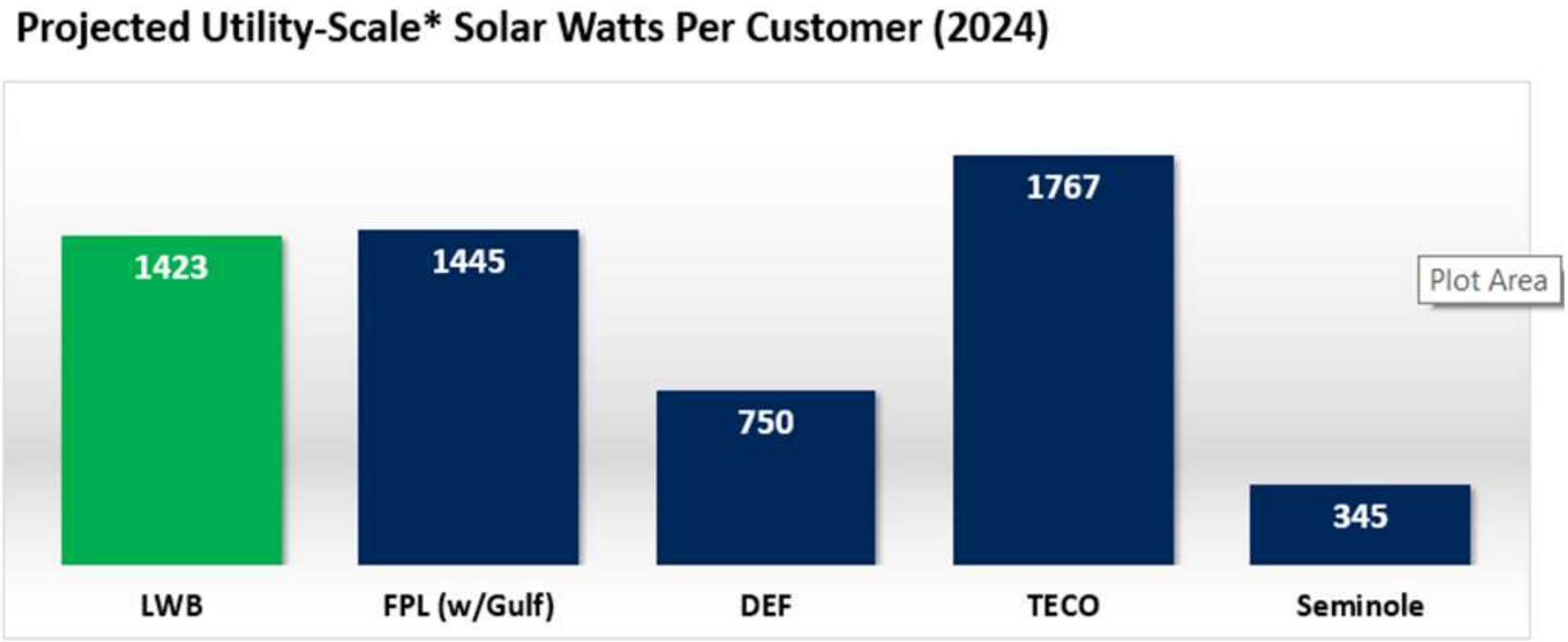
# Utility is a Leader in Solar Watts Per Customer

*City is Poised to Lead the State*




*Based on Ten-Year Site Plans filed in April 2021 and other public data. Subject to change based on additional future solar additions not included in current plans. Reflects projected customer counts in 2024.

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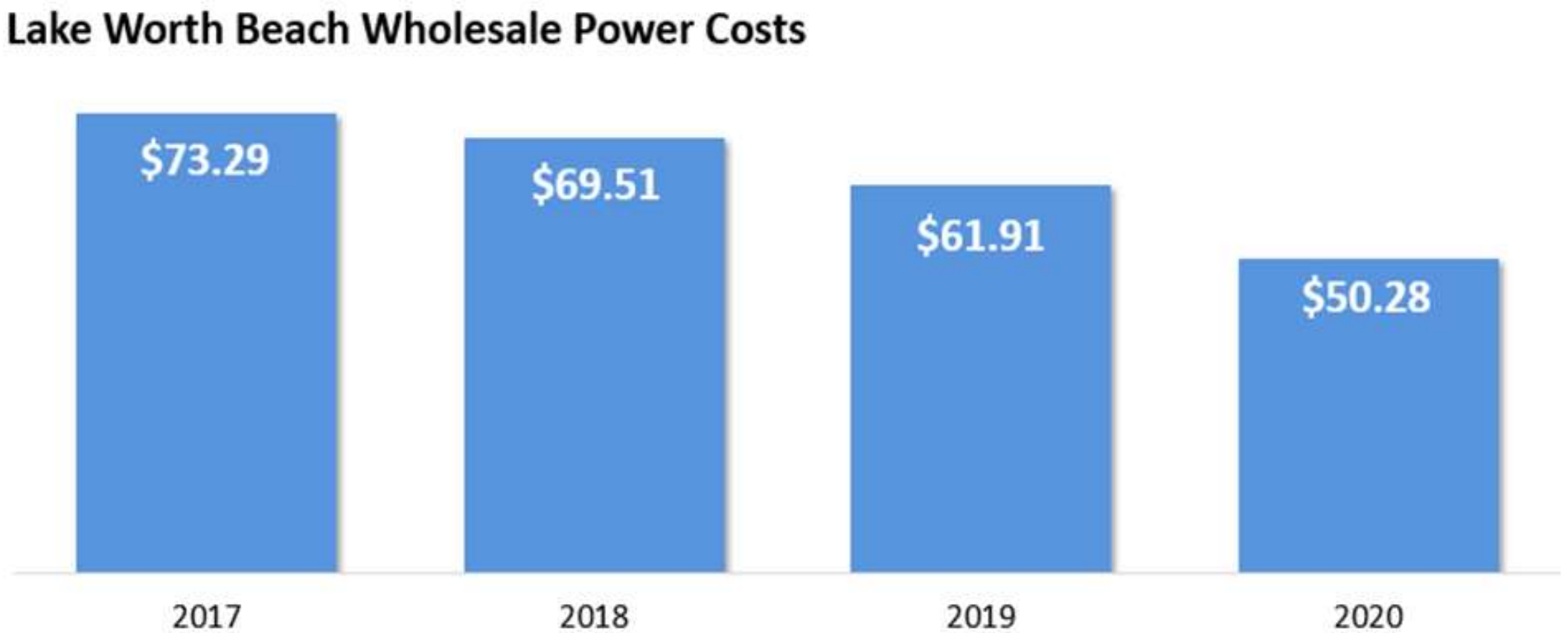
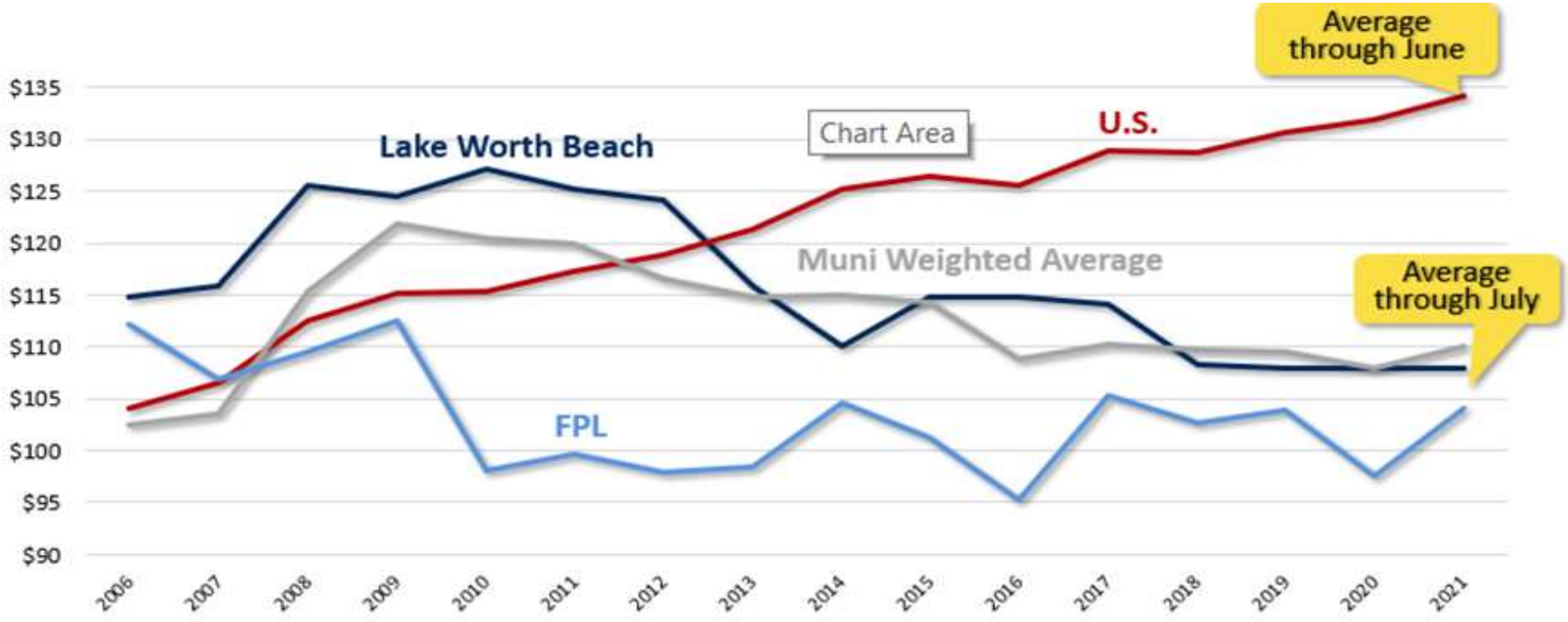
# LWB Reduced Annual Power Costs $23/MWh or $11M

*Reductions Possible Through New Power Contract*



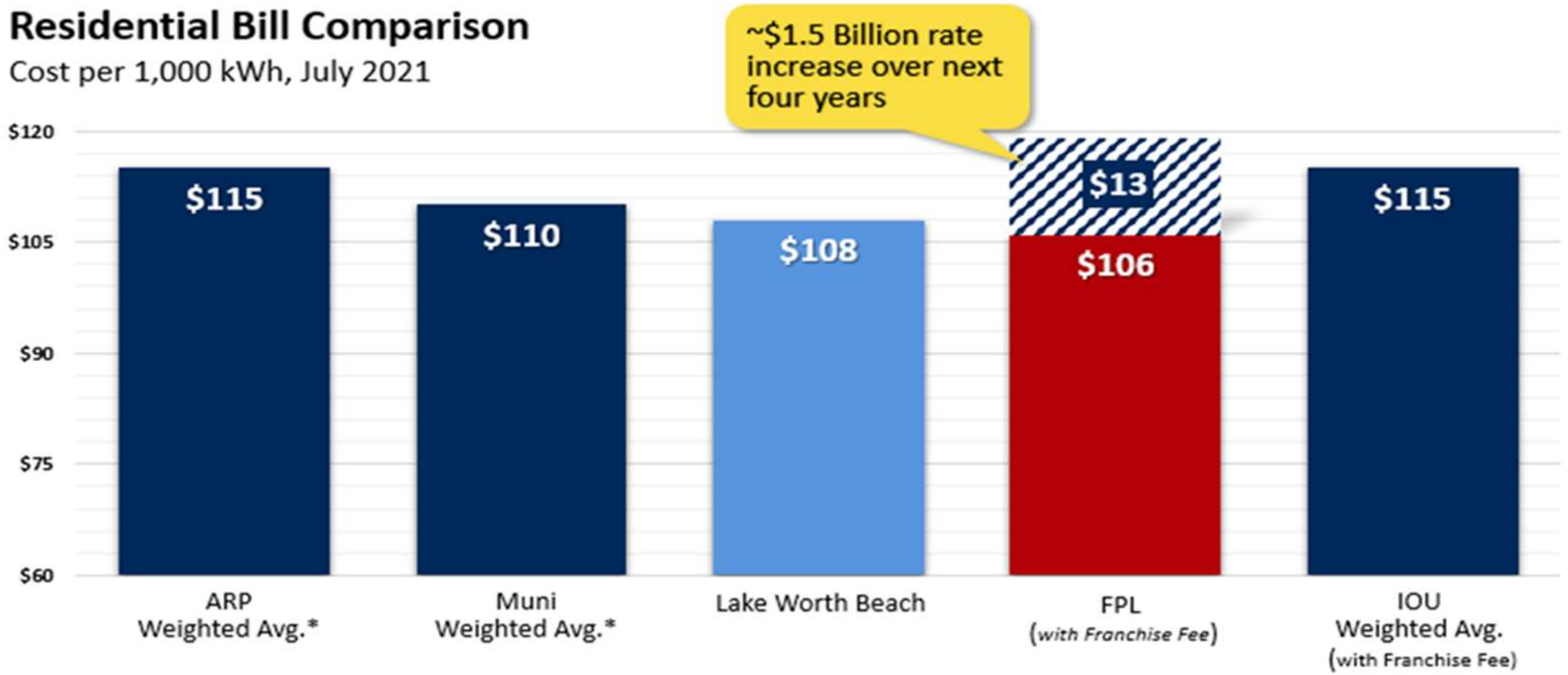
# Lake Worth Beach Residential Rates Lower Than 2006

*Customer Rates Down 6%, U.S. Rates Up 27% at End of 2020**




*City rates from FMEA analysis of 1,000 kWh per month and U.S. from EIA Annual Electricity for residential

# Lake Worth Beach Residential Retail Rates Competitive



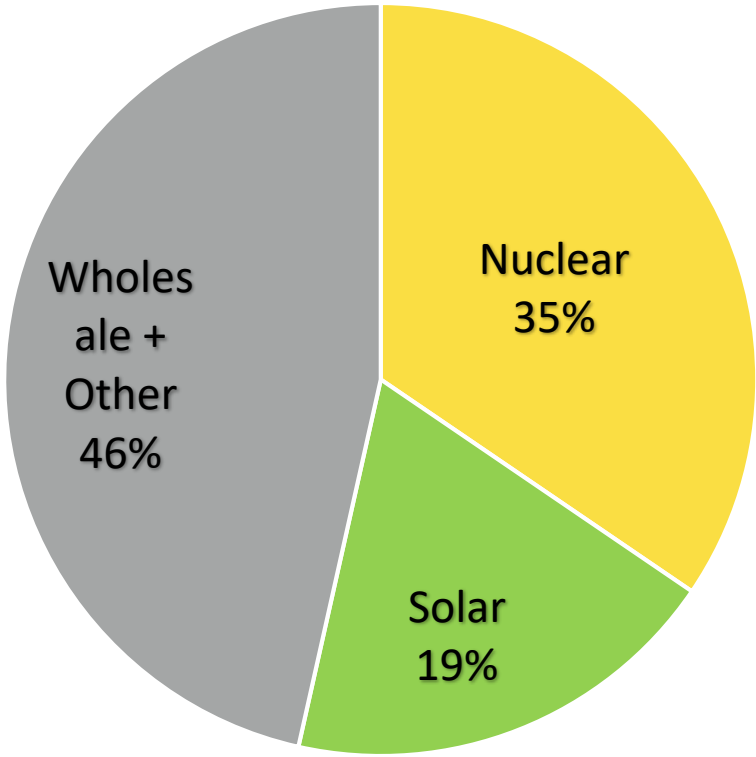

*FMPA's All Requirements Project (ARP), Muni & IOU rates weighted by 2019 annual load

# Negotiated New Wholesale Power Deal

## *Excess Market Supply Helps Reduce Costs*

- Lake Worth Beach solar and St. Lucie entitlements provide stable long-term energy supply
- Further cost reduction of $1.5M with new transmission line and retirement of gas unit in 2023
- St. Lucie debt cost reduction of $13/MWh or $2.7 million starting in 2023
- Stanton 1 retirement between 2025 and 2027 will further reduce $CO_2$ emissions and provide lower operating costs of $1.25M annually
- Utility negotiated advantageous arrangement for remaining needs
  - Excess market capacity available

**Projected Energy Sources (2025)**

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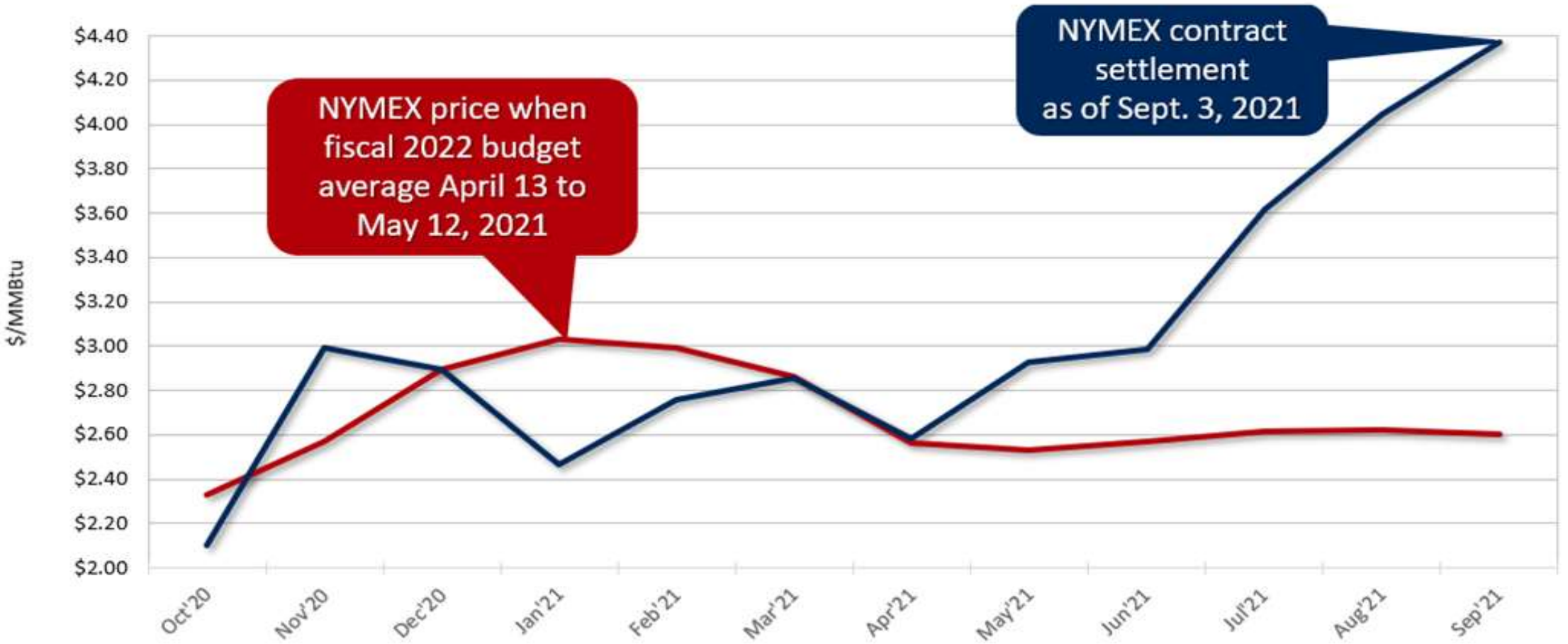
# Lower Wholesale Costs Offset Gas Prices

*Gas Price Forwards Materially Above Budget*

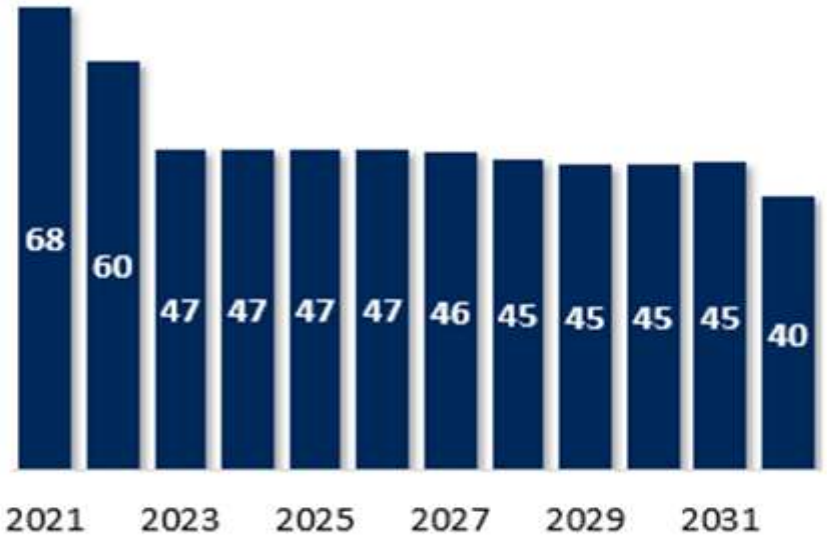


# St. Lucie Project Costs Coming Down

*Debt Extension Aligns with Extended Life*

- St. Lucie zero-carbon facility recently received license extension
- Allows for revised debt strategy to lower mid-term cost for participants
- Debt term now better resembles useful life
- ~$13/MWh reduction by 2023

**Projected St. Lucie Participant Costs with Debt Extension ($/MWh)**




Maintaining strong bond ratings supports continued low financing costs

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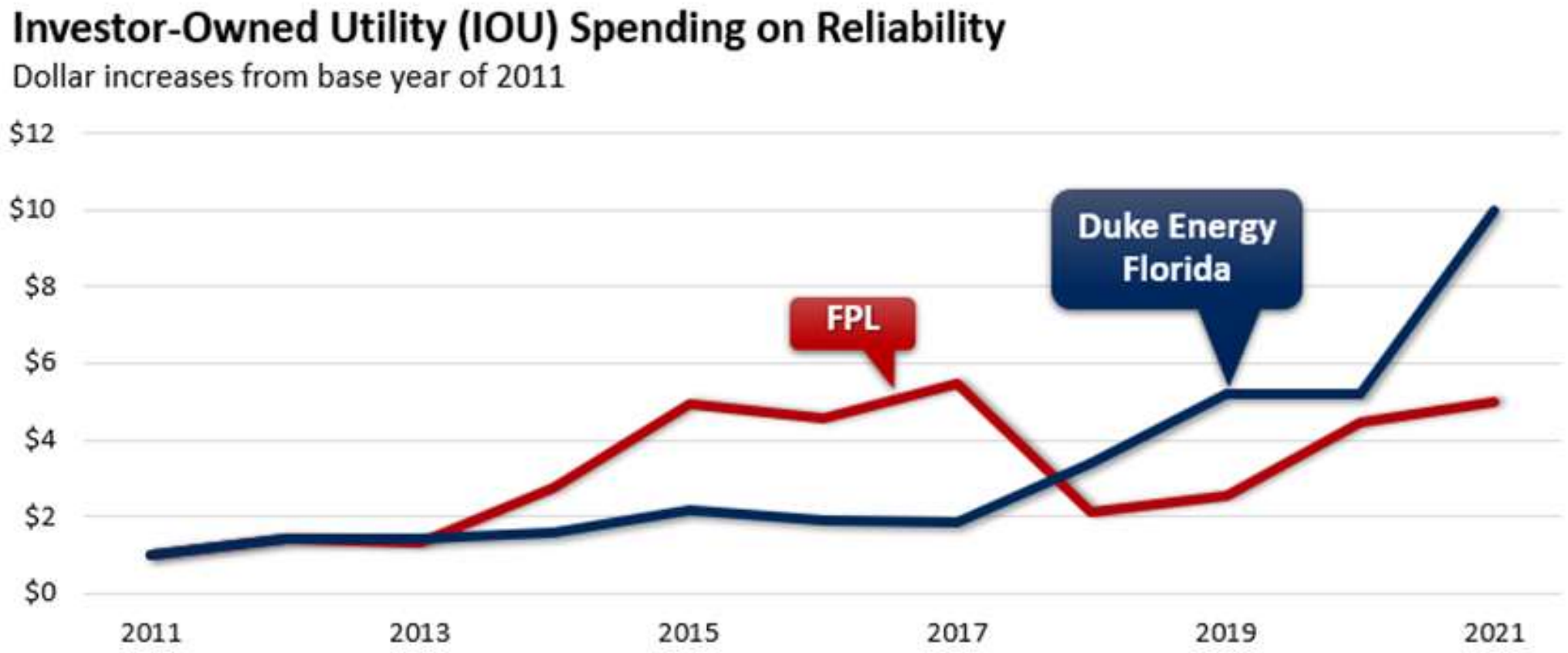
# IOU Spend on Reliability Up ~4-10 Times Municipals

*Reinvestment Impacts Reliability Performance*




SOURCE: Distribution Reliability Report filed with Florida Public Service Commission

# Increase in Storm Protection and Reliability

## *$100 Million Improvement Project Underway*

- Pursuing second transmission source to eliminate system-wide outages
- Upgrades to distribution system to withstand Category 5 hurricanes
- Adding technology to reduce outage occurrences and duration
- Hardening in known trouble spots to reduce animal and vegetation contacts
- Converting to higher operating voltages to reduce thermal stress and increase power delivery needed for growth
- New system control and data acquisition systems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# Second Tie with FPL Transmission Coming

*Key Source of Reliability Risk will be Resolved, Lower Power Costs*

- New tie to substation and associated transmission lines on the way
- FPL letter of intent complete
- Engineering and procurement well underway
- Transmission upgrades targeted for end of 2022, distribution by summer 2023
- Longer lead time for materials could extend project timeline
- Once project complete, power costs reduced by $1.5M as generator retired

A final facility construction agreement will bind FPL and Lake Worth Beach to complete their portion of needed facilities

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# Priorities for Next Five Years

*Emissions, Reliability and Value Delivery*

- Complete transmission project with FPL for reliability and cost improvement
- Advance SHRIP program initiatives for reliability improvements
- Pursue strategic solutions to increase solar generation reliably
  - Requires creative solutions to pair solar output with load
  - Energy storage solutions for local resiliency
- Complete power cost reduction efforts to save additional $5 million annually
- Complete cost of service study with Leidos to provide value to customers
  - Solar subscription product for customers forthcoming
- Improve outlook with rating agencies through continued cost control, rate adjustments and staff stability to deliver results to bondholders as forecasted

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