



FMIPA Strategic Planning Session Ten-Year Plan

Board of Directors and
Executive Committee

February 17, 2021



Session Outline

What We've Achieved and What's on Horizon

1. Review of Vision, Mission and Values
2. Review of February 2019 Strategic Priorities
3. Review Strategic Planning Material and Identify Potential Priorities
 - A. Drivers of FMPA and Member Businesses
 - B. FMPA Talent Management
 - C. Ten-Year Resource Plan
 - D. Environmental Responsibility
 - E. Asset and Capital Plan and Rate Projections
 - F. FMPA Risks and Opportunities
 - G. Review Overall Electric and Natural Gas Market Outlook (Background Information)
4. Lunch
5. Review and Categorize Identified Potential Strategic Priorities
6. Develop Consensus on Top Strategic Priorities for Next 2 Years



Review of Vision, Mission and Values

FMMPA Vision and Mission

VISION

- To sustainably be the lowest cost, reliable and clean wholesale power provider in Florida.

MISSION

- To provide low-cost, reliable and clean power plus value-added services for FMMPA's owner-customers that benefit their communities and customers.

FMPA Values

- A culture that values both our employees and operating agents and their safety
- Teamwork among our employees and our public power member-owner-customers
- Trust built through honesty, integrity, transparency, open communications and respect
- Employee development, recognition, reward and empowerment
- Environmentally responsible operations
- Member and employee diversity and inclusion
- Innovation and excellence
- The individual needs and desires of FMPA's owner-customers shall be given the strongest consideration consistent with the best interests of all owner-customers



Review of February 2019 Strategic Priorities

We've Made Good Progress Since 2019

Good Success, and More Work to Do

Rank	Strategic Priority	Steps Taken
1	Drive Down Wholesale Power Costs	<ul style="list-style-type: none">• Power costs lowest since 2004, down 37% vs. 2009• Low-cost units continue at 90+% availability• Implementing ongoing debt restructuring strategies• ~\$5.7M net benefit of external sales (\$1.00/MWh) for Fiscal Year 2020
2	Reliability Enhancements	<ul style="list-style-type: none">• APPA DEED Trip Saver Pilot & 16 Member Projects• 16 cities improved outage duration since 2018• 12 cities < 60-minute avg. duration in 2019
3	Cost of Service and Solar Subscriptions	<ul style="list-style-type: none">• 6 Members have or pursuing solar subscriptions• 15 Financial Planning Projects for Members• Pull Savings Forward COVID support for 22
4	Expand Member Services Projects	<ul style="list-style-type: none">• 27 significant member projects in fiscal 2019• 29 significant member projects in fiscal 2020

We've Made Good Progress Since 2019

Success, More Work to Do on Strategic Items

Rank	Strategic Priority	Steps Taken
5	Expand services in NERC compliance/cyber/IT	<ul style="list-style-type: none">• Assisted 11 Members in cyber security scorecard• Phishing Testing for 5 members• Working with 4 members on more holistic IT Assessments with 1st billable IT support project• 2 FMPA-led peer reviews (FPUA & Ocala) in 2020
6	Transmission Rate Mitigation/Connect with New Power Supply Resources	<ul style="list-style-type: none">• Coordinating 2 new looped connections for Members• External sales and pool management efforts• Explored transmission build alternatives with FPL, no viable projects• Negotiated multi-year rate with FPL, awaiting FERC approval• Negotiated lump sum adjustment with DEF
7	Expand services in AMI Implementation	<ul style="list-style-type: none">• Advanced 2 Member AMI Procurements to Phase 2• AMI Workshop and surveys to ID new service options• Grid Modernization/road-mapping in PM role



Drivers of FMIPA and Member Businesses How Are We Doing?

Overview: Muni Challenges Increasing *More to Achieve with Limited Resources*

- Working to lower cost on retail front while...
- Continuing to improve reliability of power system and managing staffing retention challenges (e.g. linemen)
- Increasing new workload (e.g., IT, compliance, new technology, communications)
- Responding to increased customer expectations (service options, rate structures, day-to-day communications, and new technologies like EVs)
- Continued improvement in emissions reductions while keeping prices affordable
- Goal of increasing the member electric utilities' value to each of their communities and proactively communicating business model benefits

FMPA's Mission Important for Floridians

Lower Wages, Less Disposable Income, Higher Consumption



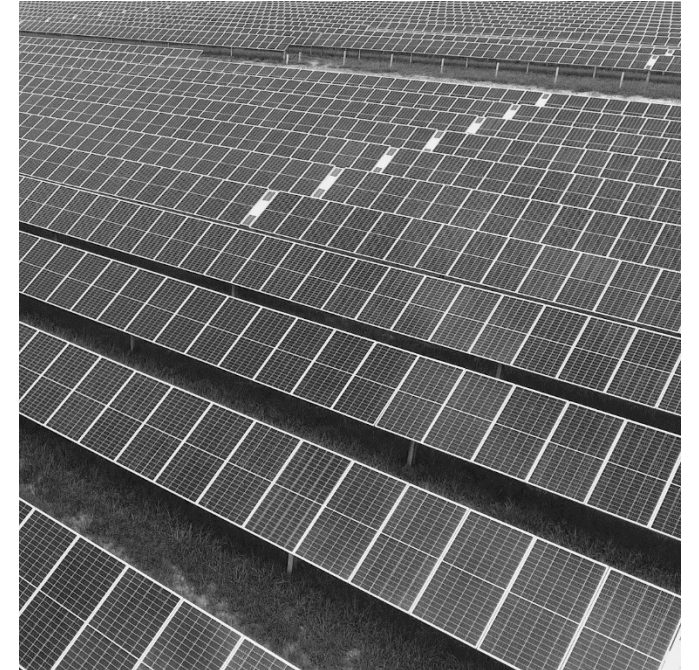
LOW-COST POWER

Customers Need It



RELIABLE POWER

Customers Expect It

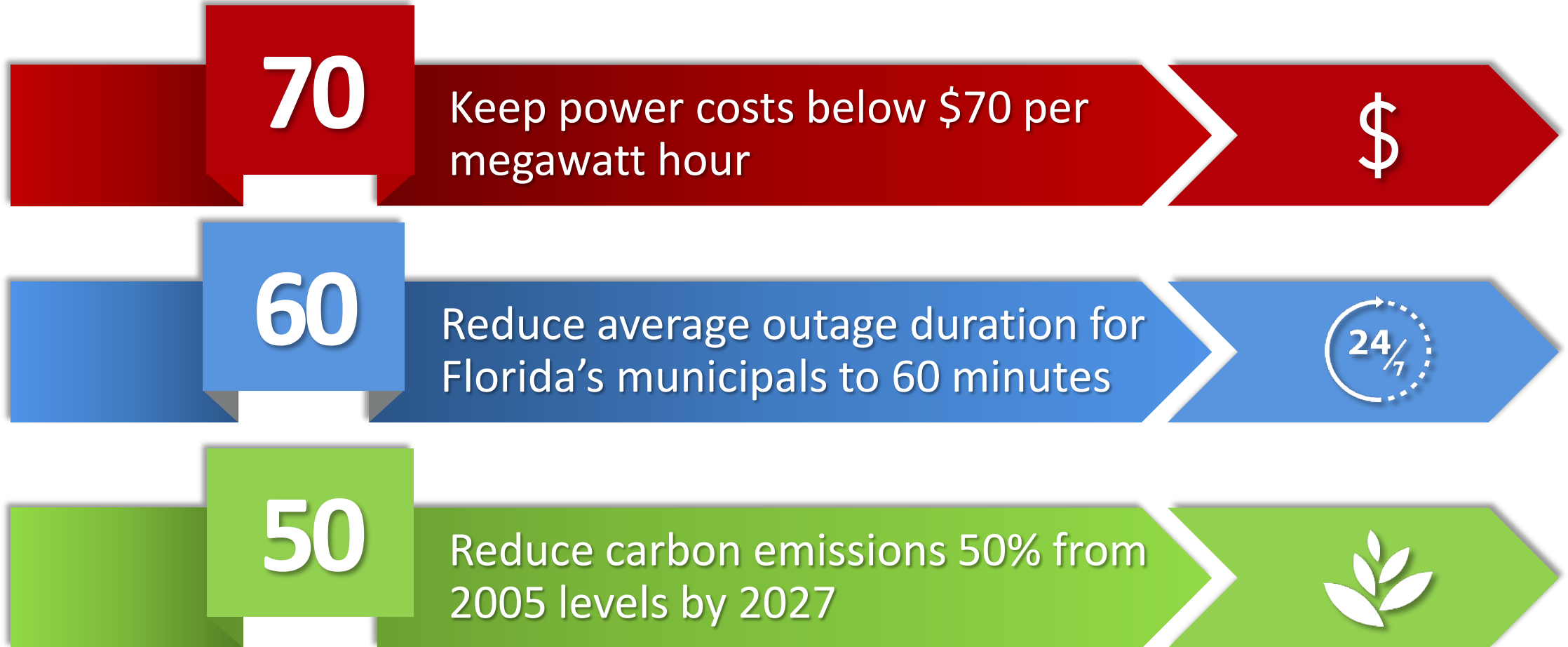


CLEAN POWER

Customers Want It

FMPA's Stretch Goals for the Coming Years

Our Targets for Low-Cost, Reliable and Clean Wholesale Power

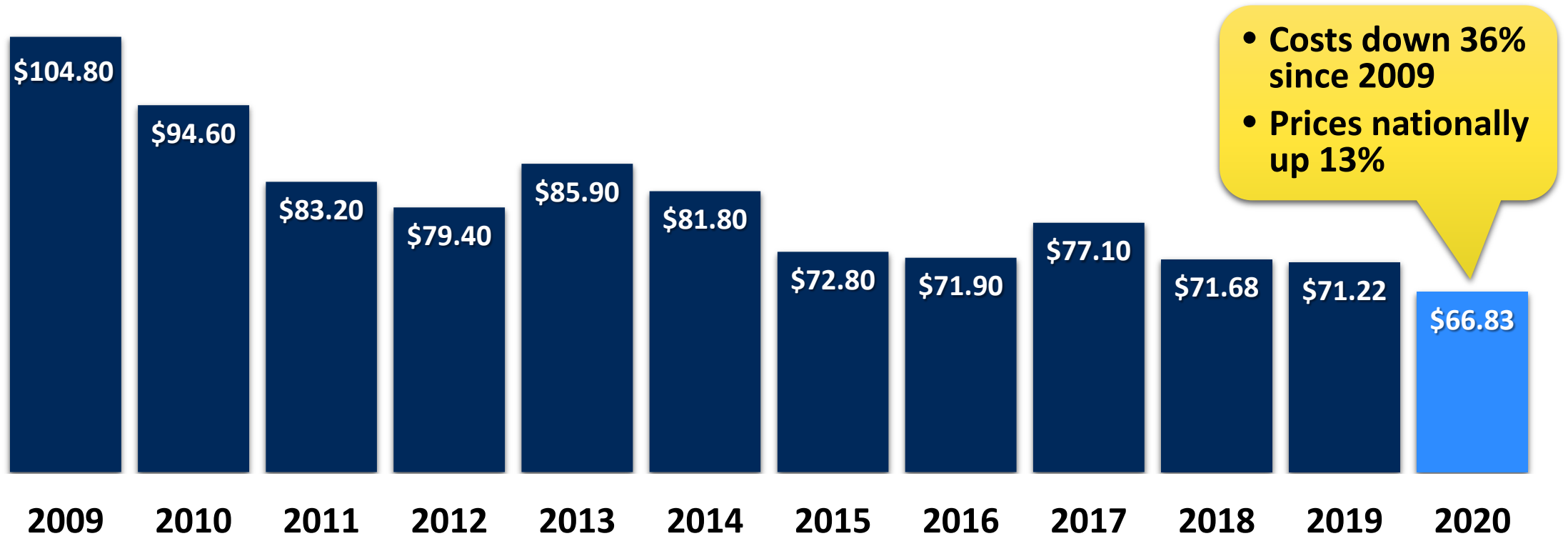


FMPA's Power Costs Lowest Since 2004

First Time Below \$70 Per MWh in 16 Years

All-Requirements Project Power Costs

Average cost per 1,000 kWh billed by fiscal year

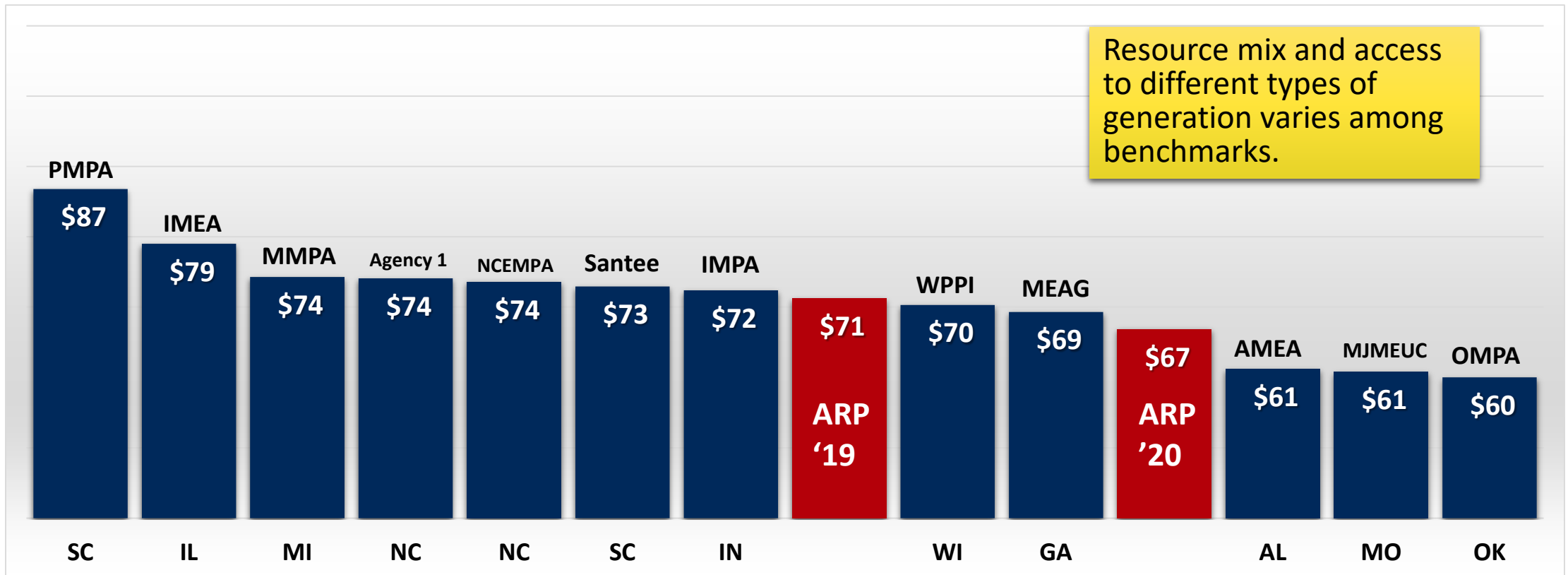


ARP Rates Competitive With Other JAAs

Most Recent Rate in Lower Quarter of Benchmarks

Annual Average Power Supply Costs by JAA (2019*)

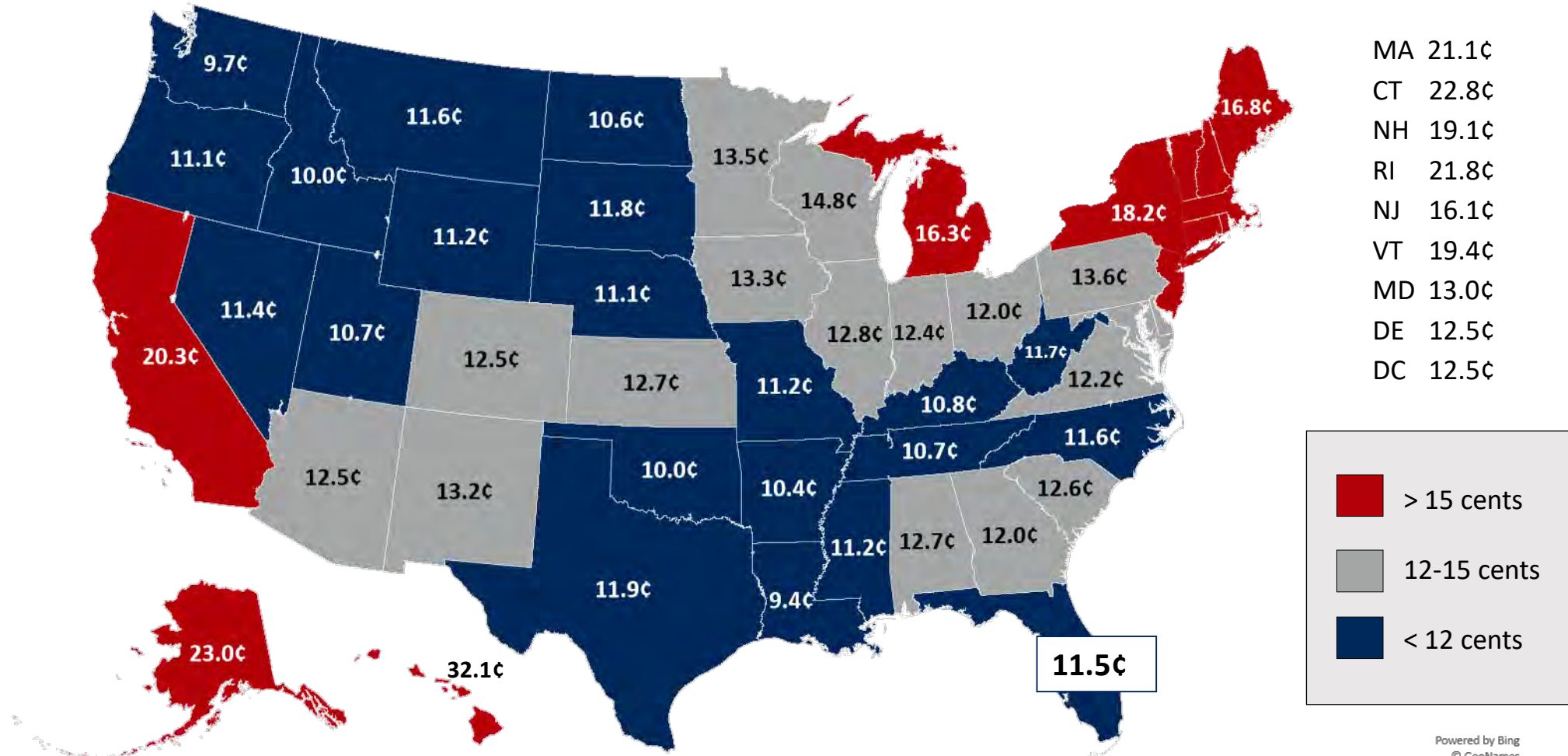
Average cost per 1,000 kWh billed. Source: PFM Financial, FMPA



Florida's Residential Electric Cost 16th Lowest in U.S.

Florida's High Electric Use Depends on Low-Cost Power

Residential Average Cost, cents per kWh

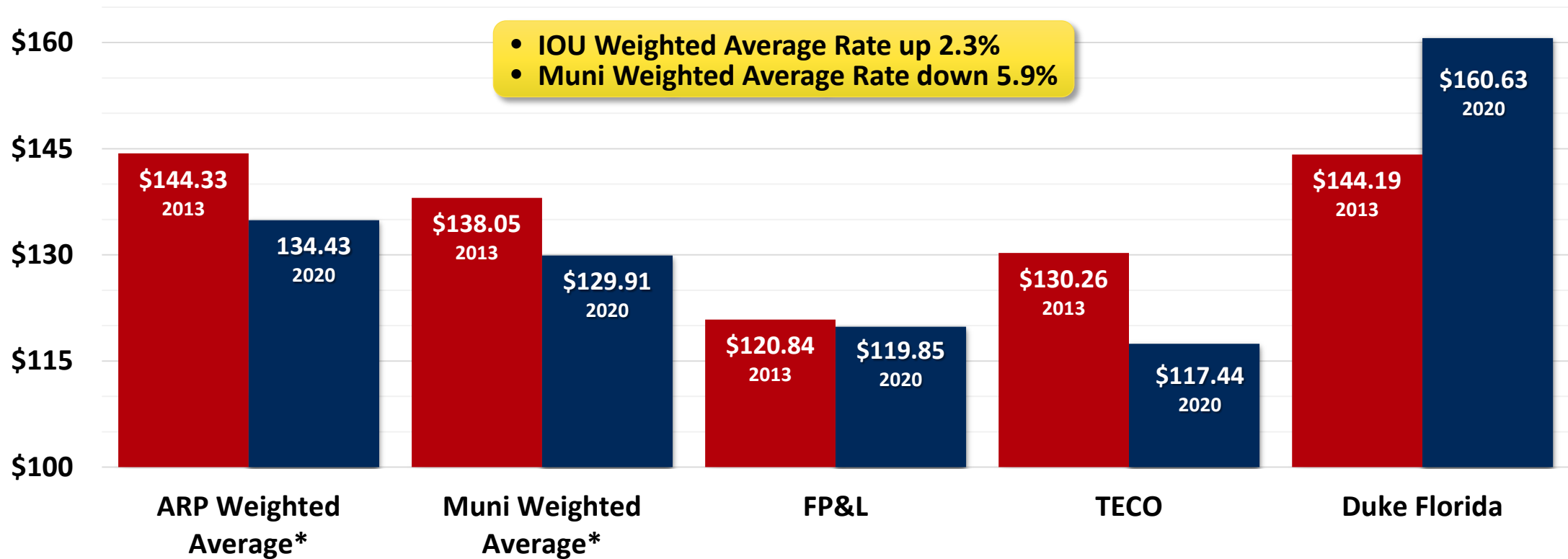


SOURCE: U.S. Energy Information Administration, 2020 year-to-date average

Retail Rates Competitive, Could Improve

There's More We Can Do ... We're Not Satisfied

Residential Bill Comparison
 Cost per 1,200 kWh, Calendar Year 2013 vs 2020 Average Rate



Rates Truly Matter to Community Stakeholders

“Our city-owned electric utility charges significantly more for power than our local competitor, FPL. But my colleagues won’t explore selling it. Our electric utility is essentially a mechanism to levy a regressive tax on our resident.”

Rep. Omari Hardy, Florida District 88,
Former Lake Worth Beach City
Commissioner

“We get complaints from the ordinary citizen and businesses that they’re being overcharged quite a bit.”
“We could duplicate what Vero Beach did.”

Reggie Sessions, District 1 City Commissioner, Fort Pierce

“We’re talking about options to explore and grow JEA to protect it from what would be a slow, but certain, death spiral.”

Alan Howard, Former JEA Board Member

Municipals Low-Cost Provider in Each Category

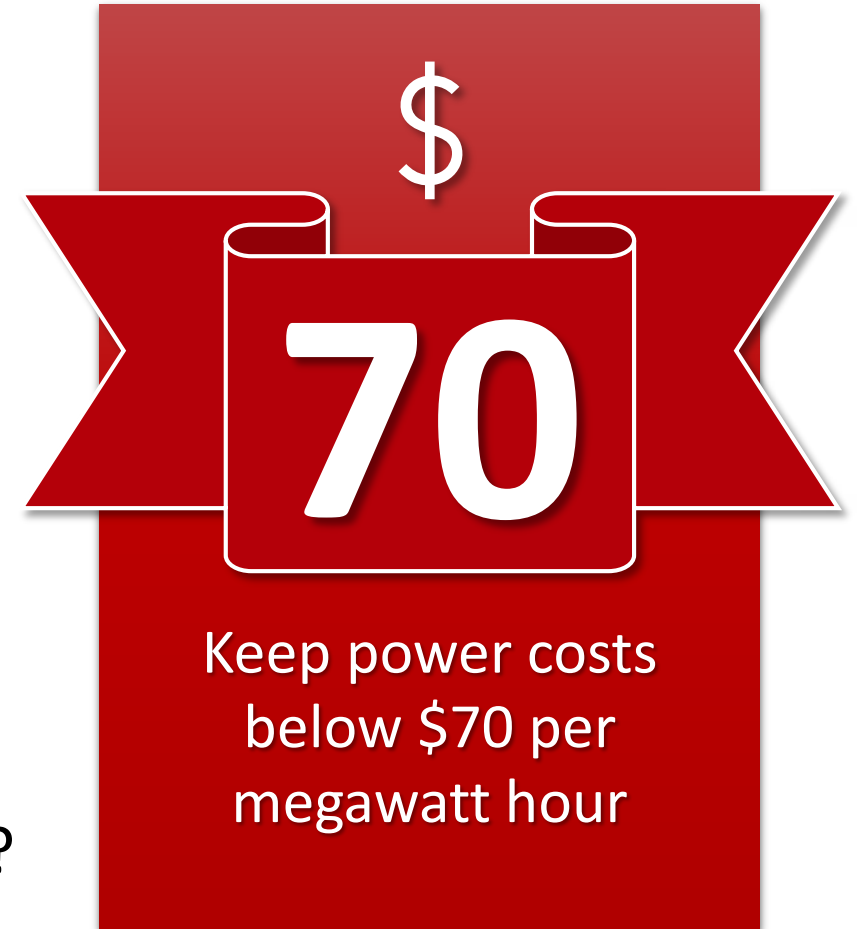
No ARP Cities Lowest Cost Provider

Rate Class 2020 YTD*	Utility
1,000 KWH	LAKELAND
1,200 KWH	LAKELAND
2,500 KWH	LAKELAND
Non-Demand 750 KWH	TALLAHASSEE
Non-Demand 1,500 KWH	TALLAHASSEE
30 KW - 6,000 KWH	LAKELAND
40 KW-10,000 KWH	LAKELAND
75 KW - 15,000 KWH	MOUNT DORA
75 KW - 30,000 KWH	MOUNT DORA
150 KW - 30,000 KWH	MOUNT DORA
150 KW - 60,000 KWH	MOUNT DORA
300 KW - 60,000 KWH	MOUNT DORA
300 KW - 120,000 KWH	MOUNT DORA
500 KW - 100,000 KWH	MOUNT DORA
500 KW - 200,000 KWH	MOUNT DORA

FMMPA Working to Continue Lowering Power Costs

What Else Can FMMPA Do to Drive Competitive Costs?

- FMMPA's costs have decreased significantly
- Some municipals have very competitive rates
- On average, municipals are lower than IOU average, but most municipals not as low as the lowest IOUs
- There is more that could be done to have all municipals rate competitive, is this a focus area?
- Besides lowering wholesale power costs, is there anything FMMPA can do to drive competitive costs?





Reliability Goal



Reliability Goal: Average Outage Duration 60 Minutes

Average Muni Reliability Good, But Some IOUs Making Strides

- Customers expect reliable power
- Competition setting a new standard
- Municipals typically excel at restoring power quickly (CAIDI)
- Some municipals perform excellent in reliability indices but performance on some indices varies widely
- Municipals could benefit from reliability best practices to enhance customer satisfaction

Distribution Reliability Indices for 2019

Best Performer in Florida Highlighted in Green

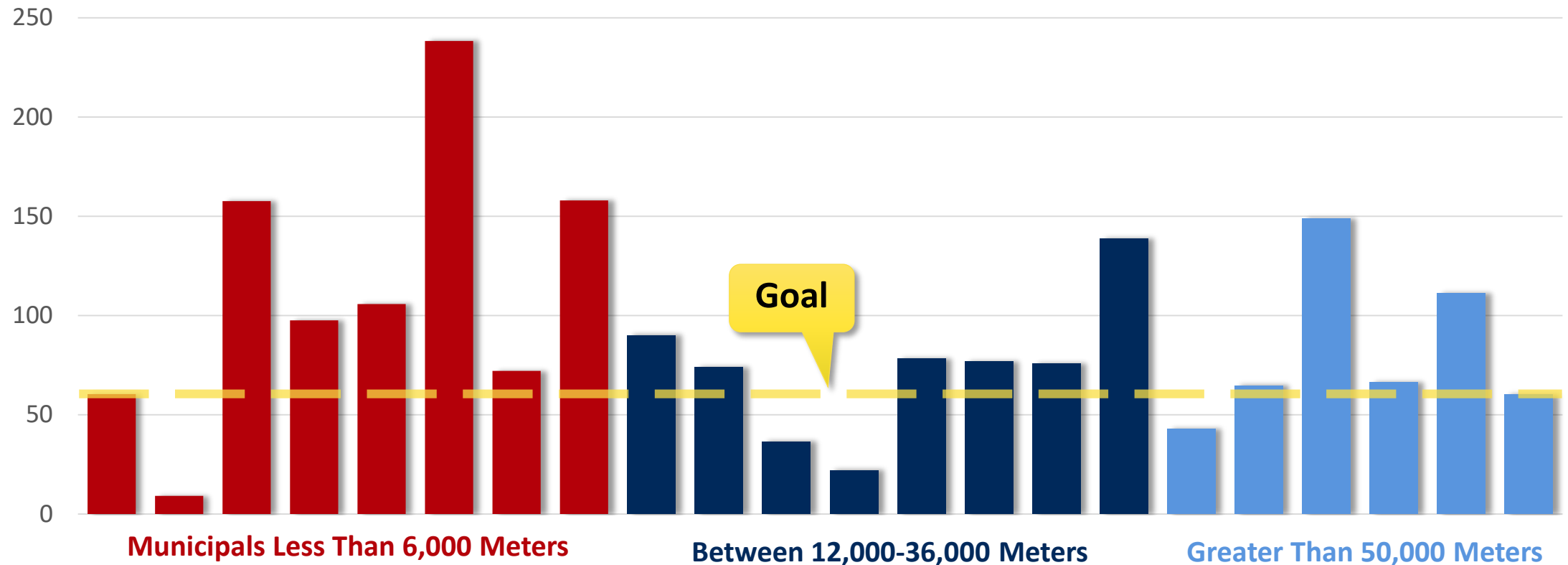
	Munis	FPL	Gulf
Duration (SAIDI)	70	49	67
Restoration (CAIDI)	60	60	69
Frequency (SAIFI)	1.16	0.82	0.97
Momentaries (MAIFle)	3.32	3.20	2.13

Municipal Reliability Performance Varies Widely

Significant Effort Needed to Meet the Goal

Average Outage Duration (SAIDI) for Municipals That Provide Data to FMPA

In minutes for fiscal 2020



FMPA Offers Assistance with Reliability Initiatives

Recent Examples of FMPA's Growing Support to Members

Projects	Members
Substation Improvements	Starke, Clewiston, Green Cove Springs, Gainesville, Wauchula
Protection Coordination	Blountstown, New Smyrna Beach, Williston
Customized Training	Bartow, Key West, Homestead, Williston, Alachua
Lateral Reclosers	Bartow, Homestead; Additionally, through the DEED Project, Tallahassee, Havana, Key West
Mobile Substation Project	Multiple potential members
Mapping, GIS	Blountstown, Bushnell, Chattahoochee, Fort Meade, Green Cove Springs, Havana, Moore Haven, Williston
AMI	Clewiston, Newberry

FMPA Can Provide Reliability Resources in Key Areas

Leveraging Subject-Matter Experts, Joint Purchase Contracts

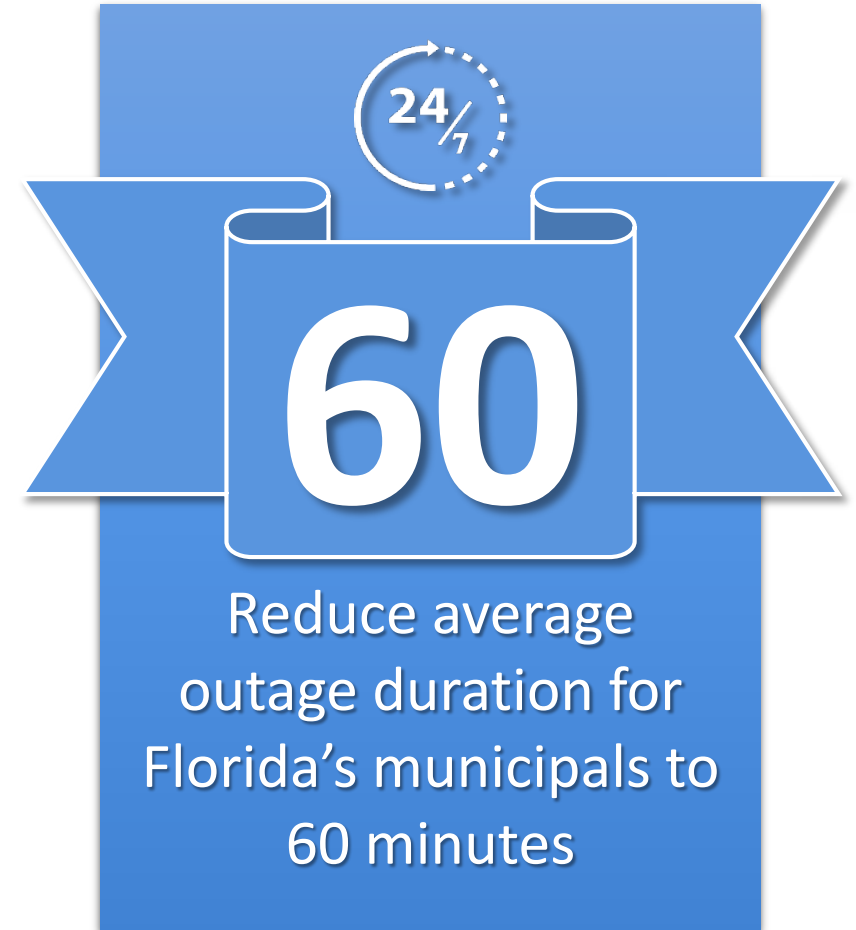
Best Practices	Available FMPA Support
Circuit Inspection	SME support, contract services for infrared inspection
Substation Maintenance	SME support, contract services available
Tree Trimming	SME support, contract services available
Fuse Coordination	SME support, Master Services Agreements
Pole Inspection & Replacement	Contract services
Targeted Hardening	Master Services Agreements, SME support
Lateral Reclosers	SME support, Master Services Agreements
SCADA, GIS, AMI	Master Services Agreements, limited SME support

SME refers to subject-matter experts available on FMPA's staff. List of [contract services](#) available from FMPA's joint procurement efforts.

As Costs Come Down, Will Reliability Be a Focus Area

Is There a Joint-Action Advantage to Expand Reliability Services

- FMPA works to supply reliable wholesale power, and retail-level reliability important, too
- Some municipals challenged for various reasons to apply best practices
- If members seek assistance to the level of the opportunity, additional FMPA resources could be necessary to support reliability efforts
- Is reliability a top strategic issue for members?
- Do members see a joint-action advantage for FMPA to expand reliability services?



24/7

60

Reduce average outage duration for Florida's municipals to 60 minutes



Additional Retail and Member Service Opportunities

Member Service Projects Increasing in Number

More FMPA Team Members Involved in Providing Services

- July 2018**
 - Report to Board highlighted distribution assistance to members, noting 7 projects for 5 cities
- FY 2019**
 - Logged 27 member projects in fiscal 2019 Management Goals
- FY 2020**
 - Management Goals logged 29 new member projects, 11 Cyber Scorecards, 5 SAIDI reductions, 6 solar subscriptions
- Jan. 2020**
 - Adopted guidelines for chargeable services and have been engaged on 2 chargeable services to date
- Jan. 2021**
 - Tracking approximately 70 member-service efforts

TYPES OF SERVICES
Communications
Cybersecurity
Distribution Engineering
Distribution Reliability
Finance
Financial Planning
Human Resources
Information Technology
Legal
NERC Compliance
Retail Power Delivery
Strategic Planning

Cybersecurity and IT Require Increasing Focus

Threats Evolving and Costs Growing

- Changing risk landscape
 - Malware, ransomware, denial-of-service attacks continue to impact municipalities
 - Phishing attempts evolving and maturing
 - Cyber insurance likely to add risk profiles/requirements to offset higher costs
 - Supply chain risks and responsibilities increasing
- Be prepared with cyber incident response plan, like utilities have a storm plan
- Needed IT skills are evolving, talented resources are scarce

BY THE NUMBERS

\$3.9M Average cost of a data breach in 2020

Percentage of malware delivered via email **94%**

38% of employees fail phishing tests

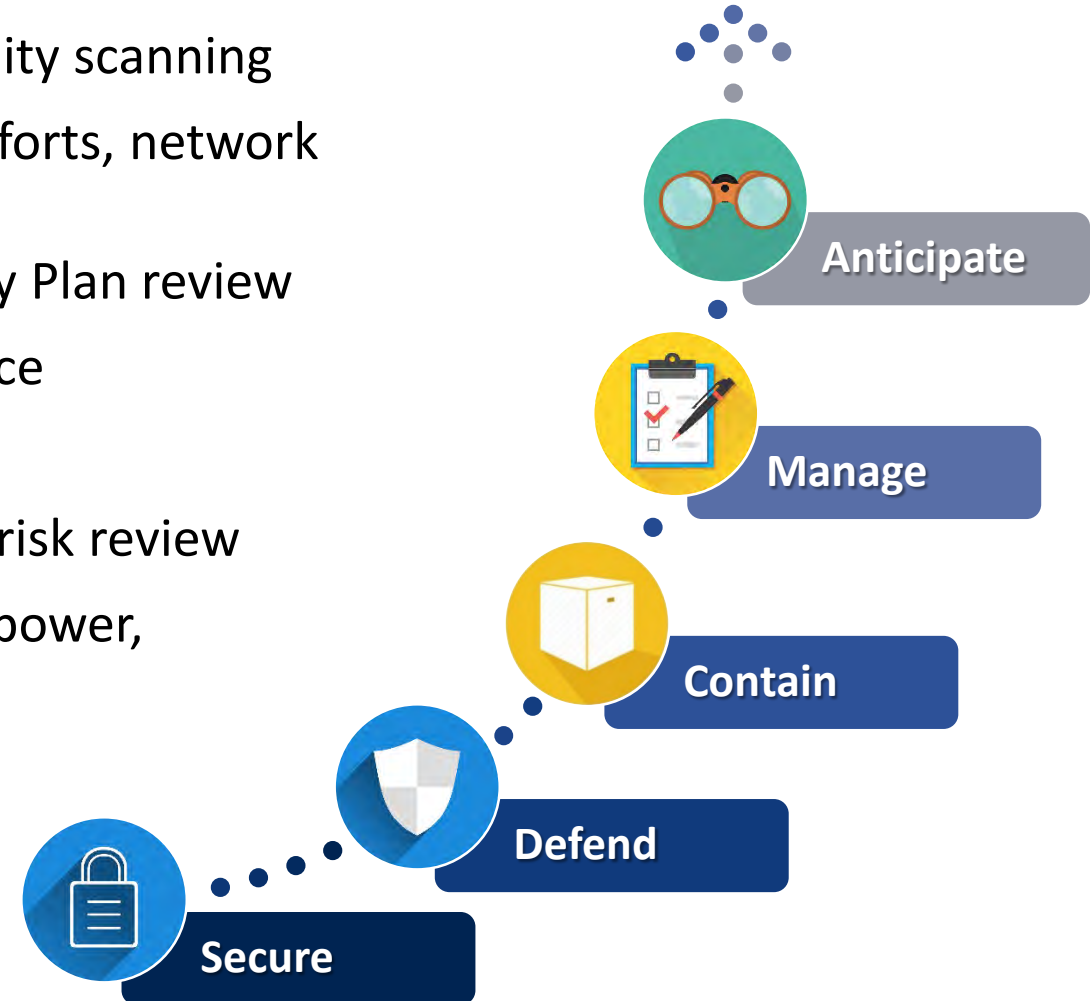
Average downtime for a ransomware event **16 days**

500% Increase in U.S. spending on cybersecurity over 10 years

FMPA Has Cybersecurity Expertise

Many Services Available to Help

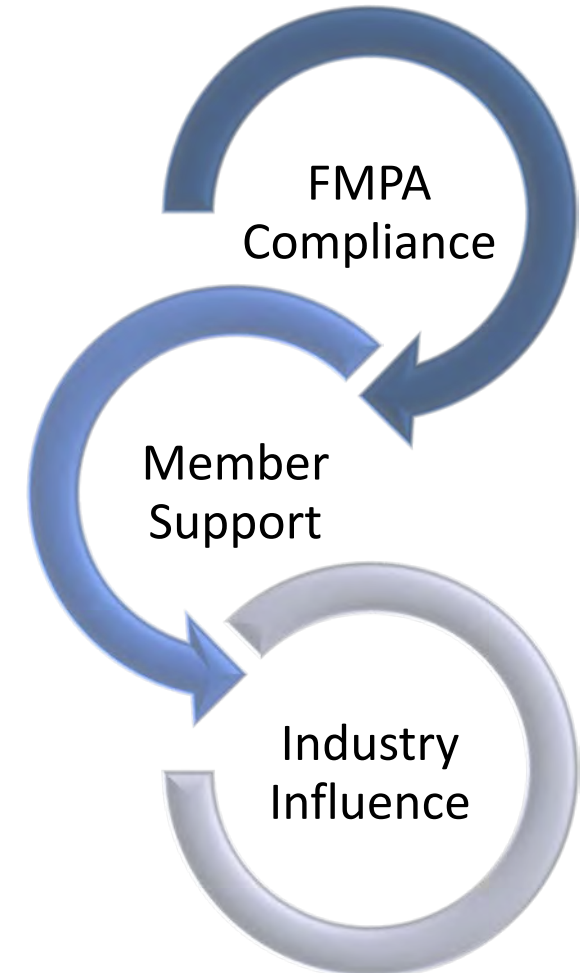
- Network assessments, inventories, vulnerability scanning
- Firewall configuration review, validation of efforts, network documentation
- Incident Response Plan and Disaster Recovery Plan review
- Conversations around Cyber Mutual Assistance
- Risk exposure from internet connections
- Systems backups and ransomware exposure/risk review
- Review of existing services offered by public power, federal grants, other sources
- Risk review of cloud services
- Member phishing program



NERC Regulatory Compliance Focus Remains a Priority

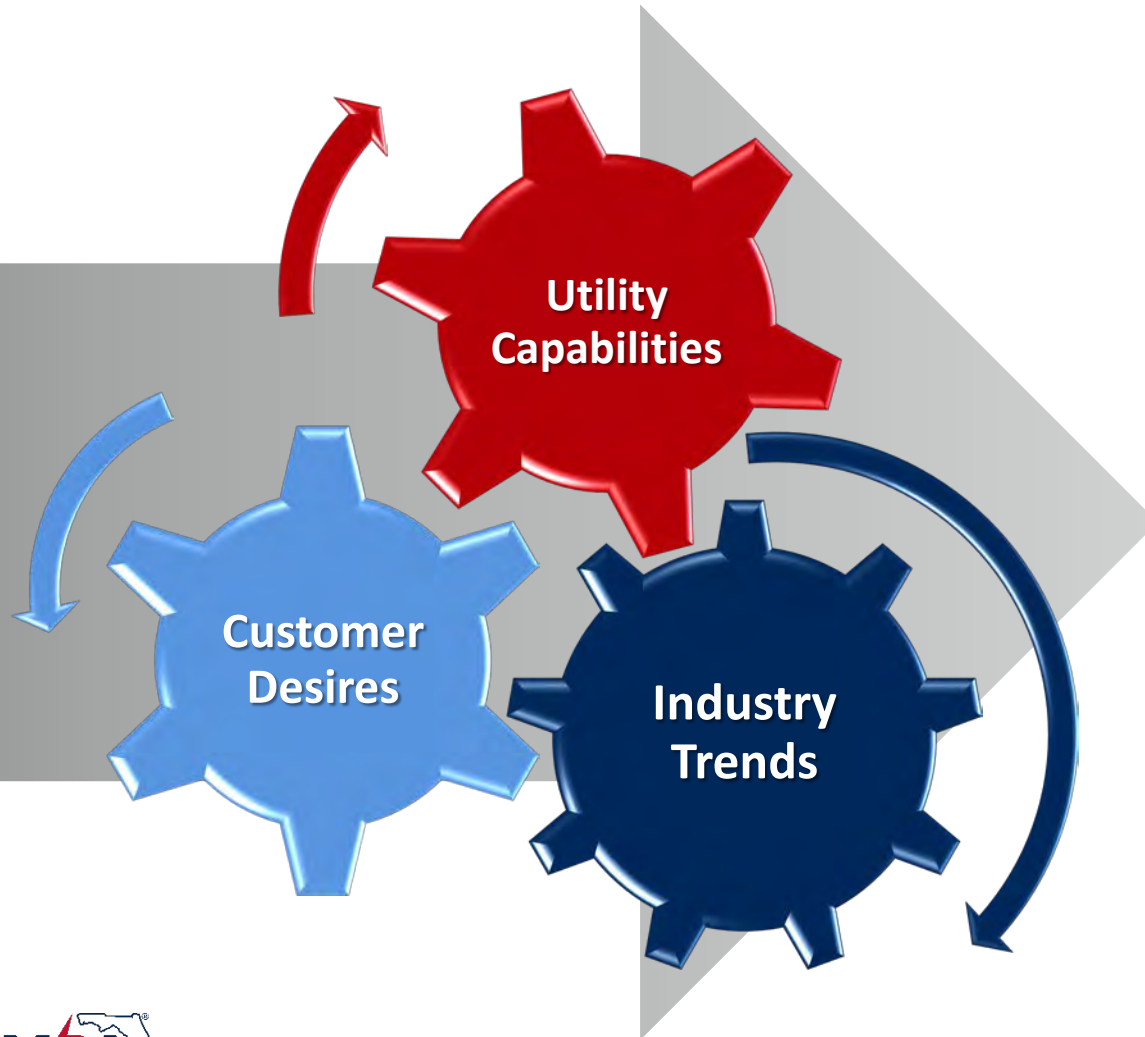
Need for Compliance Expertise and Resources Remains High

- NERC registered entities include 15 members plus FMPP, & JEA
- FMPP provides NERC compliance support to members
- CY 2020 member-support activities:
 - 5 (pre-COVID) in-person Member visits
 - 2 FMPP-led peer reviews (FPUA & Ocala) and 2 spot checks (OUC & Lakeland)
 - 20-30 participants from 13 member cities & JEA on bi-weekly compliance coordination calls
 - 40 participants from 13 member cities & JEA, NERC & SERC at FMPP Annual Compliance Seminar (Sept. 29-30, 2020)
- NERC's 2021 strategy focus areas include:
 - Expand risk-based focus in standards, compliance monitoring, enforcement
 - Potentially add new standard requirements for numerous priority risk areas



Should FMPA Maintain/Expand Value-Added Services?

If Expansion Desired, Additional Resources May Be Required



System Mapping	System Plan & Design	Fuse Coordination
Substation Maintenance	Metering Technologies	Rate Structure Analysis
Cybersecurity IT and OT	Regulatory Compliance	Financial Planning
Customer Communication	Human Resources	Legal



People Assets



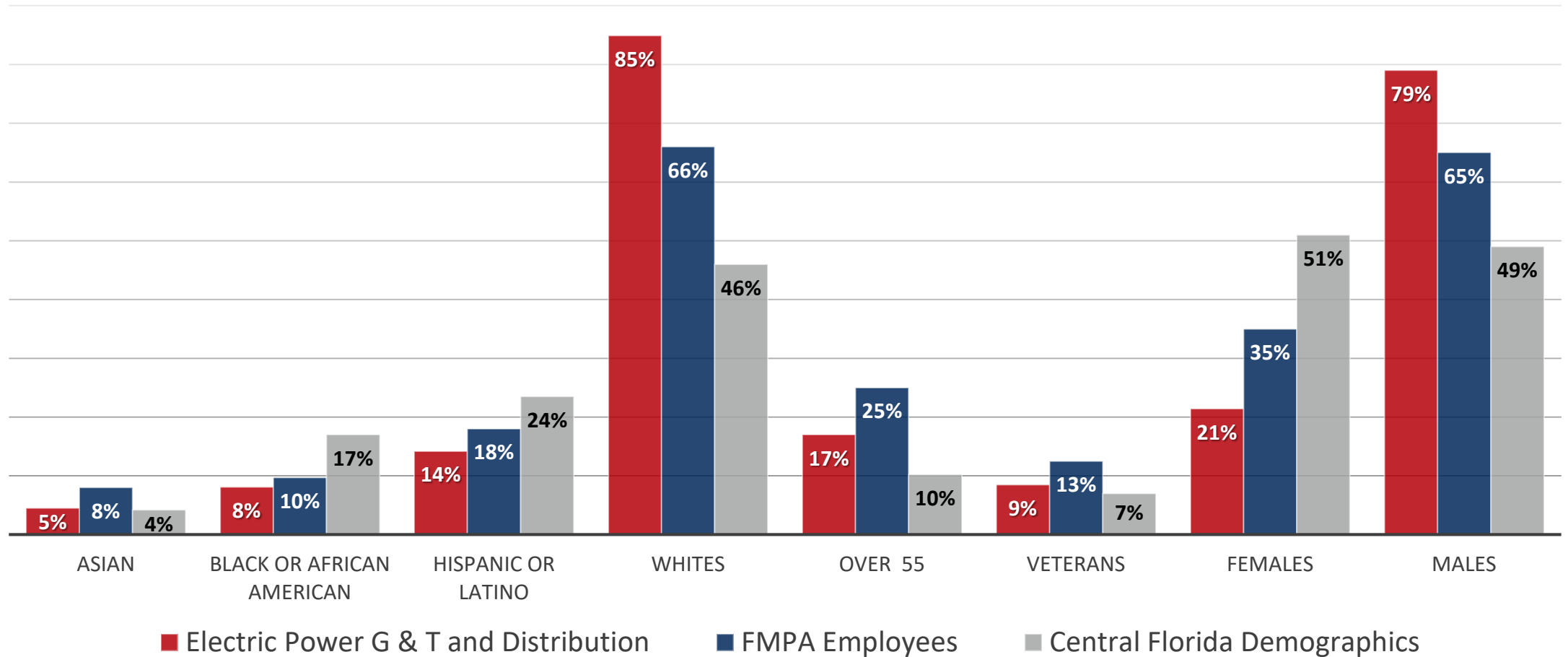
Since 2016, Reallocated Resources to Member Support

No Ability for Further Reallocation to Members and Analytics

Reallocated Resources From	Added Resources To
Risk and Audit	Member Services
Legal	Engineering Services
System Planning	Business Development & System Operations
Compliance	Financial Planning & Budgeting
	Information Technology & Operations Technology

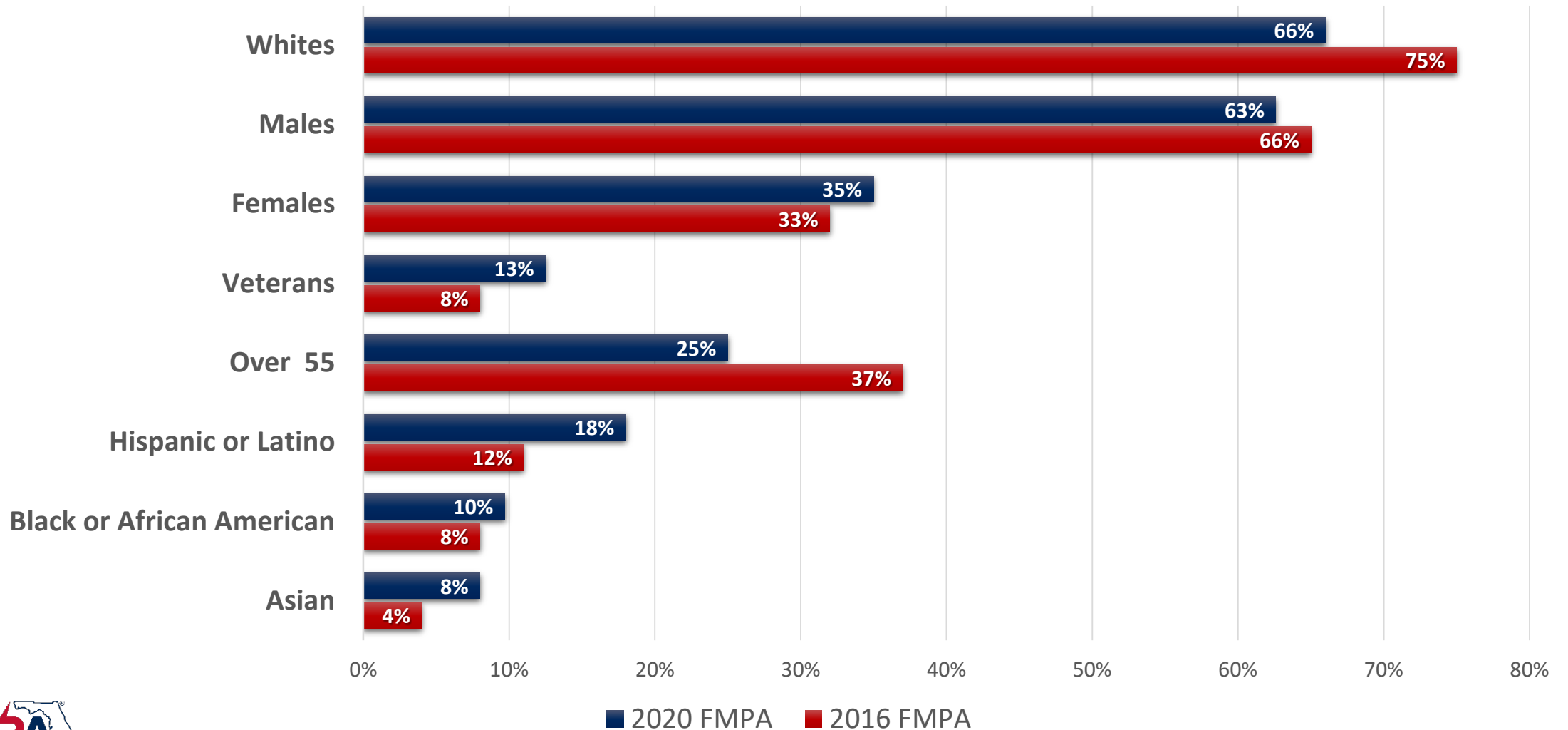
FMPA Trending with Central Florida Demographics

FMPA More Diverse Than National Electric Industry



FMPA Team Demographics 2020 Compared to 2016

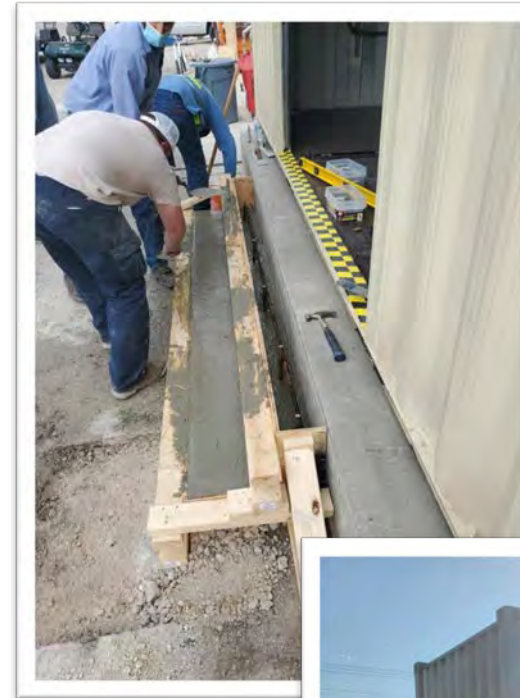
Organically Shifting Toward Central Florida Demographics



FMPA Fleet Team Proven Strategic Value

Fleet Resource Sharing Helps Maintain Reliability, Lowers Costs

- Utilize all 70-plant staff at Cane Island, Treasure Coast and Stock Island plus FMPA's Generation Team among plant sites during regular operations and outages
- Projects range broadly from technical I&C type work to mechanical, construction and contractor oversight
- Over last 2 FY, 100 days of shared resources each year
- A recent project was the battery enclosure at Stock Island completely constructed by Cane Island staff for a savings of \$40k vs. next best alternative



Plant Staffing Key Element to Strong Plant Reliability

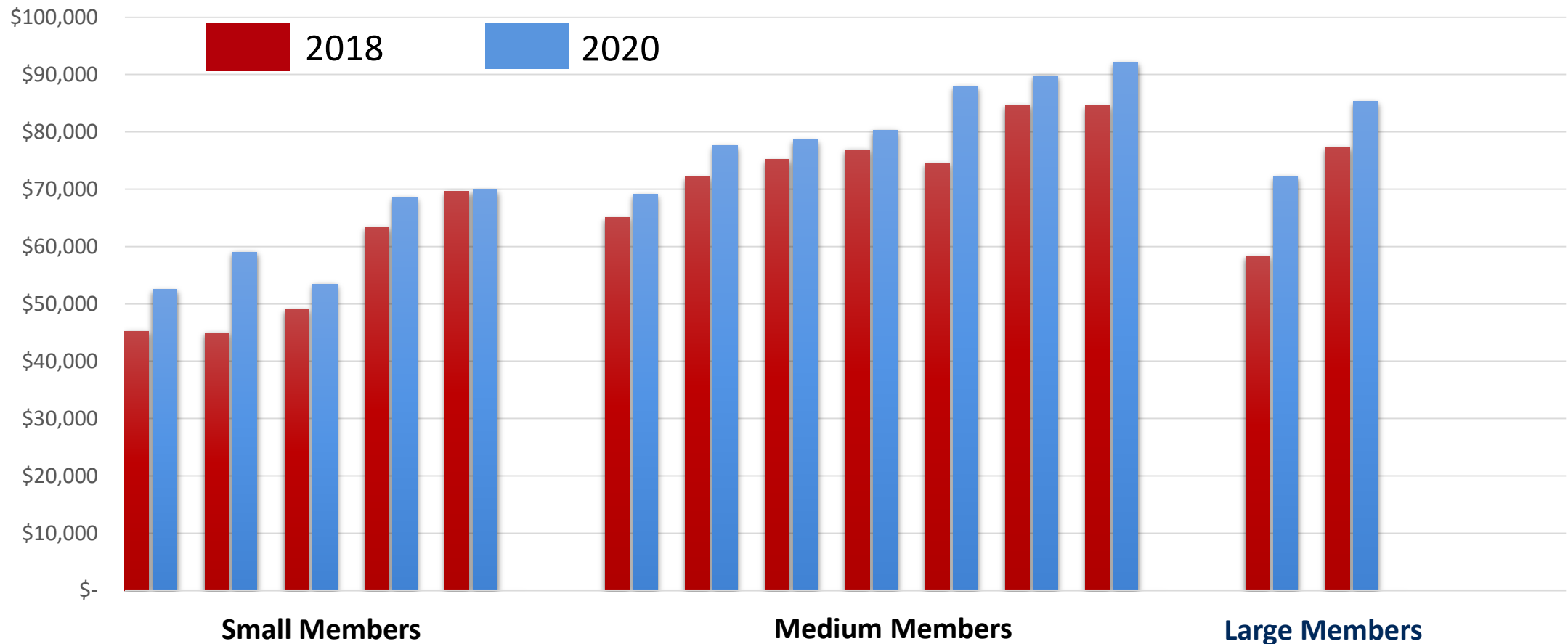
Must Ensure Well Positioned for Forthcoming Retirements

- Potential for key retirements in 2-3 years
 - Plant management and FMPA proactively filling certain roles to provide a smooth changeover
- Working with FPUA on a conversion to FMPA staffing to ensure competitive in hiring market
 - Provides means for different base salary and benefits package
 - Overall, no additional cost to ARP
- Overall fleet is well positioned with appropriate depth of talent and resources that facilitates strong succession planning

Compensation Improving for Some Craft Employees

Salary Increases Since 2018 Providing More Competitive Pay

Journeyman Lineworker Salary for Cities by Utility Size



Summary of Talent Management

- FMPA requires more and broader expertise than before
- Increased Member Services requires more expertise
- Members are utilizing the expertise of staff more than ever before
- To continue at existing rate or expanding to meet needs, new resources may be needed in a few key areas
- Developing our top talent continues
- Acquiring diverse and experienced talent is a priority
- Fleet sharing provides great productivity and new hiring options at the plants are helping us stay competitive



What Does the Future Hold? Ten-Year Resource Plan



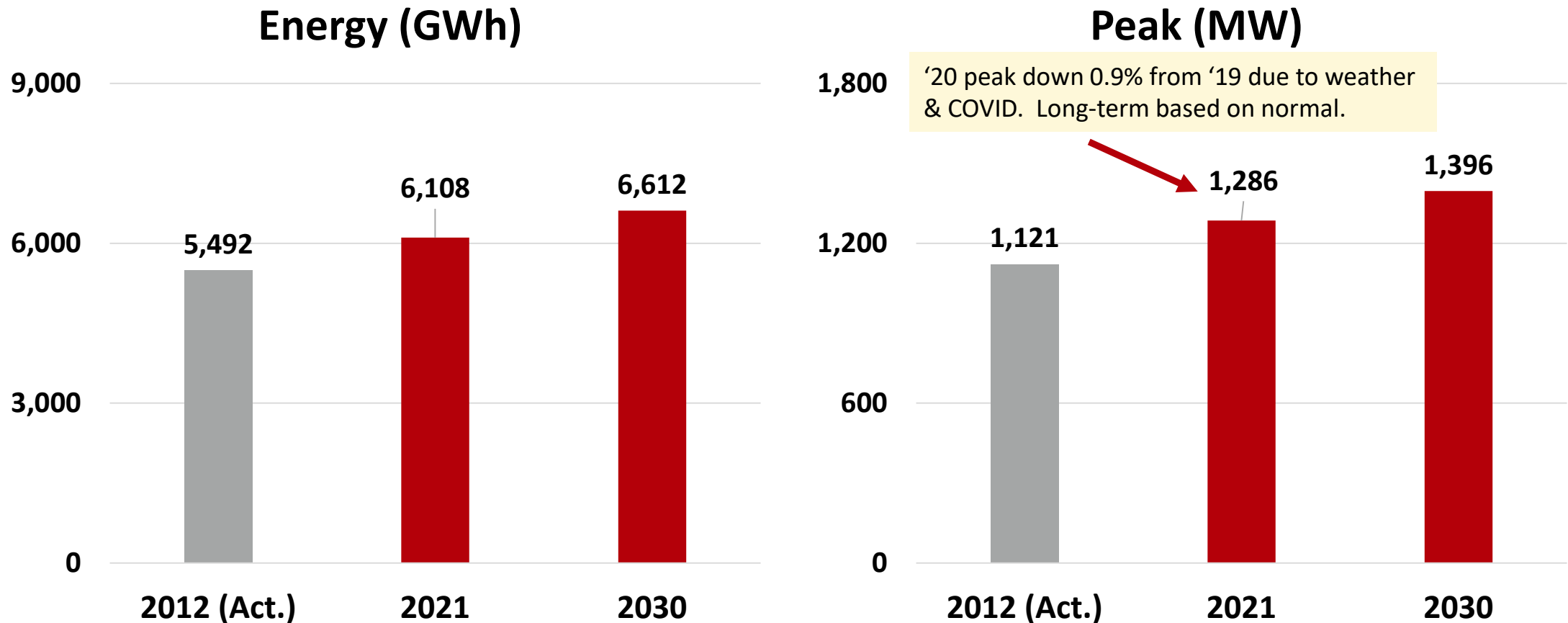


Future Load Growth



ARP Energy and Peak Grow ~0.9% Per Year*

Post-Recession ('12-'20) Growth At ~1.7% Per Year



Some ARP Members Growing, Some Not

Load Growth Concentrated in a Few Locales

Member	Weather-Adj. ¹ ('13-'20) FY	Actual Growth ('13-'20) FY	FY 2020 Actual NEL (GWh)
Newberry	3.9%	3.5%	40.9
Kissimmee	2.1%	2.7%	1,682.2
Ocala	1.2%	1.2%	1,350.5
Bushnell ²	1.0%	1.6%	55.9
Ft. Pierce	1.0%	1.5%	588.7
Ft. Meade	1.0%	1.4%	44.8
Leesburg	0.7%	1.1%	505.5
Clewiston	0.4%	0.9%	107.3
Green Cove Springs	0.1%	0.0%	113.6
Havana	0.1%	0.1%	24.7
Jacksonville Beach	0.0%	0.2%	728.4
Keys	0.0%	0.6%	771.5
Starke	-0.3%	0.0%	68.5

Some Other Members Growing, Some Not

More Members with Positive Change

Utility	Sales Growth CY 2014-19
Alachua	2.6%
Bartow ¹	1.9%
Blountstown ¹	-1.9%
Chattahoochee	0.4%
Gainesville	1.4%
Homestead	2.0%
Jacksonville ²	1.0%
Lake Worth Beach	4.3%
Lakeland	1.4%

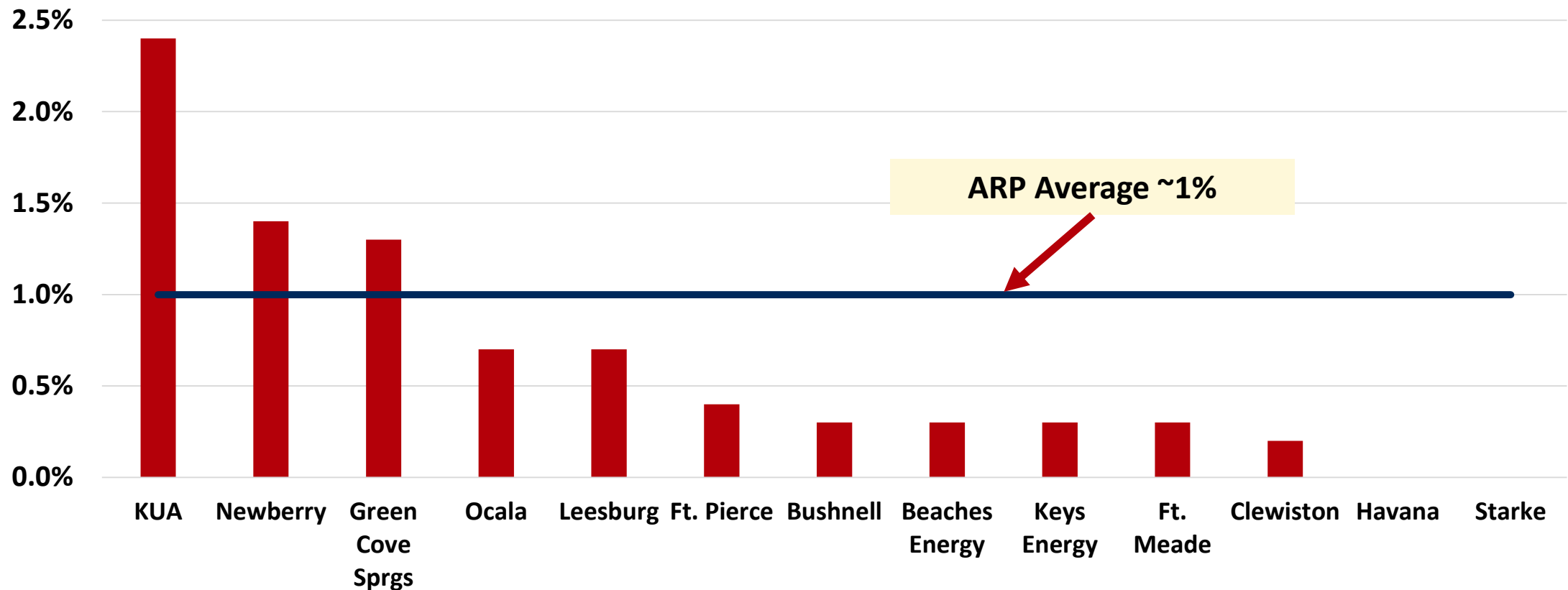
Utility	Sales Growth CY 2014-19
Moore Haven	5.0%
Mount Dora ¹	0.8%
New Smyrna Beach	1.8%
Orlando	1.9%
Quincy ¹	-1.2%
Tallahassee	0.6%
Wauchula ¹	0.8%
Williston	1.9%
Winter Park ¹	-0.5%

Seminole grew (w/o Lee) at 2.2%, Duke Energy Florida grew at 0.9% and FPL without Gulf grew at 1.4%.

Residential Customer Growth Primary Driver

Consistent with Prior Several Years of Forecasts, ARP Avg. ~1%

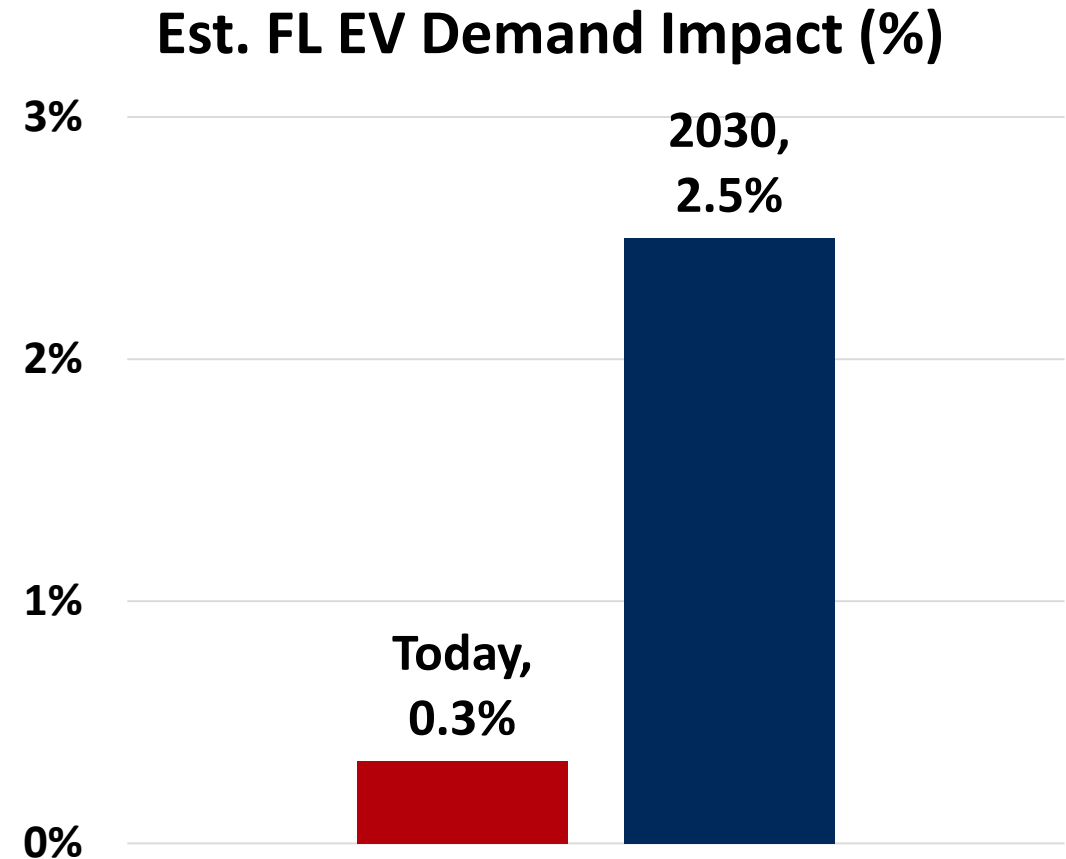
Projected Growth in Residential Customers Over Next 10 Years (%)



EVs Could Increase Load ~2.5% by 2030

Members Can Engage in Various EV Integration Strategies

- ~60k-70k light duty EVs today, could grow to increase FL peak 2.5% by 2030 (versus case with no assumed impact)
- Affluent suburban/urban first, rural later
- Member strategies could include:
 - Charging station development & investment
 - Joint bidding for infrastructure needs
 - Charging station pricing
 - Feeder studies to determine pain points with higher penetration levels
 - Regional market potential studies



Distributed Resources Could Offset Energy ~2% by '30

Various Strategies Exist for Roof-top Solar Interactions

- Current forecast assumes ~2% energy offset from roof-top solar by 2030
- Net peak hour impacts lower, some Members have little to no roof-top
- Potential member involvement for roof-top solar:
 - Proper interconnection requirements
 - Understanding distribution access costs
 - Value of solar sold back to grid
 - Distribution system model integration
- Members provide installation services?



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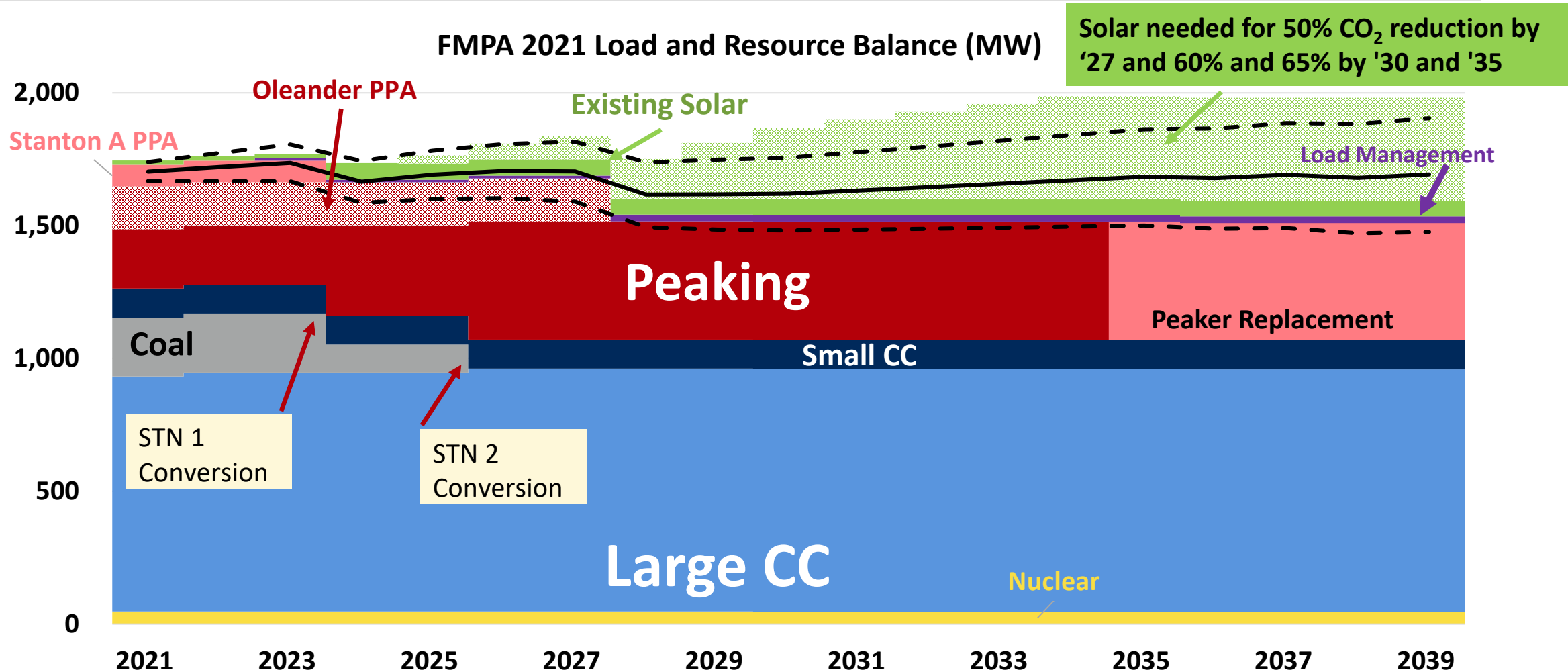


Supply and Demand Balance



ARP Has No Capacity Needs Until 2028

Capacity Needs of ~40-120 MW Thereafter



Capacity and Emissions Milestones

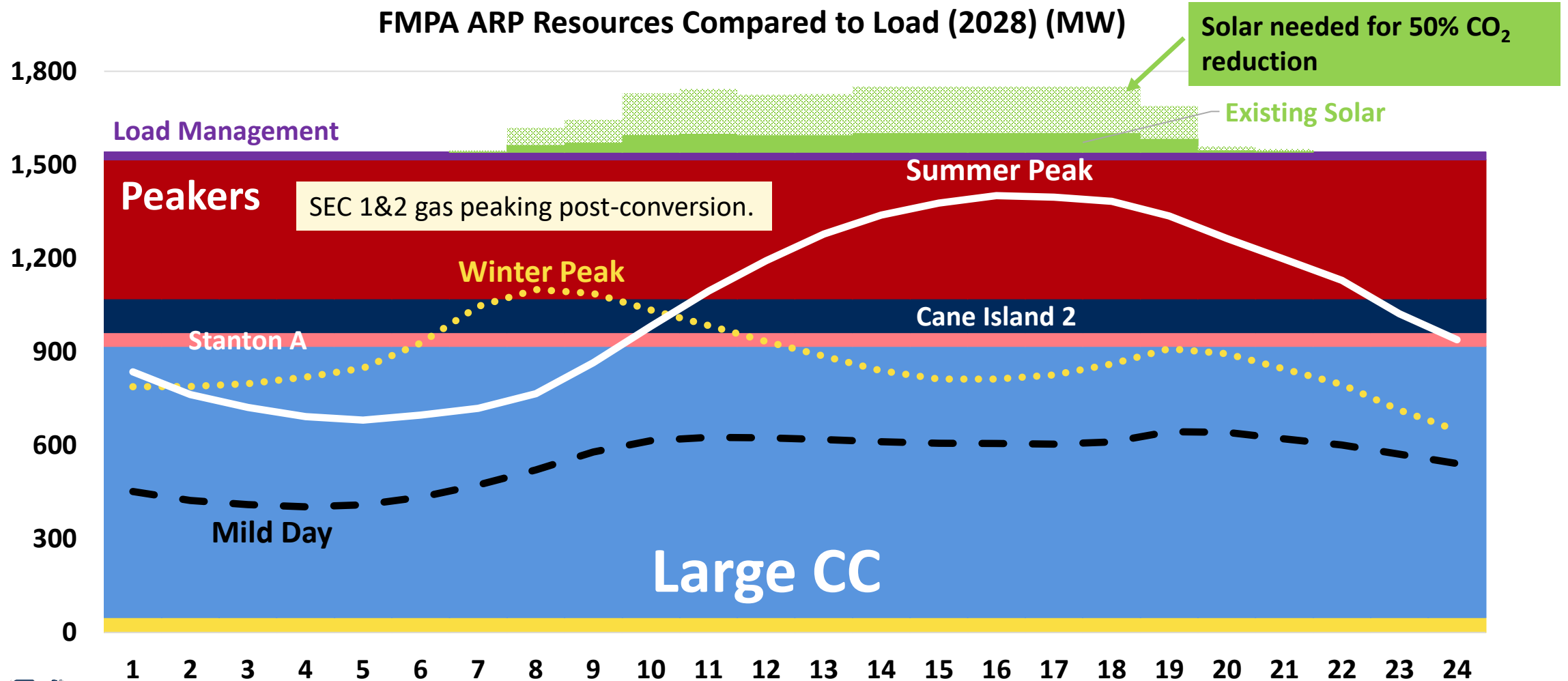
Capacity Mix Changes Along with Expiration of External Sales

CO₂ reduction goals may be set, but not without an impact on costs.

Milestones	Year
Stanton A PPA Goes Away	After 2023
Load Management Initiatives in Some Form	2023
SEC 1 Conversion to Gas	2024
SEC 2 Conversion to Gas	2026
External Wholesale Sales End (e.g. Winter Park, Williston)	2027
50% CO ₂ Reduction with End of Coal Generation and Add 200 MW Solar	2027
Peakers Reach End of Life	2035 or sooner
Solar Capacity Increases to Increase Emission Reductions?	2035 or sooner

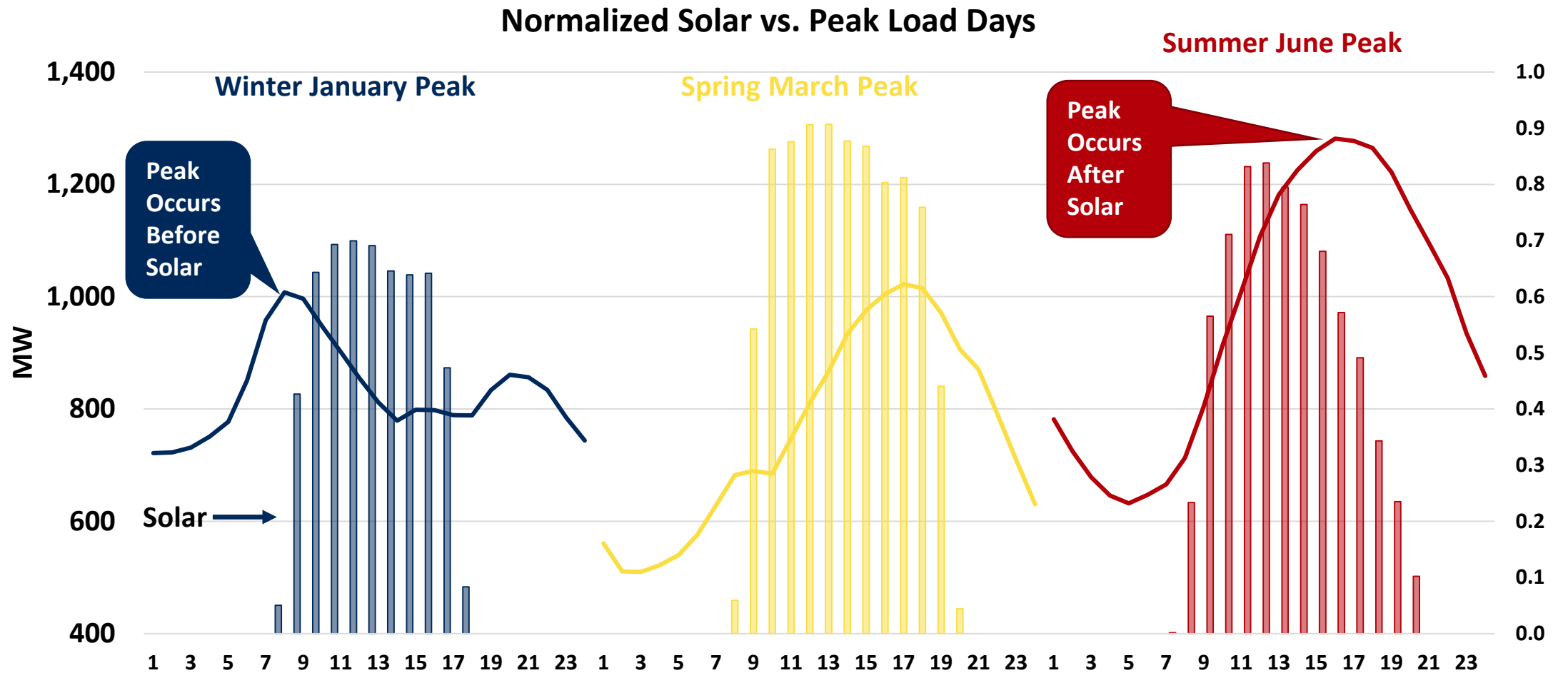
ARP Baseload Supply Adequate

Load Management and Seasonal Purchases for Future Needs



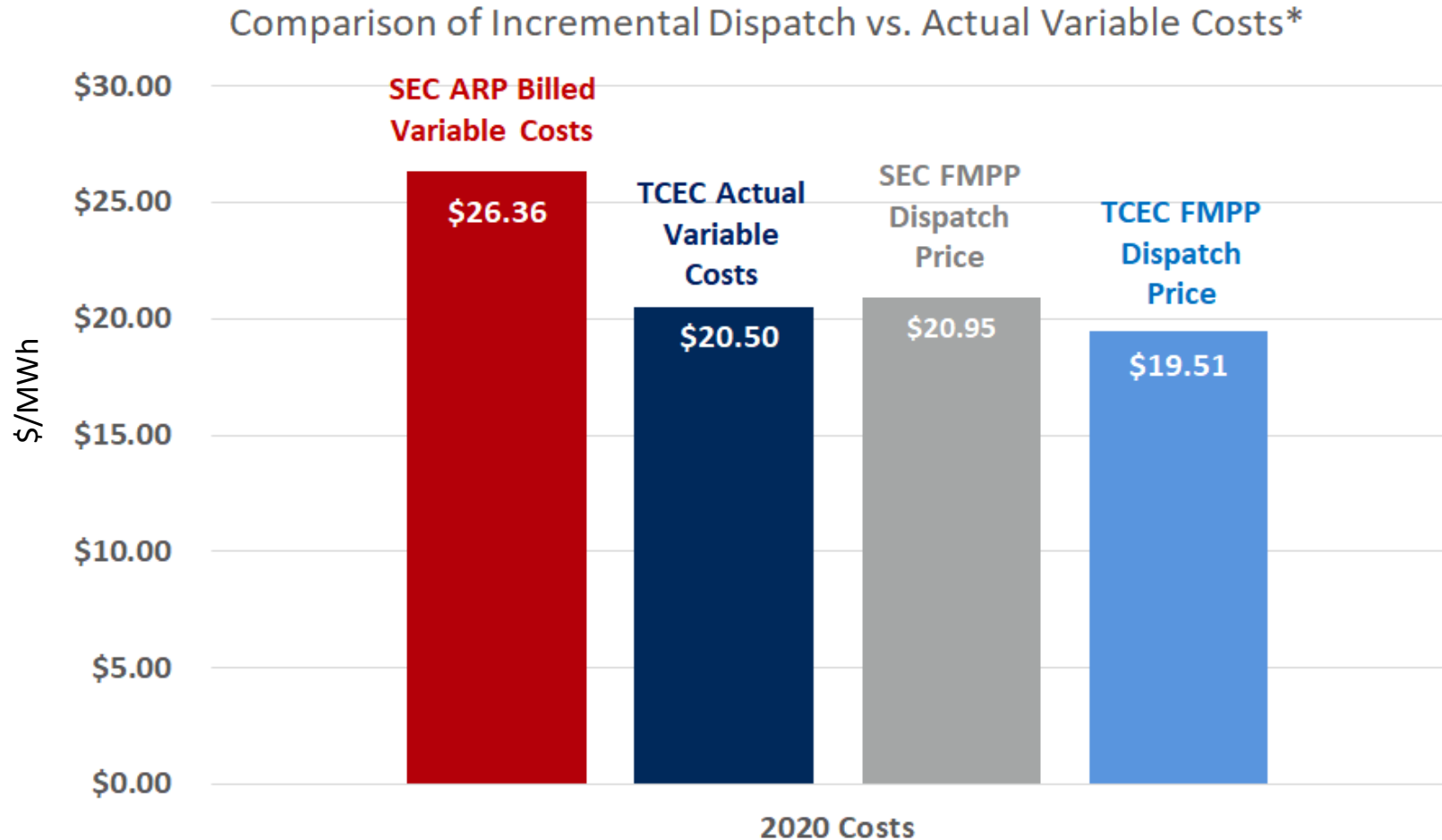
Solar Does Not Always Cover the Peak

Peaking Generation Needs Must Be Carefully Evaluated



Stanton Displaces Lower Cost Gas Based Energy

Actual TCEC and Cane 3 & 4 Cost Much Lower Than Stanton



* Actual variable costs include fuel, emission additives, & certain O&M categories.

FMPP Can Add Value & Accommodate Goals

Improve Daily Operations, Expand Footprint and Reduce Cost

- Rule or structural changes that allow FMPP to evolve with members while reducing costs
 - Fair marginal pricing that incents both pool buyer and seller – creates value for all
 - Appropriate valuation of spinning reserve and fast start capable assets
 - Expansion to reduce solar intermittency risk and optimize dispatch
- FMPP daily operation improvements to reduce costs
 - Measurement of the things that matter
 - Opportunities for 24/7 marketing & position optimization
 - Better load forecast tools especially with added solar
 - Add resources to better plan for and manage intermittent solar as it grows dramatically
 - Appropriate operation controls to not overpay for balancing

Keys Storage Mitigates Unique Transmission Limitation

Opportunities Being Evaluated to Determine Feasibility by Fall 2021

- Storage could avoid transmission transfer limit increase and capex
- Keys Coop/Keys Energy transmission limit could require material generation runs as soon as summer 2024 with expected load growth
- Batteries can augment on-island generation for resolving loss of tie line
- Specific storm hardening needed for salt, wind and storm surge
- Specific opportunities are currently being investigated
- Secondary opportunity to avoid capacity costs if an older asset (1960s vintage) experiences end-of-life event

Key Decisions Within Ten Year Planning Horizon

Market Alternatives Will be Explored

Decision	Implication	Alternative(s)
Stanton 1 and 2 Cost and Emissions reduction timing	Timing impacts cost reduction and emissions goals, sooner is better, operate as peaker or more seasonally, near term dispatch appropriately	Market capacity, unit upgrades, more solar
Load Management	Alternative to self-build or market capacity	Market capacity if market capacity is cheaper
Additional solar resources	Emission reduction, additional energy to support customer desire and/or meeting additional emission targets	Stay with lower cost and higher emitting fleet post 2027
Battery storage opportunity at Keys or at other locations	Reduced long-term cost, low-cost energy used to defer transmission cost; potential ancillary value from solar	Defer if capital cost and O&M cost not lower than status quo
Pool Expansion and rule changes to reflect complete value of generation	Solar growth for FMPP participants will drive the need for market products and potentially larger base to mitigate intermittent solar generation	Less effective dispatch and higher costs for existing pool participants
Cane 1 Overhaul	12 MWs of increased capability per unit at low cost	Alternative resource(s) evaluated based on cost via Asset Management program

Rates Competitive But Must Improve

ARP Projected Ten-Year Rates Gas-Price Driven

- Rates are driven by natural gas prices, which are in the ~\$2.50 to \$4/MMBtu range
- ARP has no need for significant new capacity until 2028
 - Stanton coal to natural gas conversions push capacity needs further into the future
 - Capacity needs are seasonal and involve comparison of market alternatives, load management, unit upgrades and possible solar expansion
 - Peaking resource replacement possible within ten-year window, but can be displaced by additional solar if desired with careful evaluation of operational reserve need
 - Batteries possible solution to transmission limits for Key West by 2024
- With ~200 MW additional solar, can achieve 50% emission reduction from 2005 levels by 2027
- Key decision for ten-year period includes trade-off between additional solar to achieve further emissions reductions and increased cost of higher targets

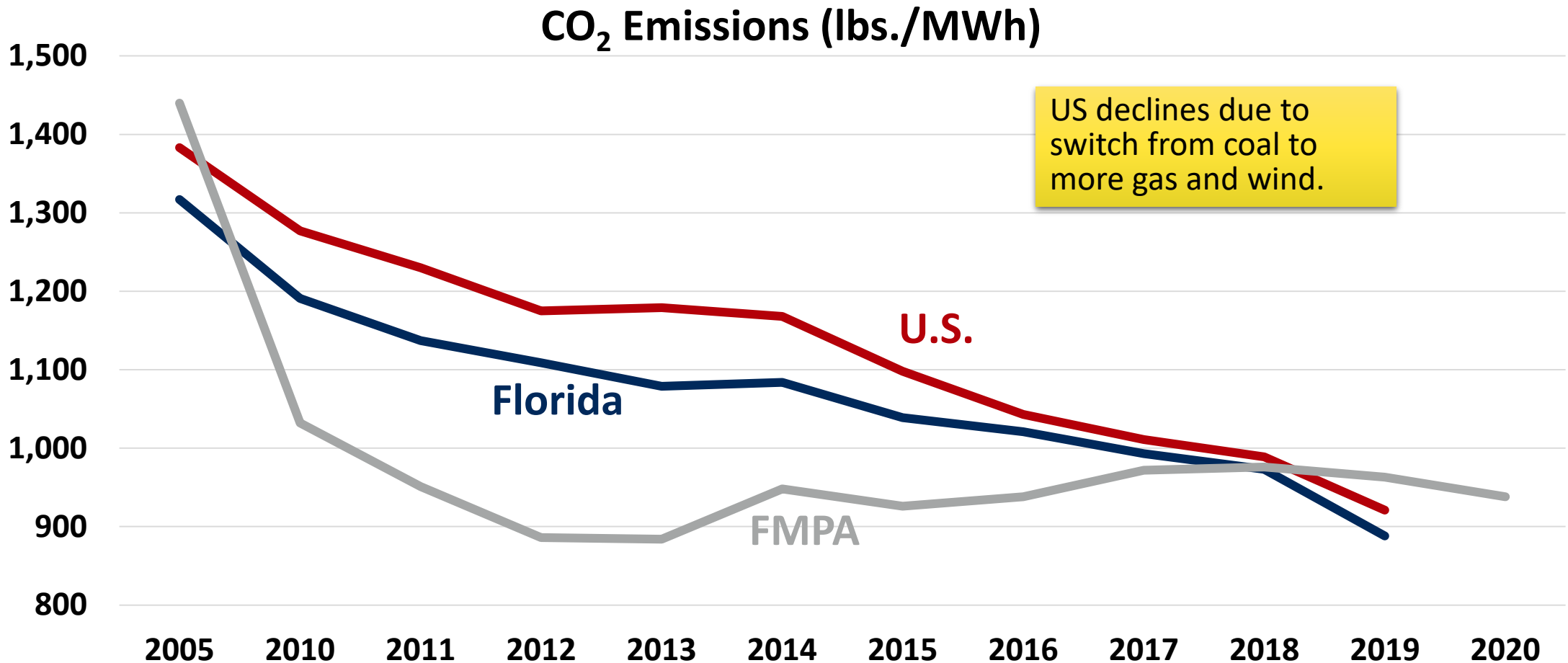


Environmental Responsibility



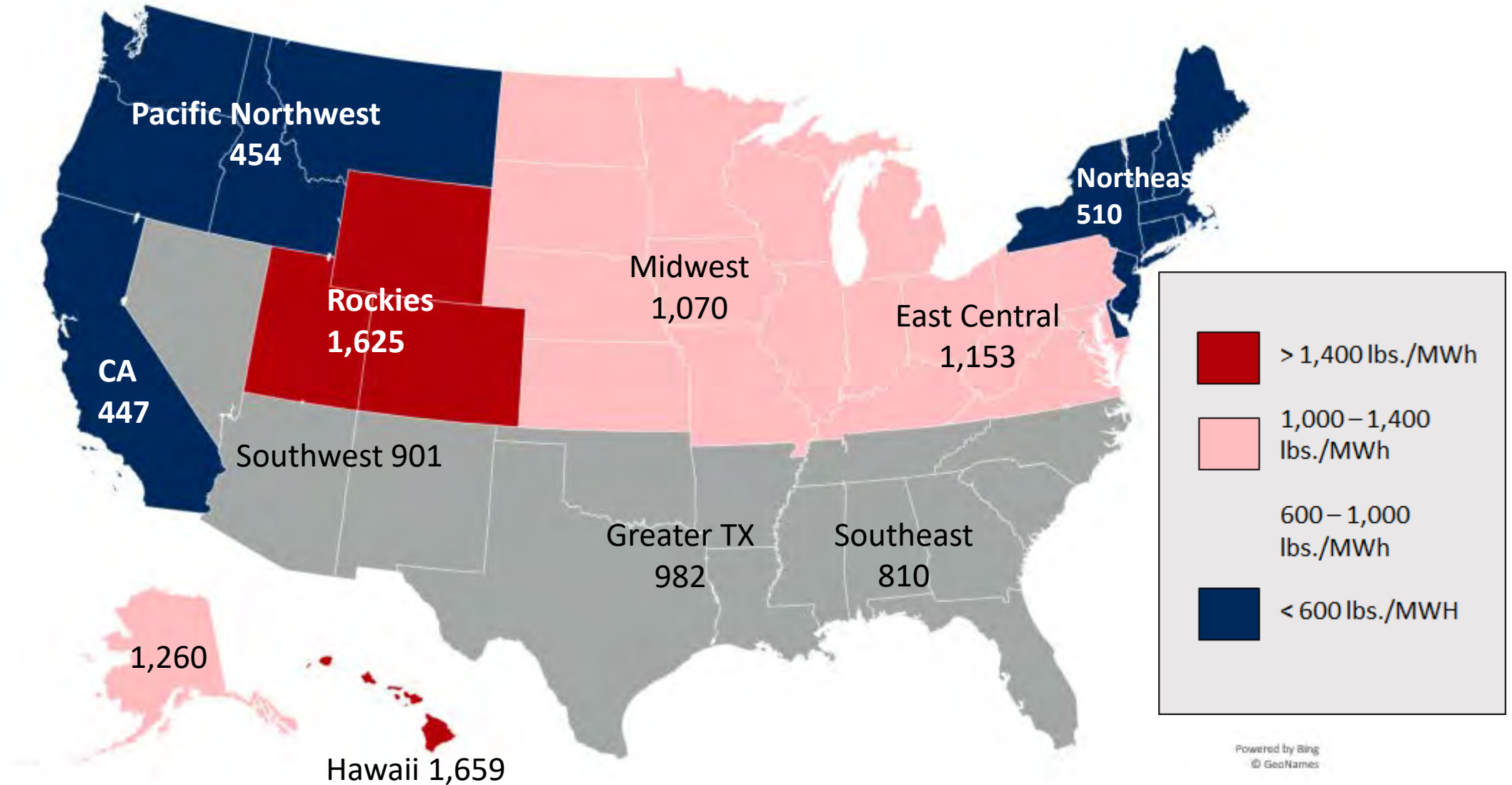
Power Sector CO₂ Declined ~33% Over Last 15 Years

FL/FMPA CO₂ Emissions Declined by Switching from Coal/Oil to Gas



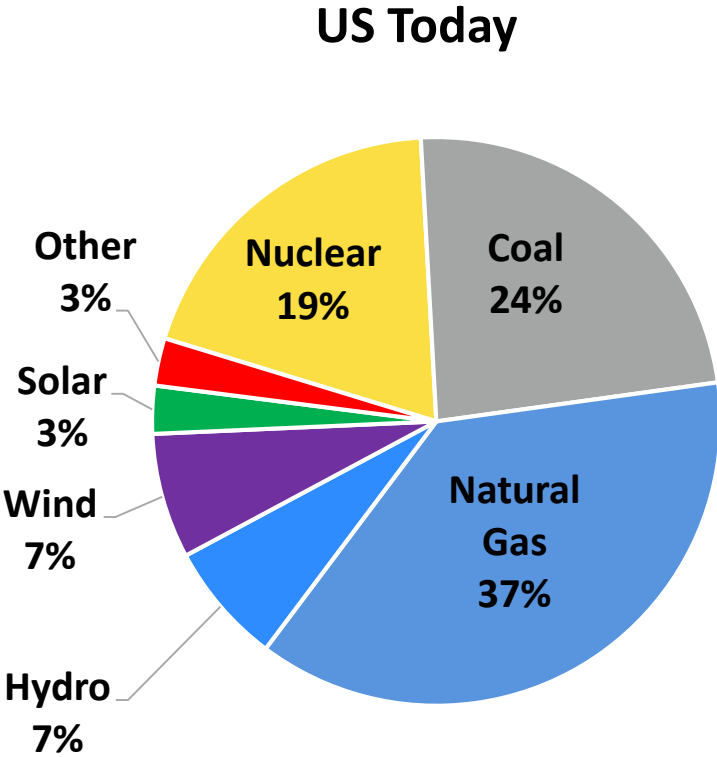
U.S. Regional Electric Generation Emissions (lbs./MWh)

Emissions Driven in Part by Access to Natural Resources

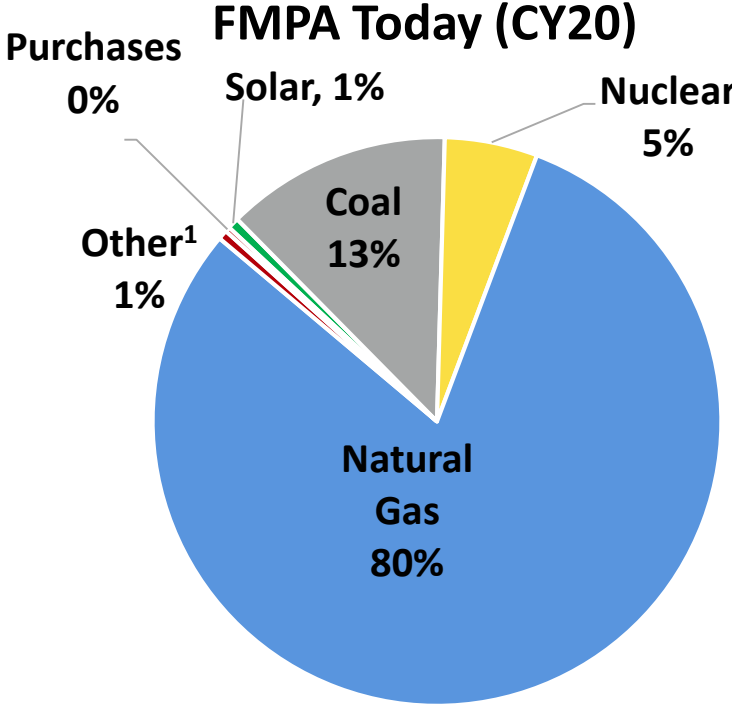


U.S. Energy from ~30% CO₂ Free, 24% Coal Remaining

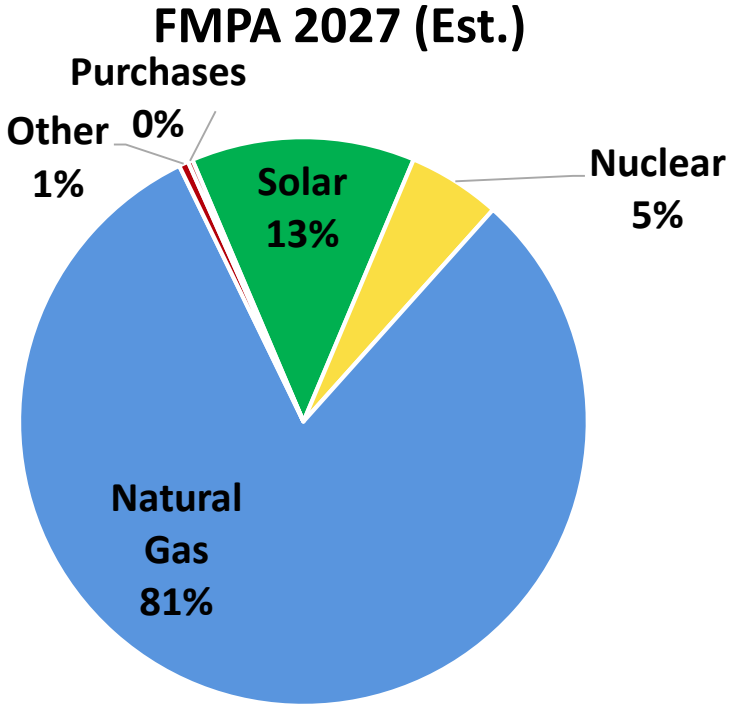
FMPA Growing to 18% CO₂ Free by 2027, No Coal/More Gas



3,811,150 GWh



7,811 GWh



7,811 GWh²



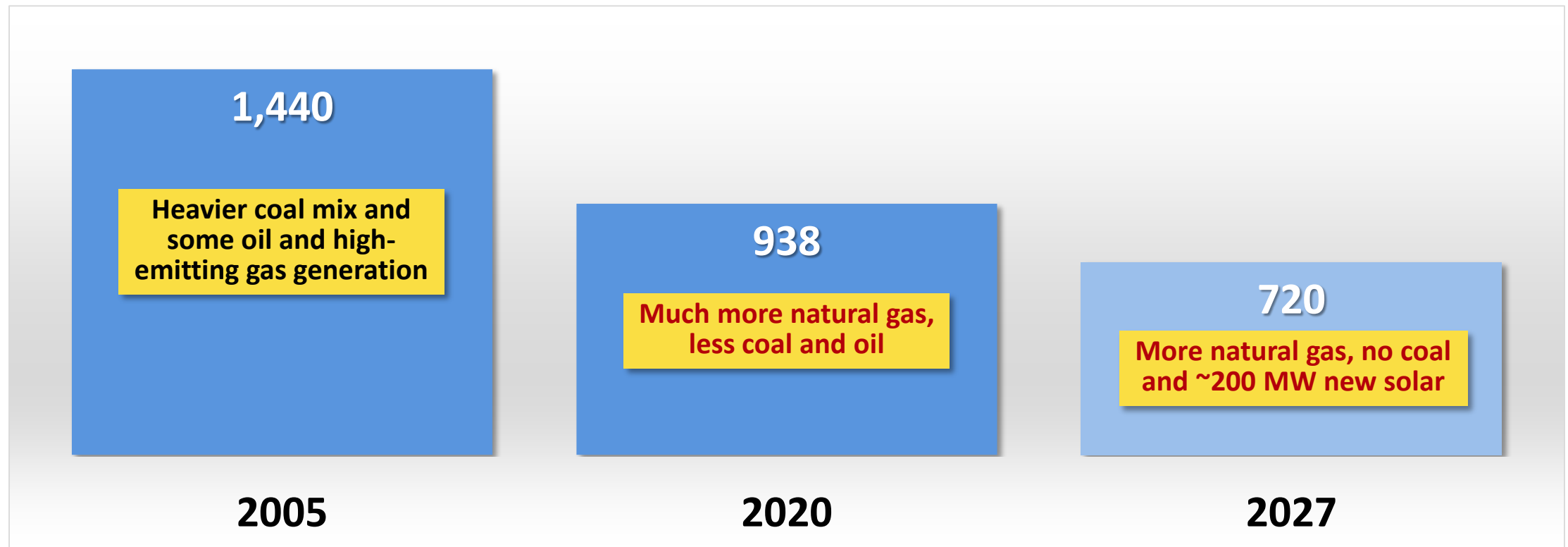
1 – Includes US Sugar, residual and distillate fuel oil.
 2 – Assumes same level of generation.

FMPA CO₂ Projected to Decline Significantly by 2027*

50% Decline from 2005 to 2027: More Gas and Solar, No Coal

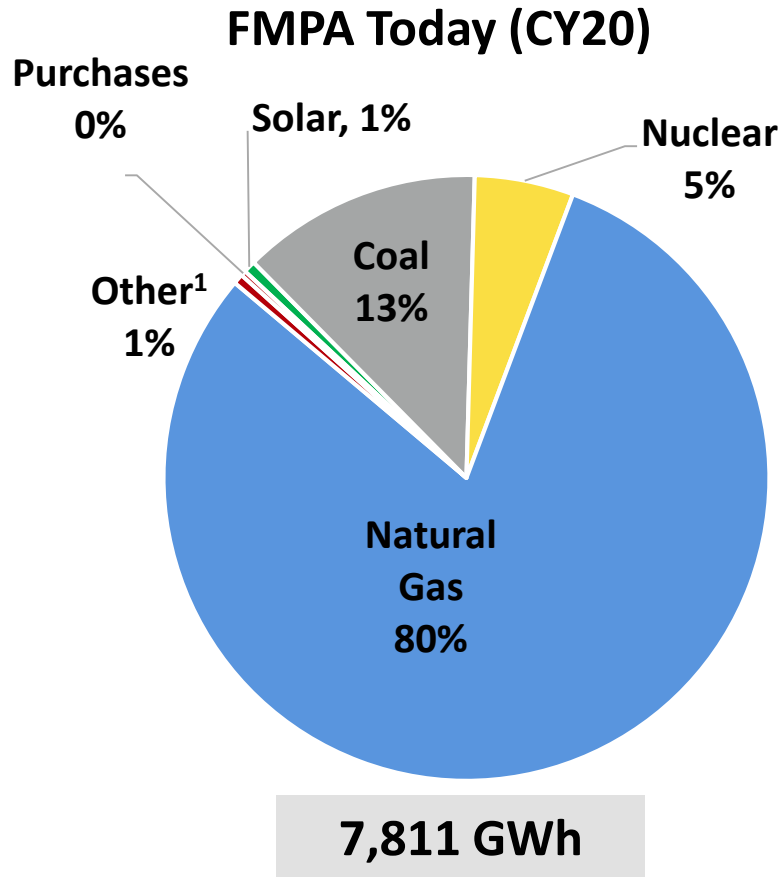
CO₂ Emissions for FMPA's All-Requirements Project Generation

Pounds per Megawatt hour, historic and projected

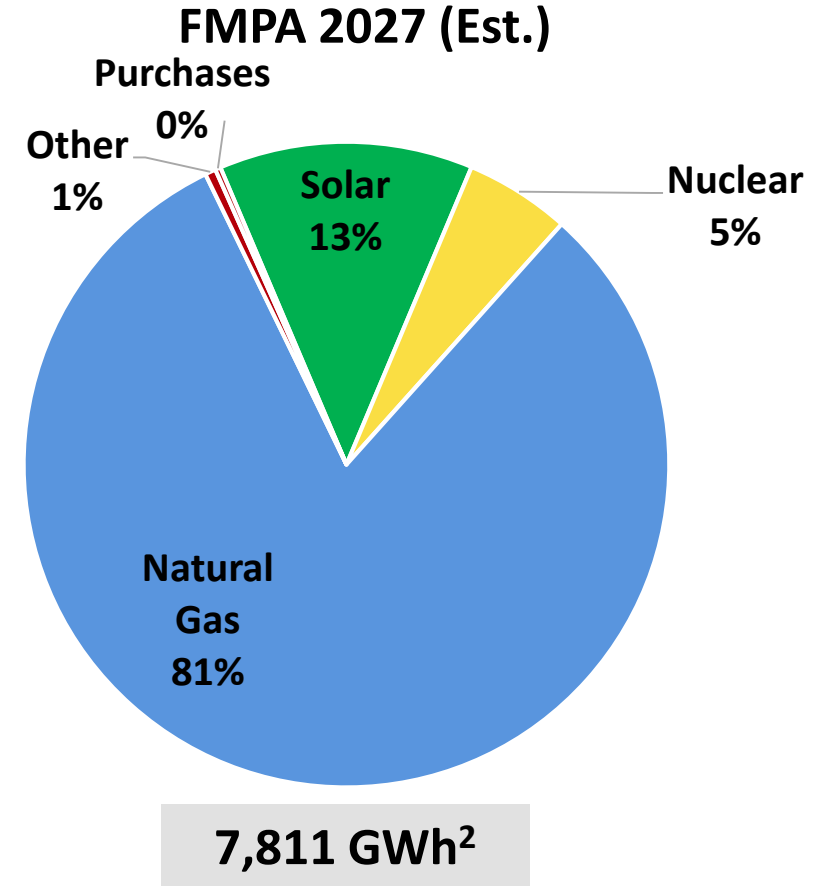


FMPA Generation Mix Moves Toward Gas and Solar

Targeting 50% CO₂ Reduction vs. 2005 Levels by 2027



Year / CO ₂ Reduction	Addl. Solar (MW) ³	Gas Energy (%/Total)
2027 (50%)	209	81%
2030 (60%)	685	65%
2035 (65%)	951	56%
2035 (70%)	1,199	48%



1 – Includes US Sugar, residual and distillate fuel oil.

2 – Assumes same level of generation.

3 – Additional solar reflects capacity needed over and above already planned solar at a 30% capacity factor.

Increasing CO₂ Reductions Comes at a Cost

Power Costs Increases Could Range from Inflationary to 250%

50%

CO₂ Reductions

**Inflationary
cost increases**

expected through
2027 while
achieving 50% CO₂
reduction from
2005 levels

70%

CO₂ Reductions

**20%
cost increases**

using natural gas
generation for
reliability and
peaking, solar
power increases,
some additional
battery storage

97%

CO₂ Reductions

**75%
cost increases**

with significant
solar power plus
battery backup
with natural gas
only available for
emergency use

100%

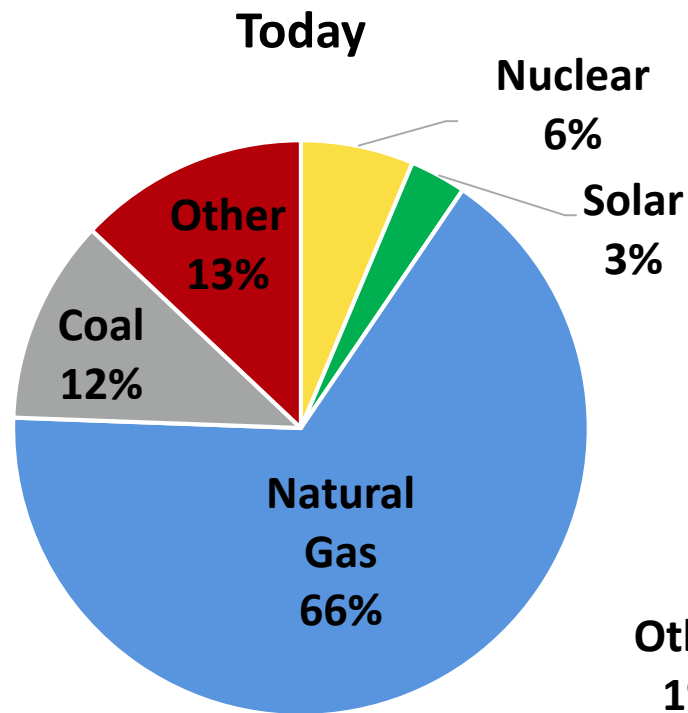
CO₂ Reductions

**250%
cost increases**

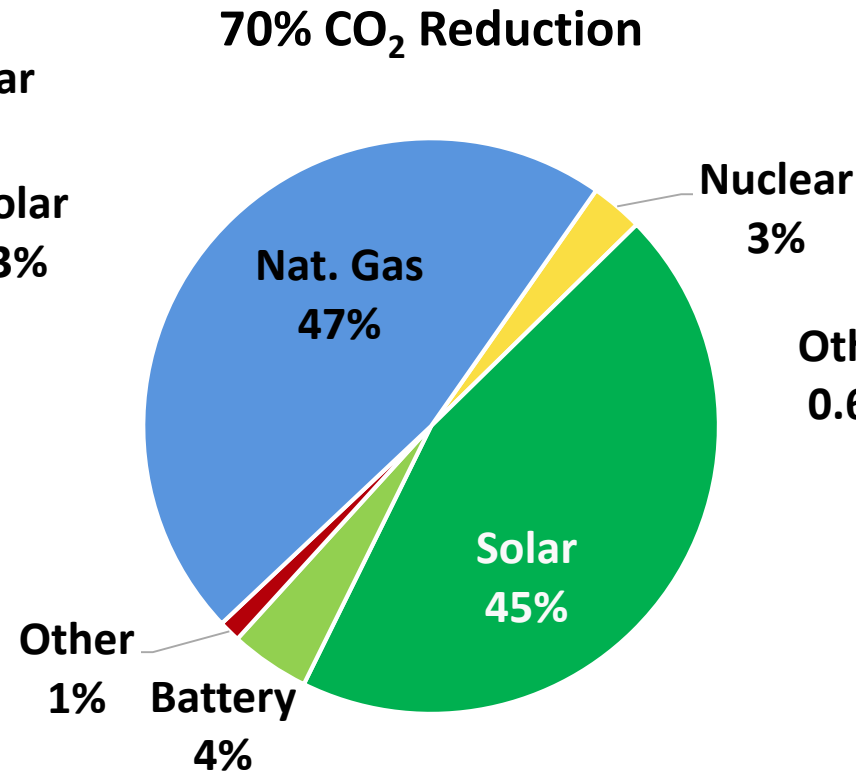
with significant
amounts of new
solar plus dramatic
increase in battery
capacity to provide
days of reserves for
cloudy periods

FL Has Significant CO₂ Reduction via Solar Adds by '35

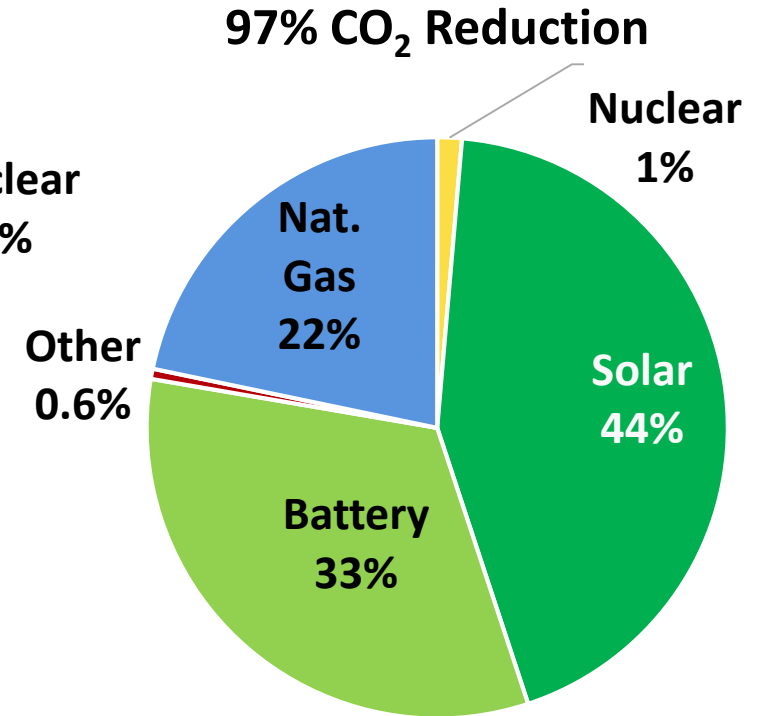
Natural Gas Back-up Remains with Various Levels of Batteries Increases



57,194 MW



123,247 MW



265,112 MW

We Have a Lot to Feel Good About on Environment

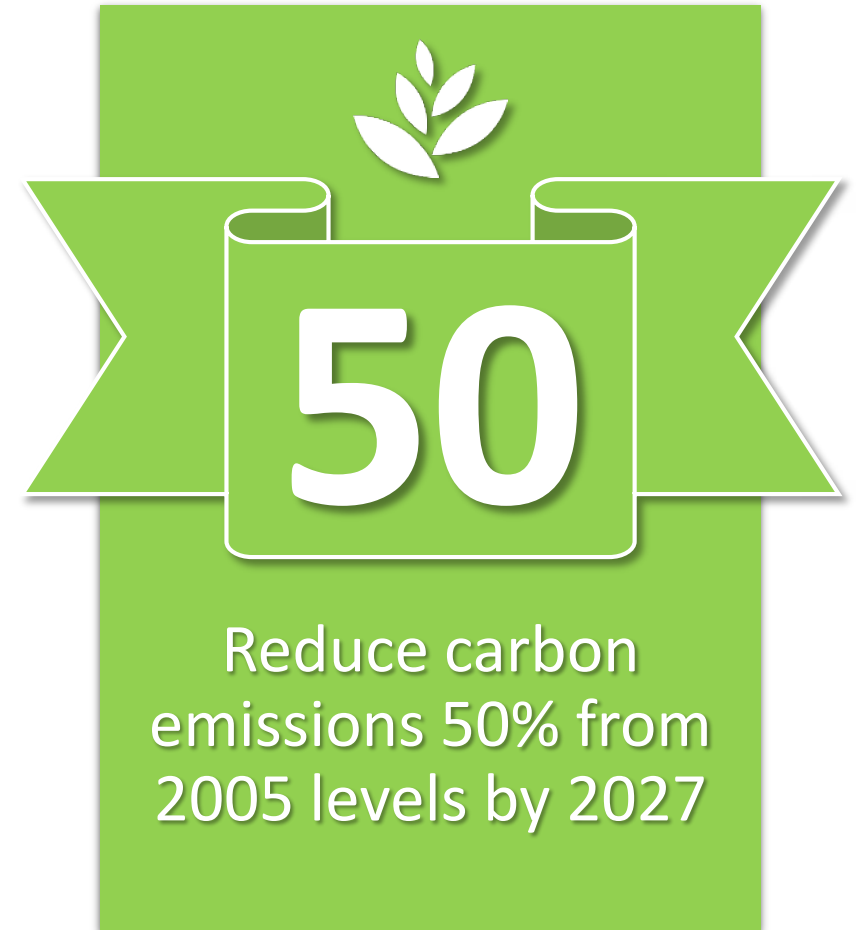
ARP on Track for 50% CO₂ Reduction by 2027

- FMPA and Florida emissions down significantly since 2005
- Biggest near-term opportunity to reduce emissions is Stanton 1 & 2 coal to gas conversion set for no later than 2025 and 2027
 - Earlier conversions would be better economically and environmentally
 - Eliminating must run to boil off water at Stanton priority for costs and emissions
- FMPA on track for 50% reduction in emissions vs. 2005 by 2027 with ~200 MW of additional solar beyond Phase 2
- Further CO₂ reductions require careful balance between performance and cost with reaching 70% reduction by 2035 requiring ~1,000 MW more solar

More CO₂ Reduction Requires Balance With Cost

What Are the Next Emission Reduction Milestones Desired?

- How important is moving conversion dates up to members' emission and financial objectives?
- FMPA on track to reach the goal
 - What are the next milestones desired?
- Choosing the path of continual CO₂ reduction requires a careful balance
 - 70% reduction requires ~1,000 MW more solar and rate increase of 20 – 40% above inflationary costs
 - Rates could grow as much as 200 -300% as CO₂ reduction approaches 100%





Asset and Capital Plan and Rate Projections

Assets Currently Competitive, Must Monitor Cost

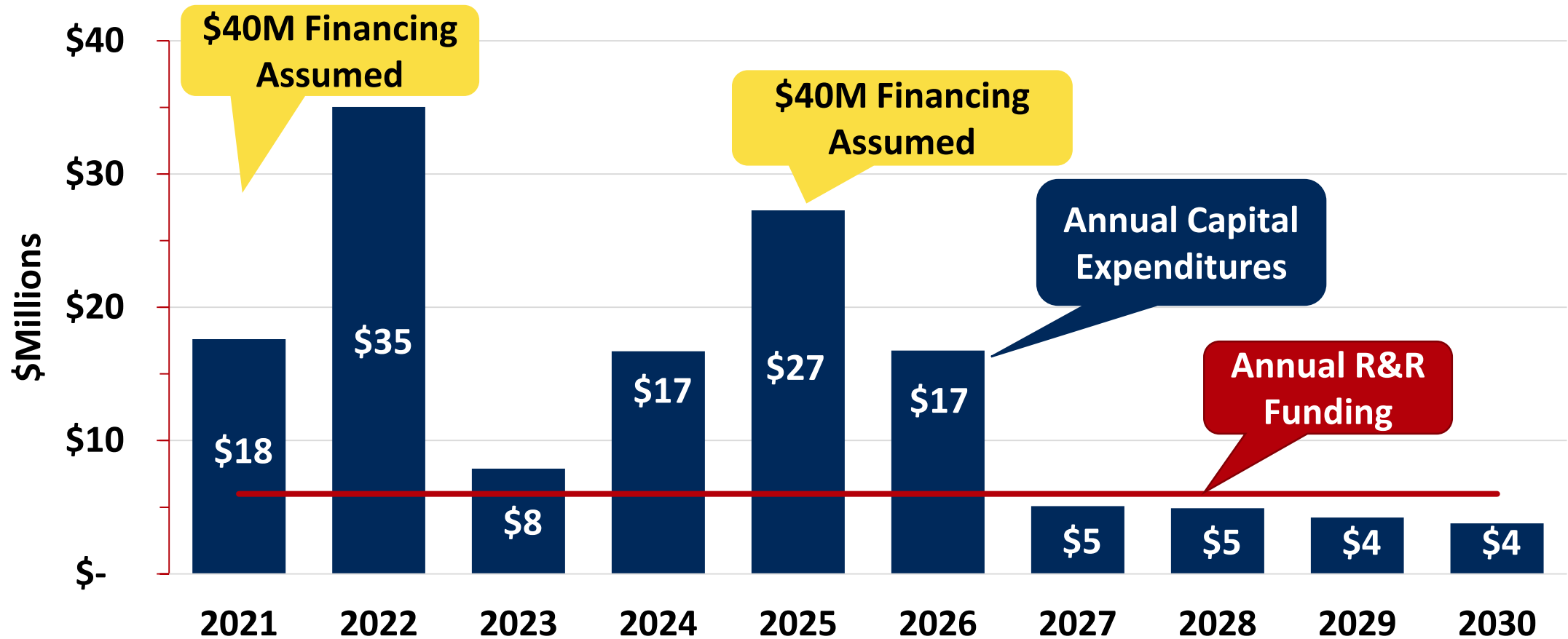
Limited Capital Required to Maintain Competitiveness

- Majority of resources competitive vs market, but not exceedingly high
 - Exception, Stanton 1 & 2 not competitive in the market
- Two CTs at Stock Island of original vintage dating back to 1960s approaching life expectancy
- Capacity market is reflective of surplus; unit cost control must be active
- Solar and Peaking resources are the focus in the next 5 - 7 years
- Longer term, energy storage will become important tools if solar investment grows by 600 – 1,000 MW

Future ARP Capital Funding Needs ~ \$12 - \$15M/Year

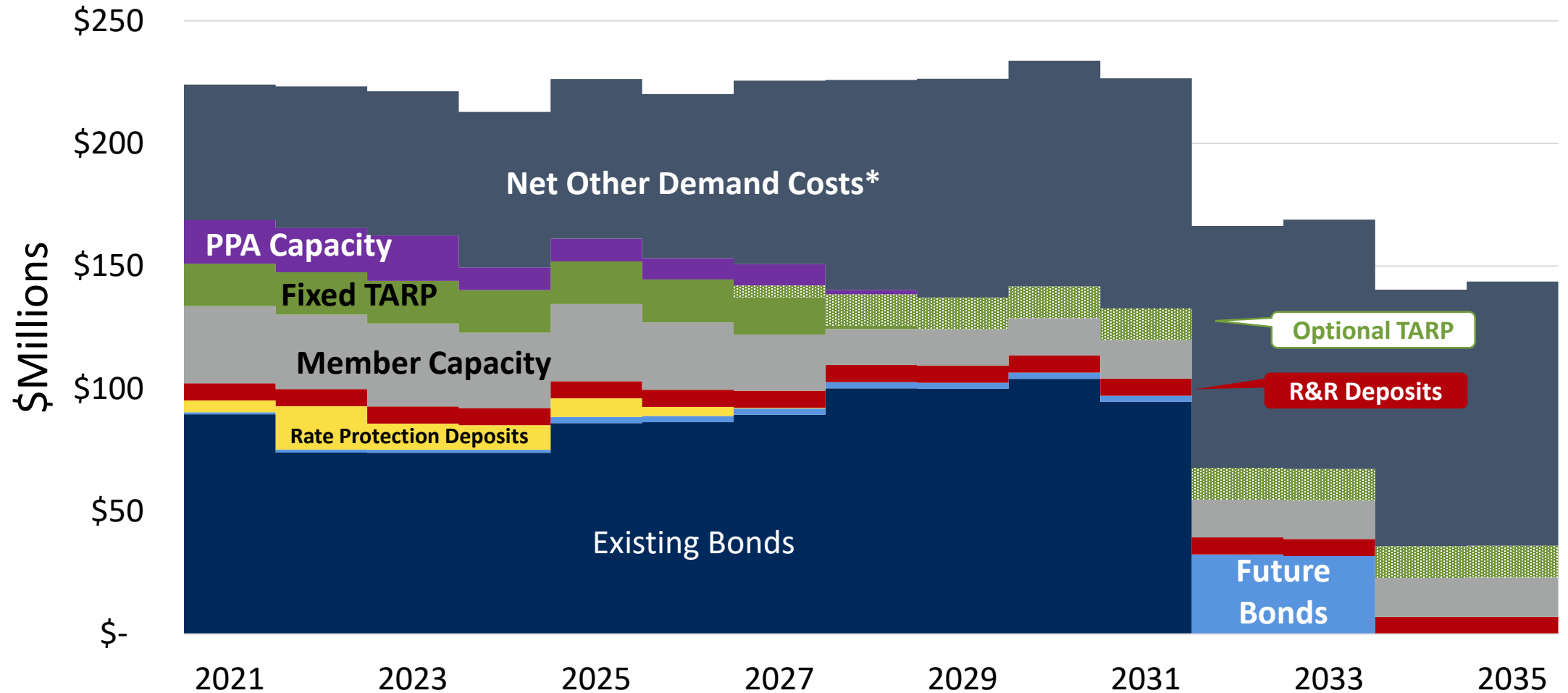
Debt Funding a Very Good Option in Current Rate Environment

Projected ARP Capital Expenditures and Funding



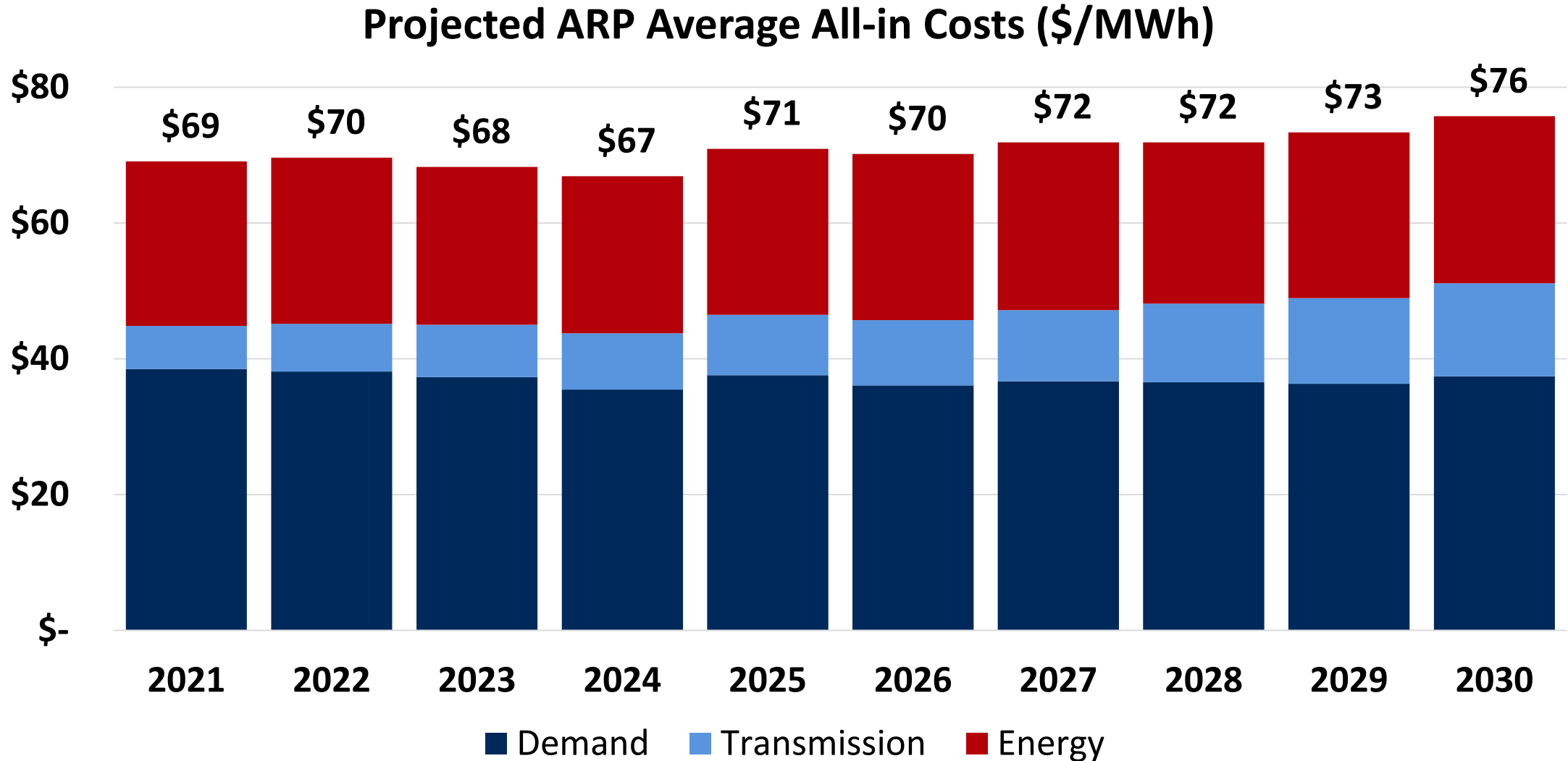
ARP Demand Costs Projected to Remain Stable

Aided by Cost Savings from Stanton Conversion



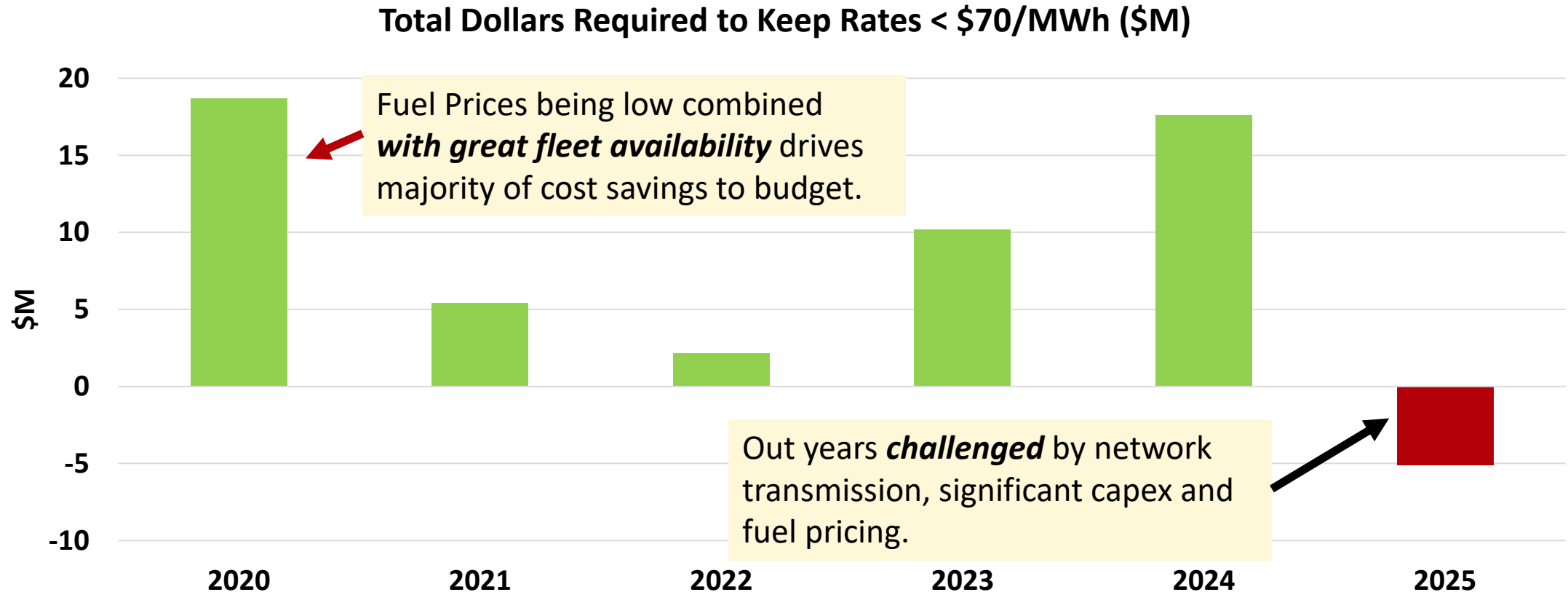
* Primarily includes fixed O&M costs, gas transportation costs, and allocated Agency costs.

Overall ARP Costs Projected Stable Based on Current Gas Forward Strip



Keeping Rates Under \$70/MWh Requires Savings*

Good Probability to Deliver Below \$70/MWh In Early Years

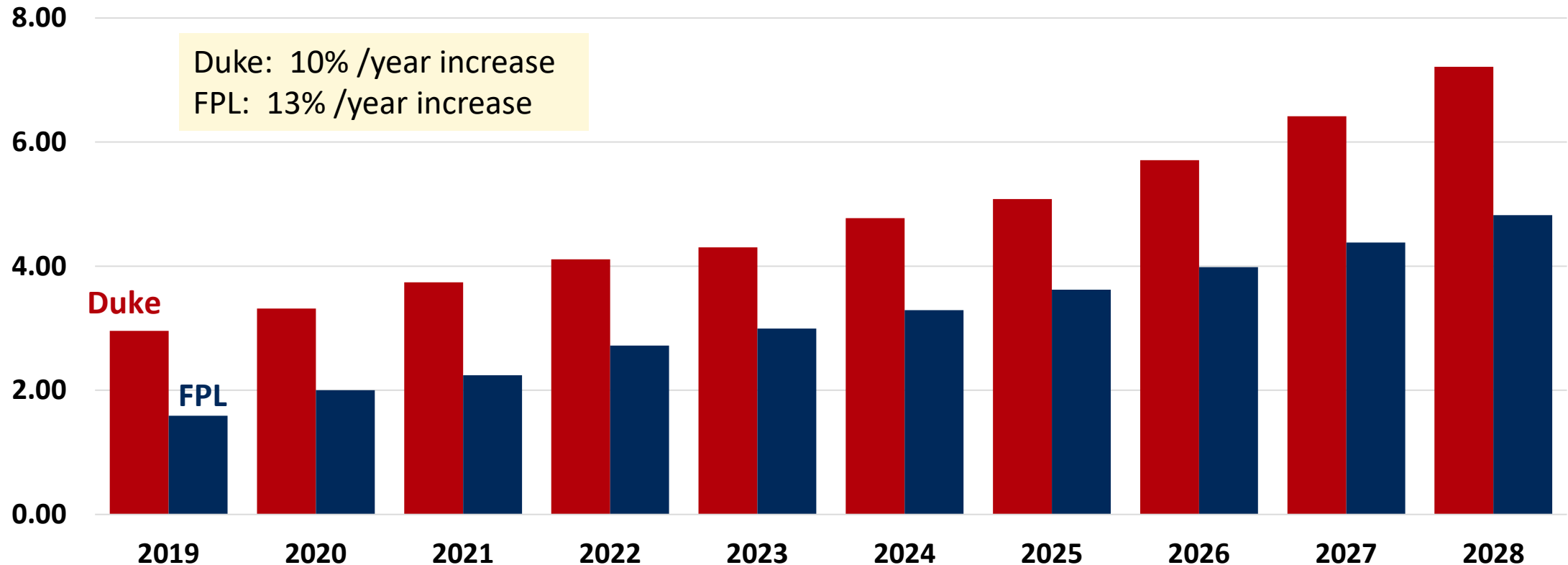


*This graph shows the reduction required each year to get to the targeted price. Negative values imply that a savings is required.

Transmission Costs Escalating ~10% Over Next 5 Years

Gap Decline Limits Benefit of New Transmission Connections

Projected Transmission Costs (\$/kW-mo.)¹

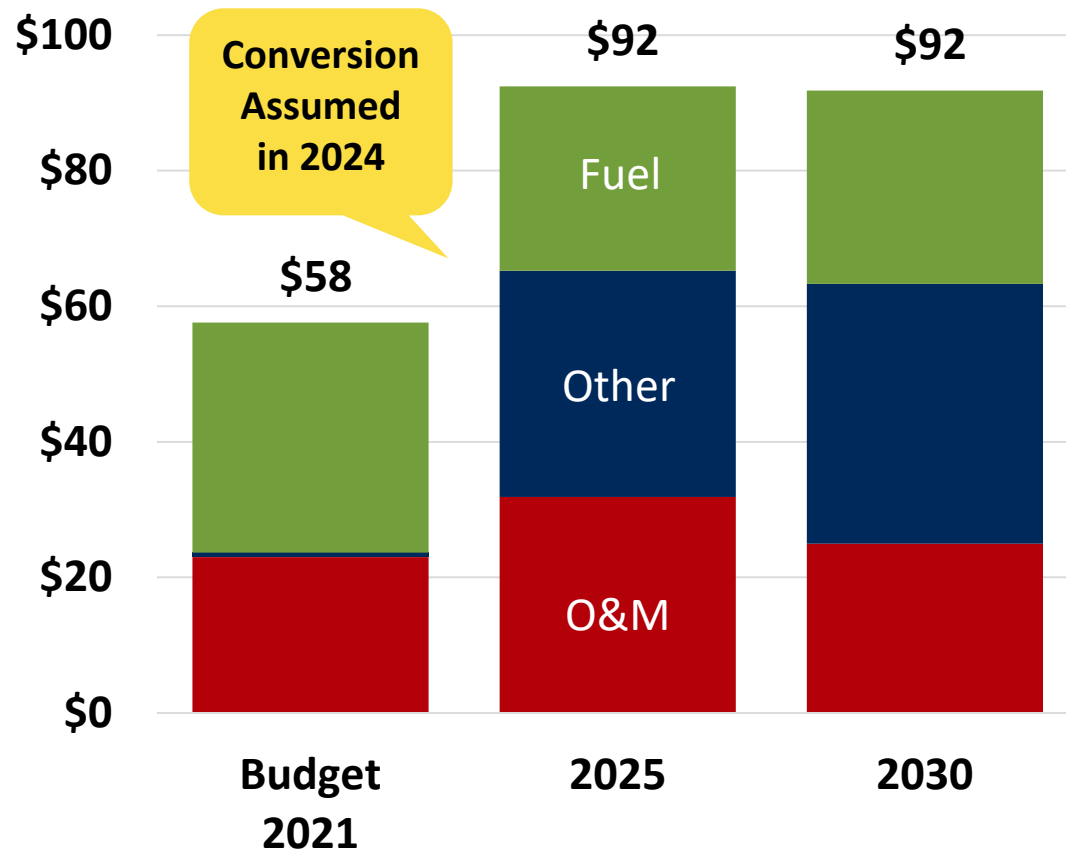


1 – Includes storm adder, where applicable.

Stanton Conversion Allows Operation for Peaking

Participants Should See Lower Post-Conversion Cost Overall

Projected Stanton Project Participant Costs (\$/MWh)

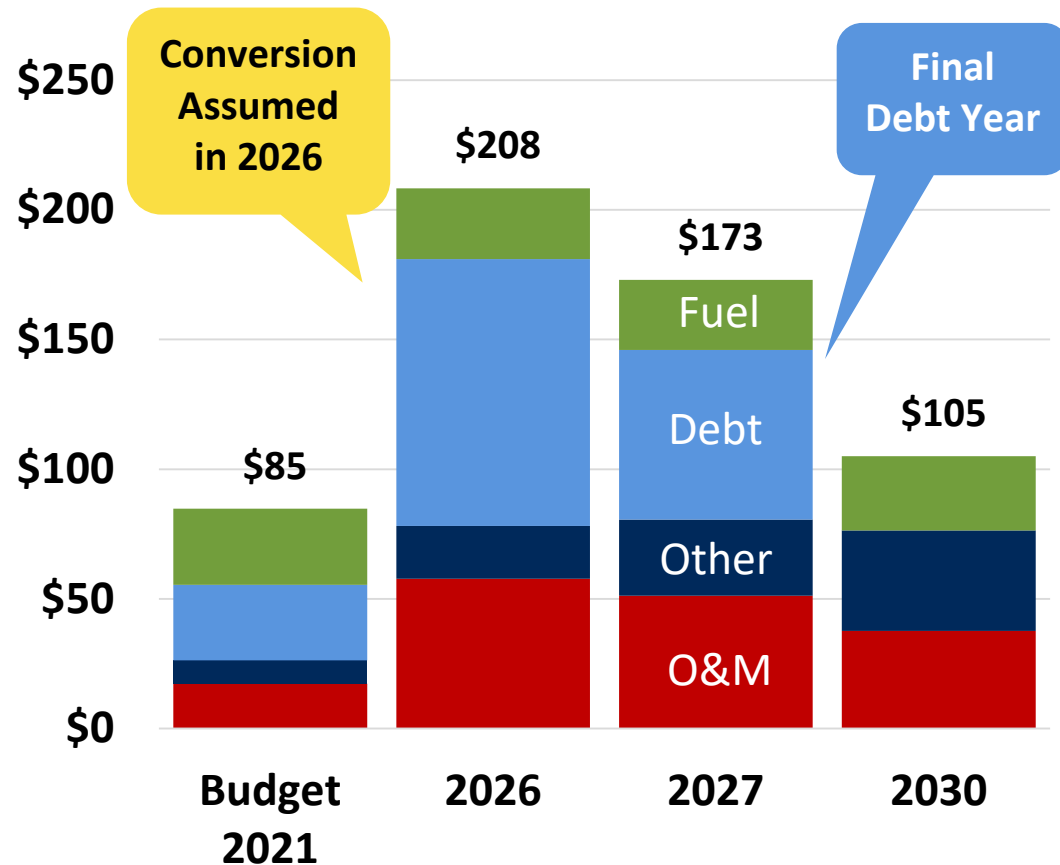


- Project fixed costs should decrease with conversion
- Utilization should also decline with conversion
- \$/MWh Project costs projected higher, but replacement energy should be cheaper than Stanton energy costs
- Participants should see lower overall power costs due to conversion

Stanton II Conversion Allows Operation for Peaking

Participants Should See Lower Post-Conversion Cost Overall

Projected Stanton II Project Participant Costs (\$/MWh)



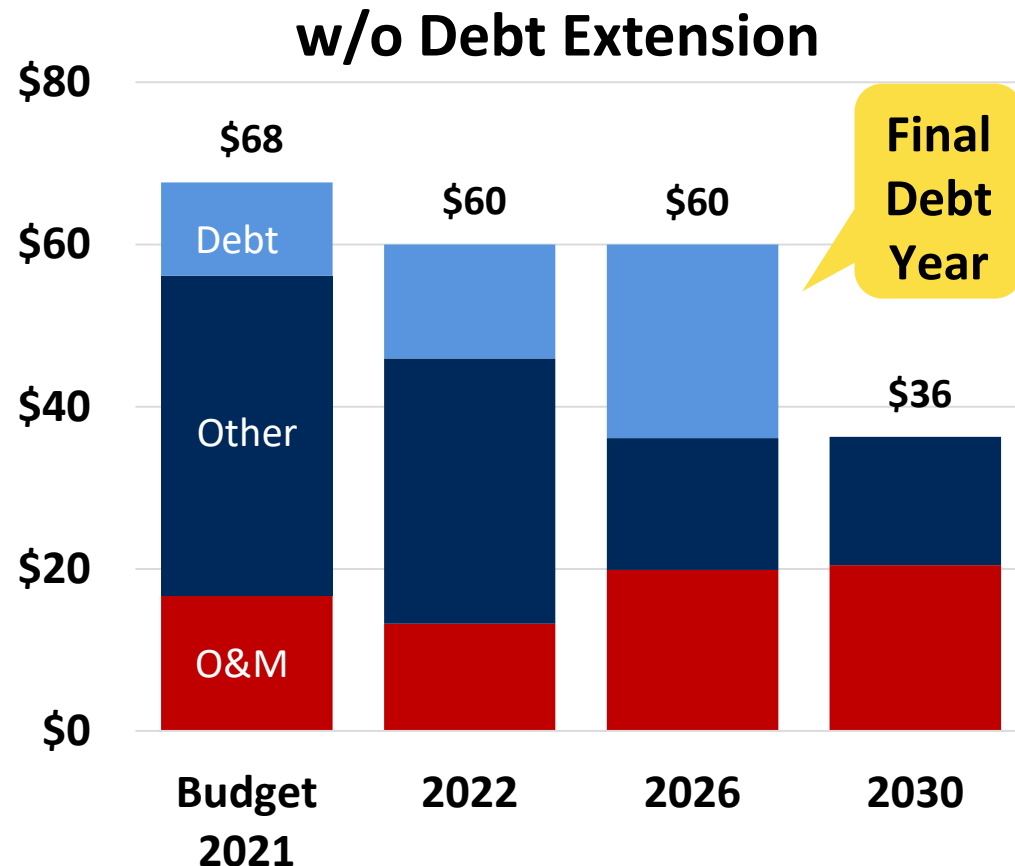
- Project fixed costs and utilization should decrease with conversion
- 2026 & 2027 \$/MWh costs projected higher due to combination of final debt years and low capacity factor
- \$/MWh Project costs projected higher, but replacement energy should be cheaper than Stanton 2 energy costs
- Participants should see lower overall power costs due to conversion

Assumes annual capacity factor of 15% after conversion

St. Lucie Costs Expected to Decline Significantly

Extending Debt Life Allows Greater Immediate Rate Reductions

Projected St. Lucie Project Participant Costs (\$/MWh)



- St. Lucie nuclear facility is cost competitive with no carbon emissions
- Opportunity to spread remaining debt to 2031 lowers cost by \$~9M/yr. (\$13/MWh) through 2026
- St. Lucie asset life now extended until 2043
- Future capex may be required if unit life extended beyond 2043 for another 20 years

Targeted Cost Reductions for 2021 - 2025

- Opportunities to decrease \$/MWh energy costs and potential value
 - Accelerate conversion of Stanton 1 & 2 to gas, reduce fixed costs and reduce energy take from plant - \$8 - \$17M/year once completed
 - Additional prepaid gas – ~\$2M/year (20,000 units) - \$3M/year currently
 - Pool expansion resulting in further dispatch cost savings \$2 - \$4M/year
- Opportunities to decrease fixed costs
 - Finance significant capital additions and lower R&R - ~\$4M/year
 - 3rd party capacity and energy sales and optimization \$8 - 10M/year total value

Summary of Projects

- Stanton 1 conversion assumed in 2024, Stanton 2 in 2026
- Stanton 1 & 2 expected to reduce fixed cost and operate more as peakers post-conversion
 - Replacement energy from alternative resources lowers net cost
 - Align actual costs billed and dispatch costs to appropriately dispatch low-cost gas
- Explore Stanton 1 & 2 cost reductions in O&M and fuel areas to continue improvement
- Focus on stopping low-cost gas units from being displaced by coal
- St. Lucie operational license through 2043, strong operating record allow debt life to be extended beyond 2026
- St. Lucie costs decline significantly with debt extension, remain stable



Risks and Opportunities



Risks for FMPA

Fuel Prices, Regulatory Uncertainty, and Realized Cost Declines

- Risks
 - Gas price swings affect end customers' rates – market or environmentally initiated
 - Carbon legislation and impact on coal and gas units and pricing to consumers
 - Cost reductions anticipated for Stanton are delayed
 - Uneconomic operation of Stanton post fuel conversion due to water burn constraints
 - Transmission cost headwinds from Network Service and PTP providers
 - Loss or lack of growth of member load due to economic conditions and COVID recovery
 - Cost of balancing system with significant solar higher than expected
 - Steam generator replacement on St. Lucie or other life extension investment
 - Increased customer demand for additional services

Opportunities for FMPA

Managing Assets and Debt Actively Key to Cost Control

- Opportunities
 - Active asset management program for controllable costs and capitalization of needed R&R
 - Ongoing debt restructuring
 - Expedited conversion of SEC 1 and 2 with new participation agreement
 - Use of low/no cost customer demand management to meet peak
 - New resources or market alternatives for aging resources (e.g. energy storage)
 - Leverage opportunities associated with any new or extended renewable tax credits
 - Sell excess economic energy at margin above FMPP option and intra-period capacity when long
 - Optimize the intra-year energy and capacity positions, unit outages, natural gas position
 - Exploration of additional pool partners or expanded imbalance markets

10 Year Planning Horizon Has Risks

Mitigation Options Exist for Longer Term Focus Areas

Risk	Impacts	Mitigation Options
Natural Gas Price Volatility	Volatile fuel prices may cause: <ul style="list-style-type: none"> • high rates for ARP with high gas prices • high coal Project rates with low gas prices 	<ul style="list-style-type: none"> • Active Fuel Cost Management • Allow individual members to hedge energy costs
Penetration rate of Distributed Generation	<ul style="list-style-type: none"> • Could result in load loss and solar PV integration issues • Could increase demand for additional utility services for some customers 	<ul style="list-style-type: none"> • Understand cost of service and interconnection needs • Solar subscription product
Load decline instead of growth	Load loss could result in additional excess capacity increasing rates	<ul style="list-style-type: none"> • Reduce retail energy cost to encourage sales • Sell excess in wholesale
Environmental Regulations or desire for reduced carbon footprint	<ul style="list-style-type: none"> • Increased retail rates in trade-off between accelerated reduction • Early retirement of thermal units possibly stranding debt 	<ul style="list-style-type: none"> • Incremental resource reviews • Complete 20-year IRP • Add solar to offset



Conclusions



Conclusion – There is More Work to Do

Build Off Progress Since 2019 w/New Targets

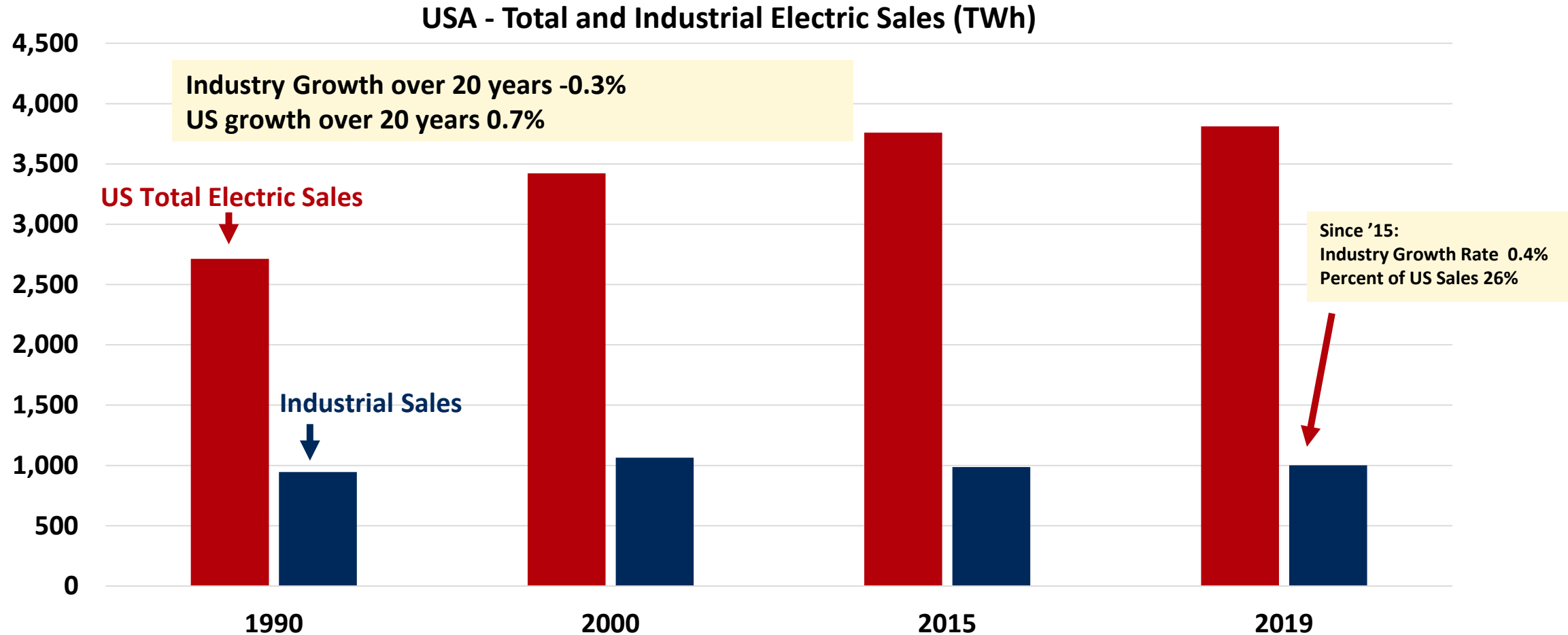
- Rates are becoming competitive but need to improve to close gap with lowest cost IOU in FL – focus on major cost reduction efforts?
- Major environmental regulations expected, significant solar expansion likely – need to consider additional solar in ~2025?
- Battery opportunity may evolve over next 2 -3 years for Key Energy and FPL load serving
- ARP may need capacity in 2028 depending on amount of solar added; resources beyond solar will be peaking/fast response
- Continued Member Services expansion for reliability improvement, financial/strategic planning, IT/cyber, etc. requires added resources



Electric Demand, Supply and Generation Mix Changes

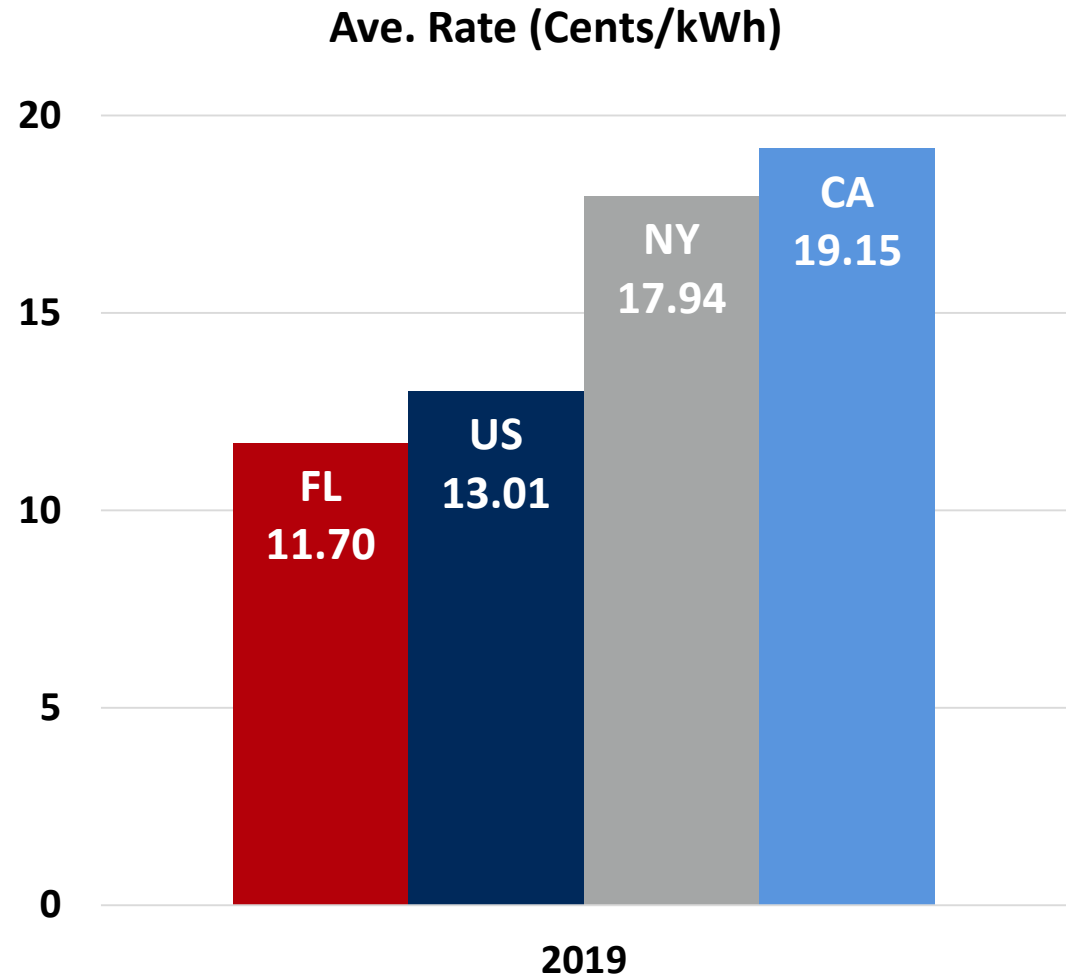
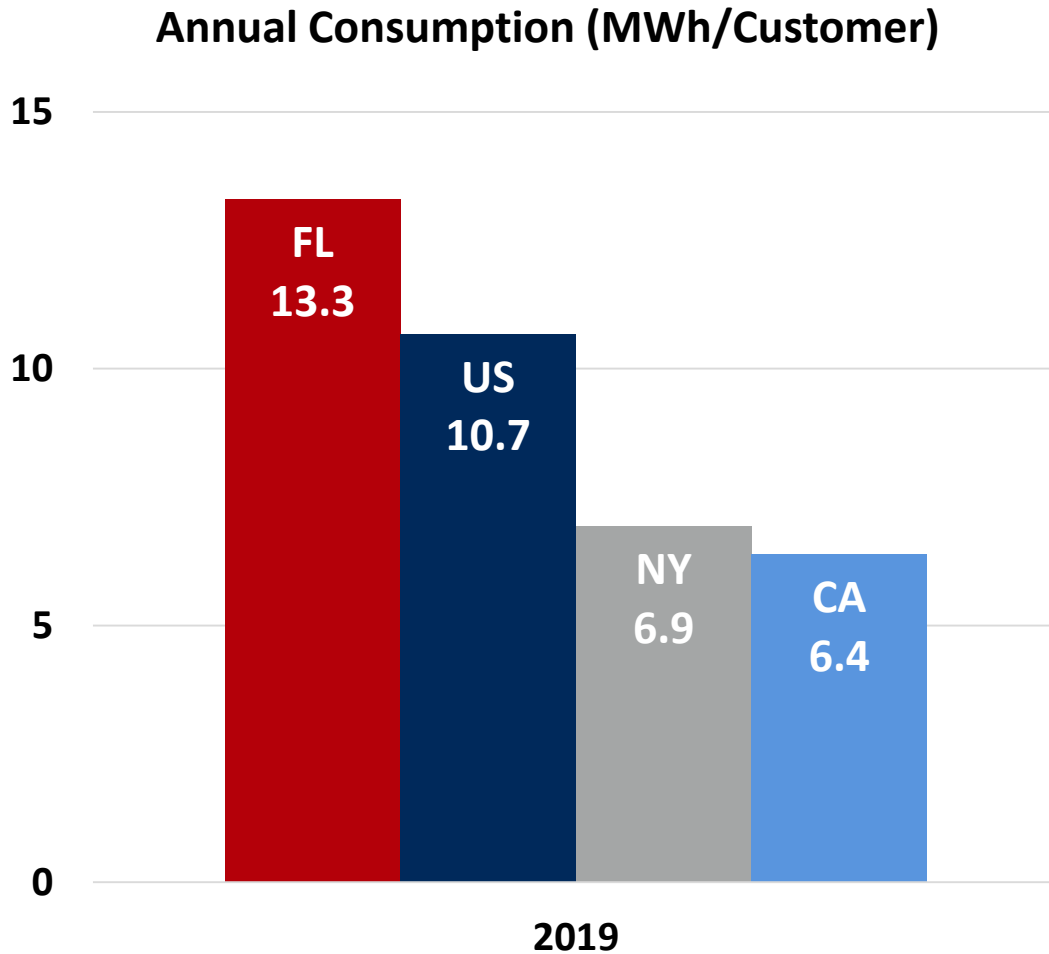
US Electric Sales Growth More Tepid

Only 0.4% Per Year Recovery Since 2012



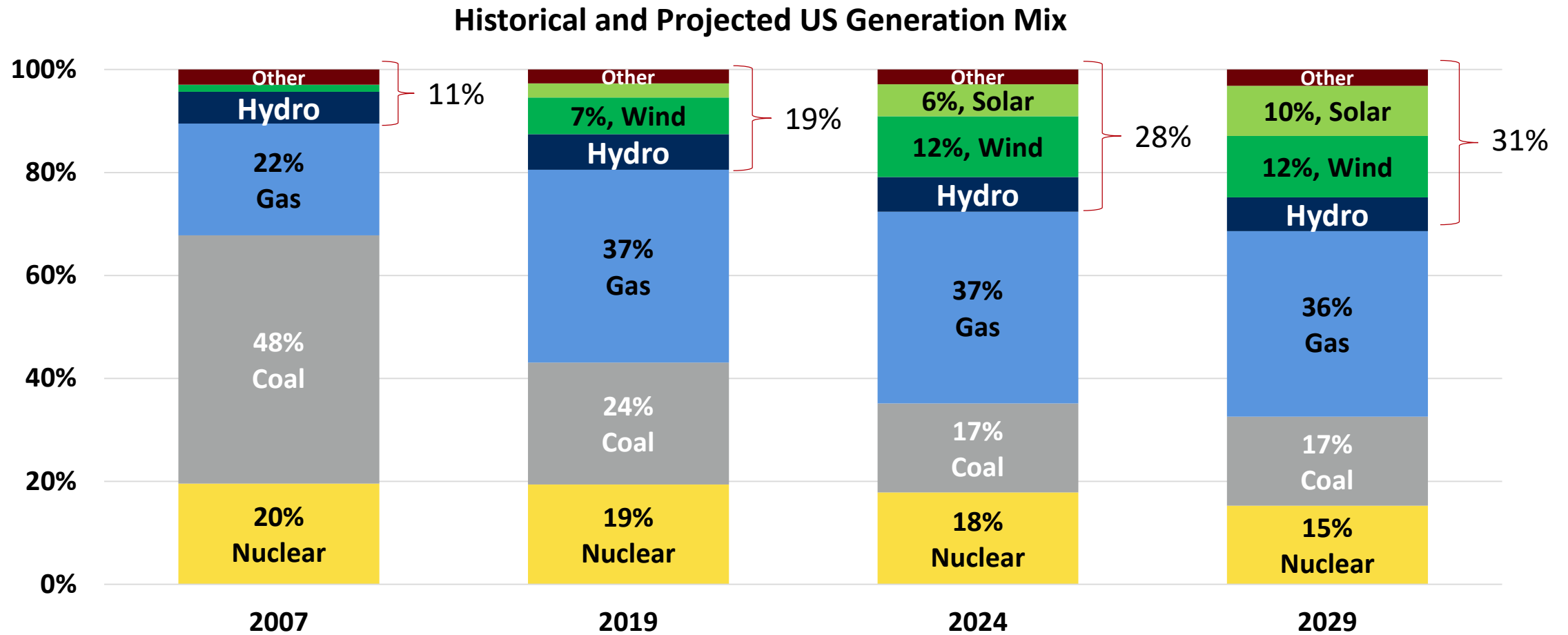
FL Uses More Electricity Per Customer

Cooling Load Drives Higher Residential Need



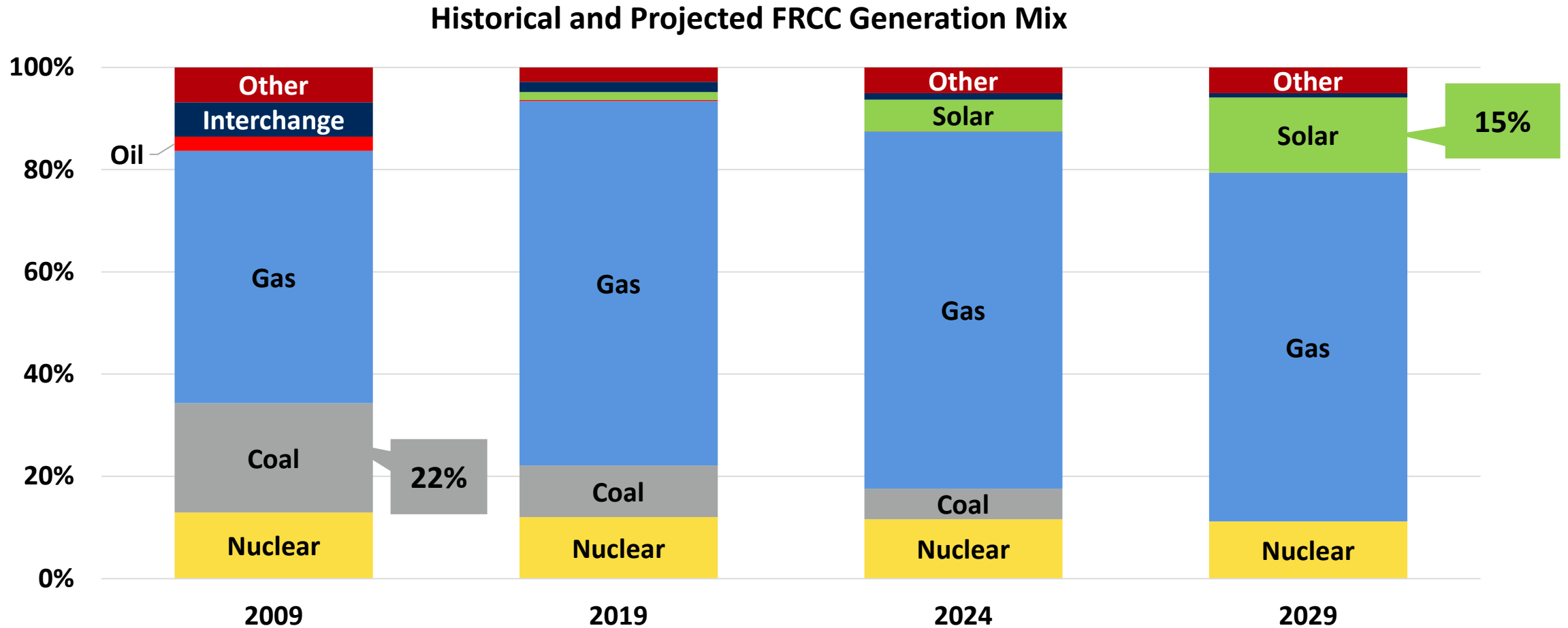
US Far More Balanced Overall Than FL

Solar and Wind are Steadily Growing



Gas Drives FL Generation Mix

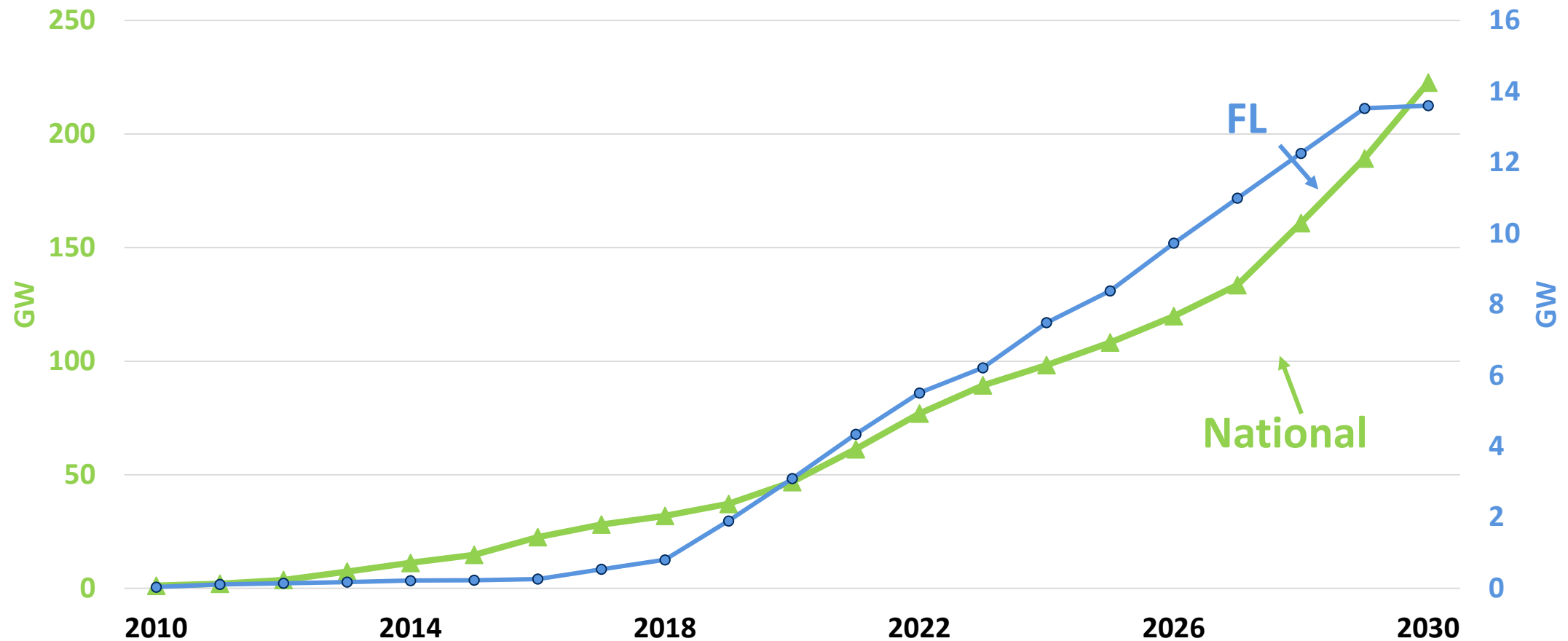
Coal Expected to Be Displaced by Solar and Gas by 2029¹



Solar Capacity Expected to Increase 6-Fold

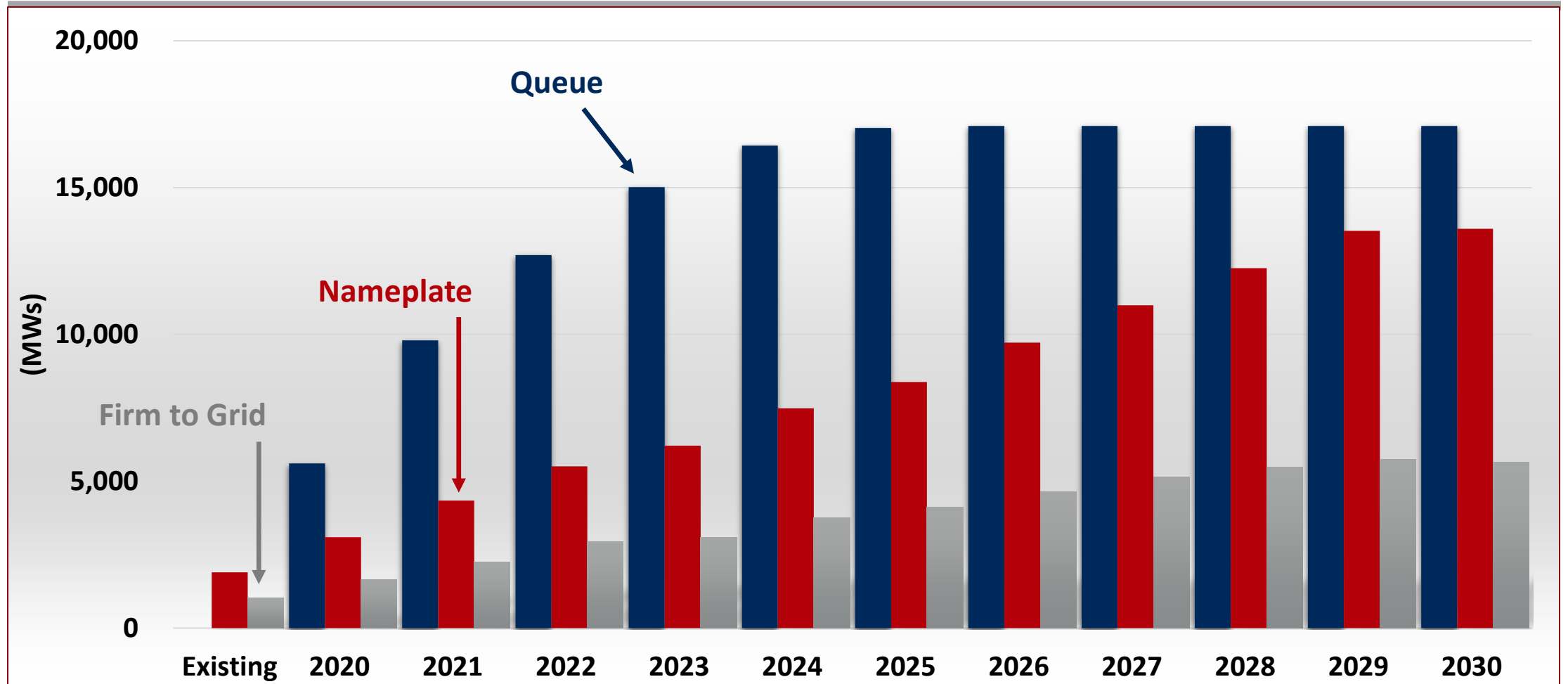
External Forces Could Cause Even Faster Solar Growth

Historical and Projected Solar Capacity Additions



FL Utility Solar Grows to ~14 GW by 2030

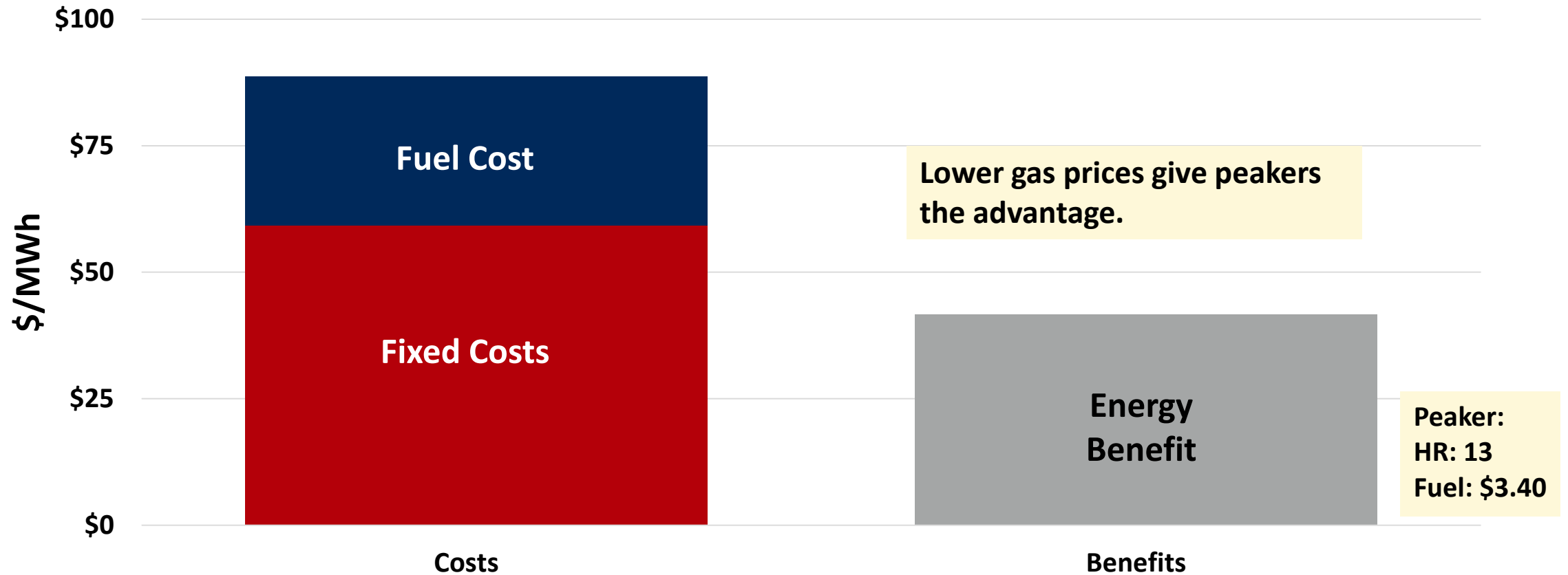
Transmission Queue Far Exceeds Site Plans



Storage Cost Dropped 30% Since 2018

Capital Cost Needs to Decline ~80% for Net Energy Benefit

Long Term Average Cost of Battery Storage* Vs. Benefit



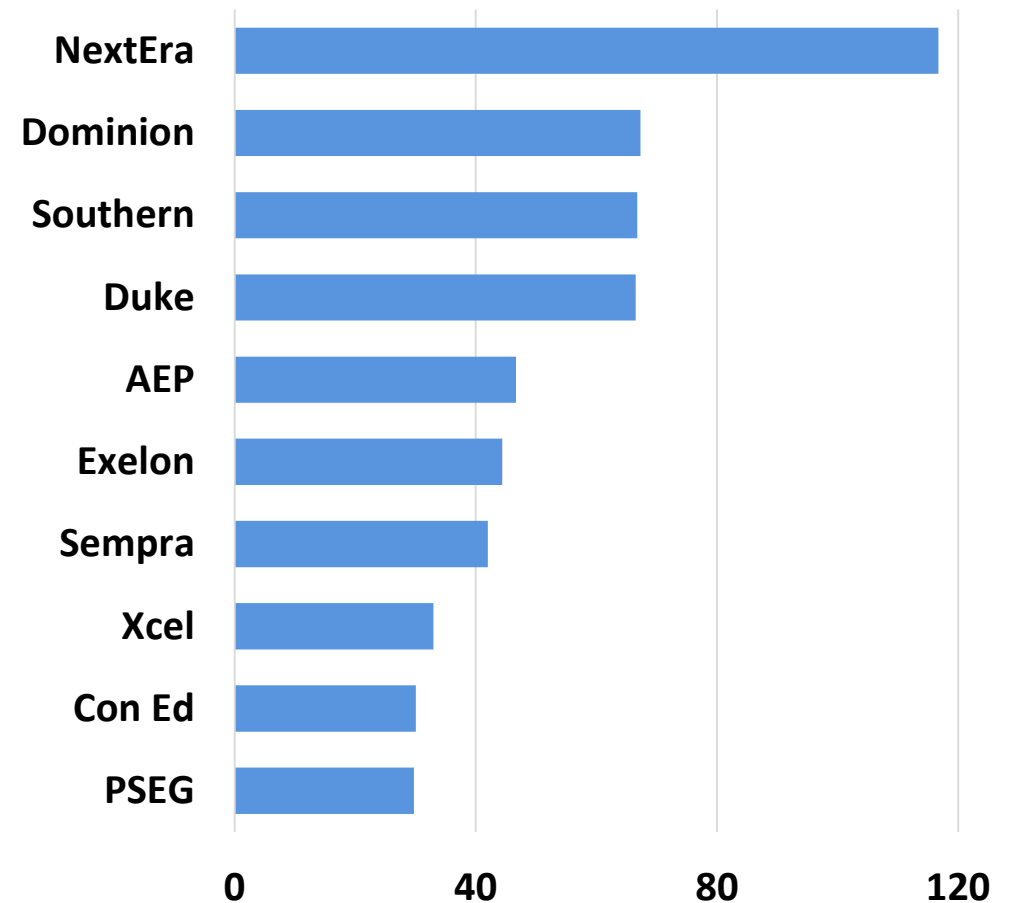
*Reflects 1 MW Lithium-Ion System with 4 Hour Daily Discharge.

FL IOUs Largest in the U.S.

*Market Capitalization Reflects Consolidation**

- Top 10 IOUs have a total market capitalization of ~\$543 billion
- Top 10 IOUs makes up 60% of IOU industry market cap
- There were almost 100 IOUs 20 years ago; now, 40
- Largest (NEE) is 5-times as big as the largest 20 years ago
 - Median is 6-times larger than median entity 22 years ago

Market Capitalization in \$ Billions



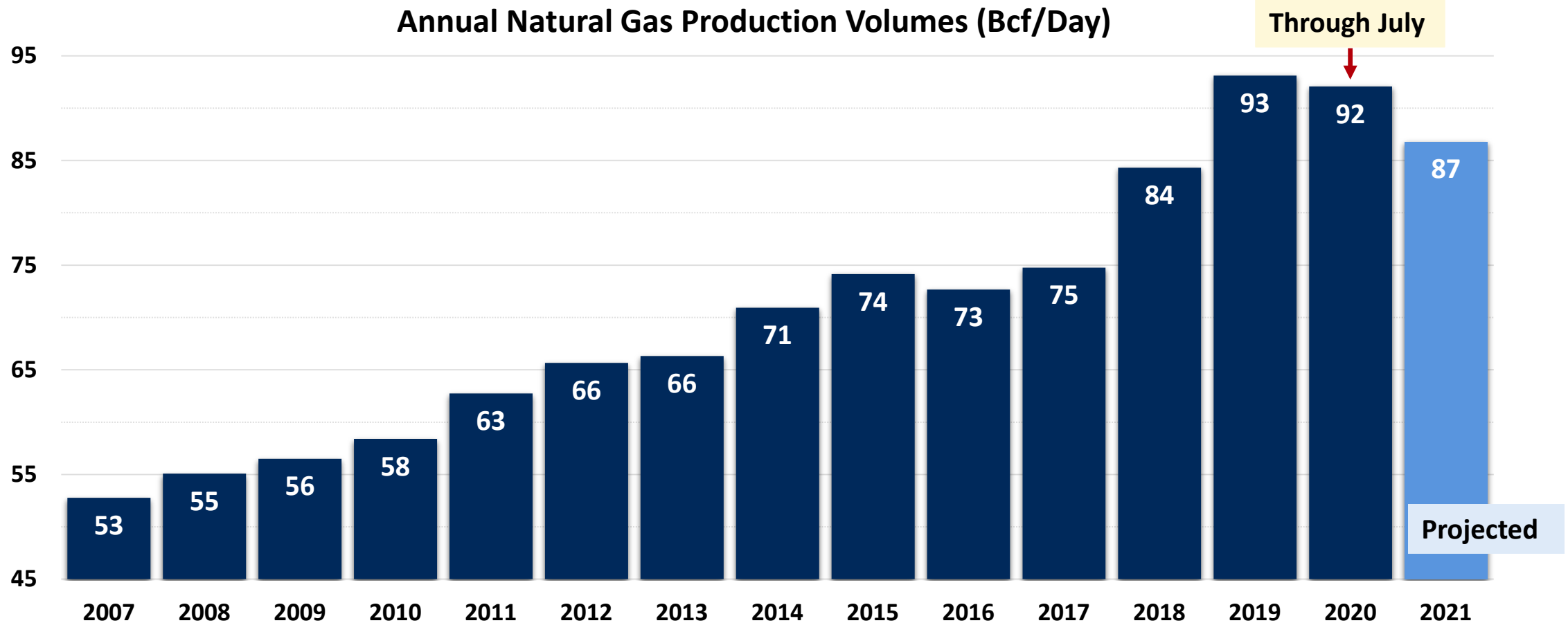


Natural Gas Market Expectations



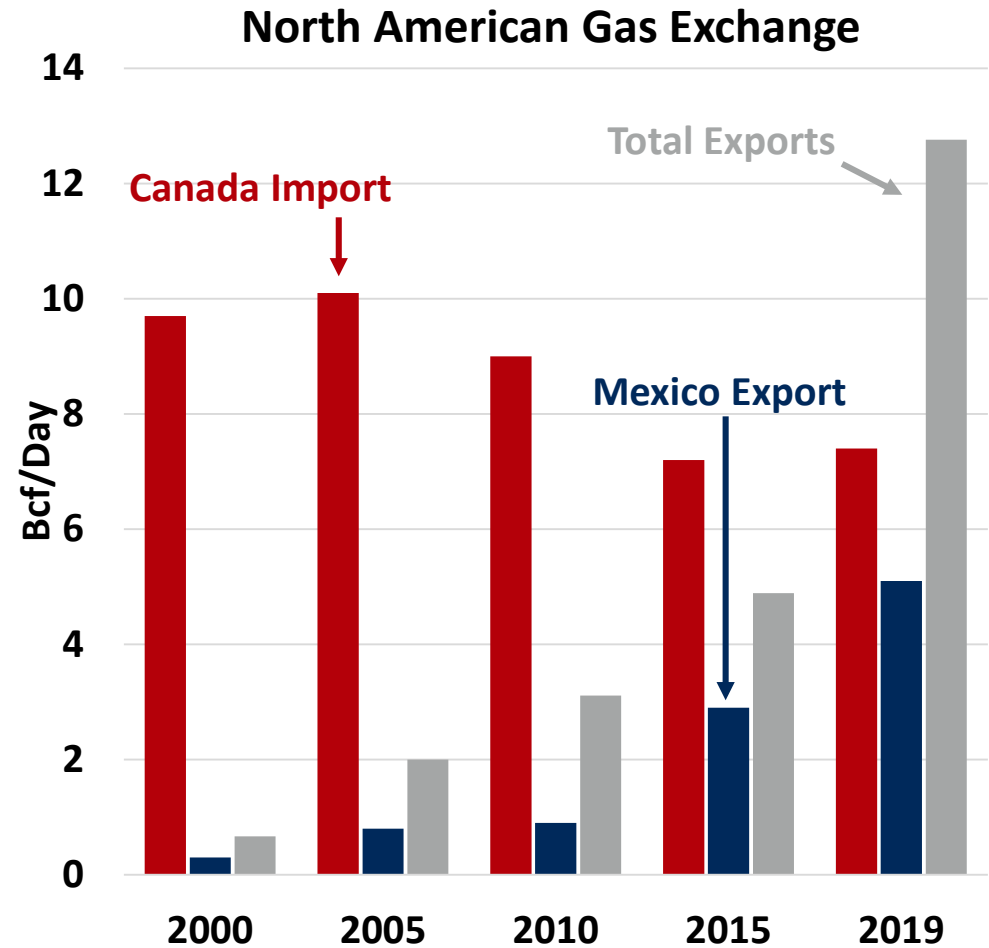
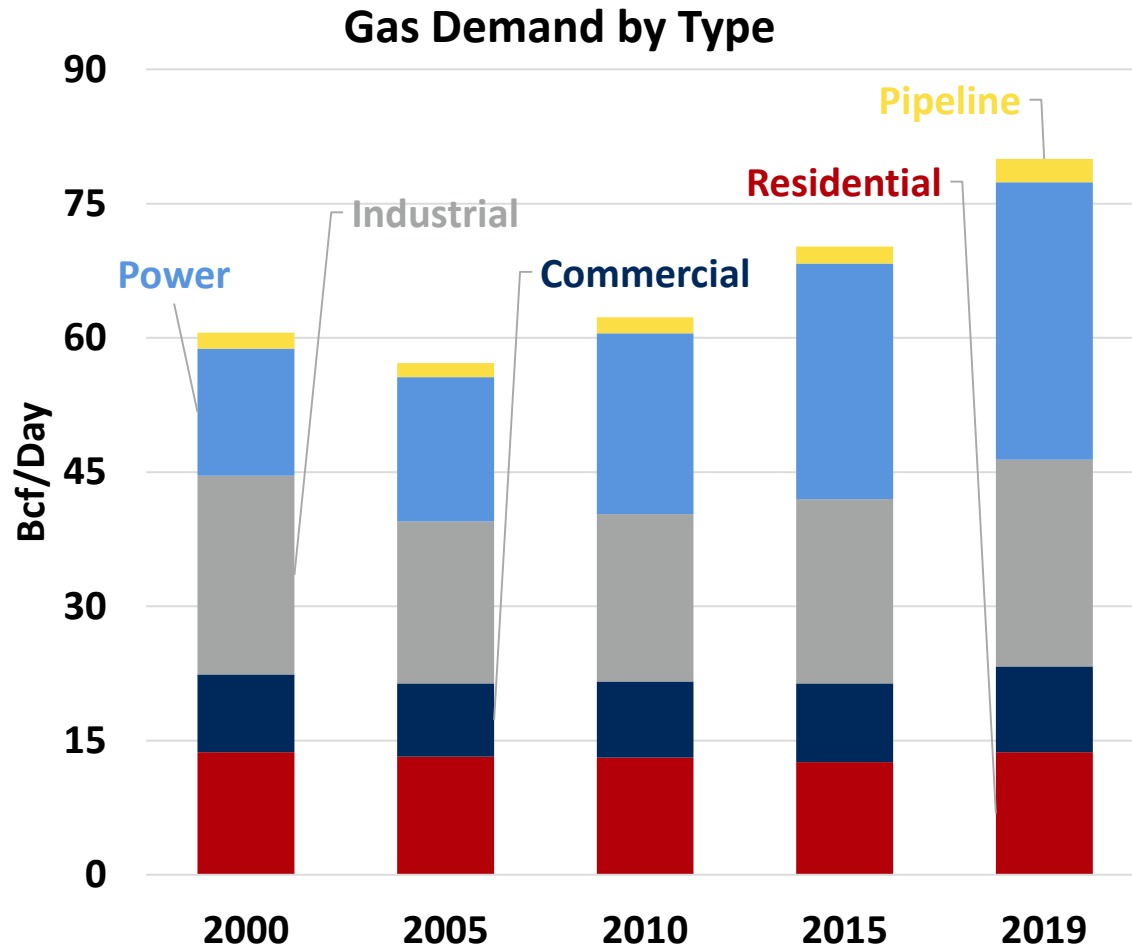
Shale Gas Rapidly Increased Production

Uncertainty in 2020 Could Alter Expected Continual Increases



Power Demand, Mexico Export Way Up

Power Demand has Outpaced Industrial Demand

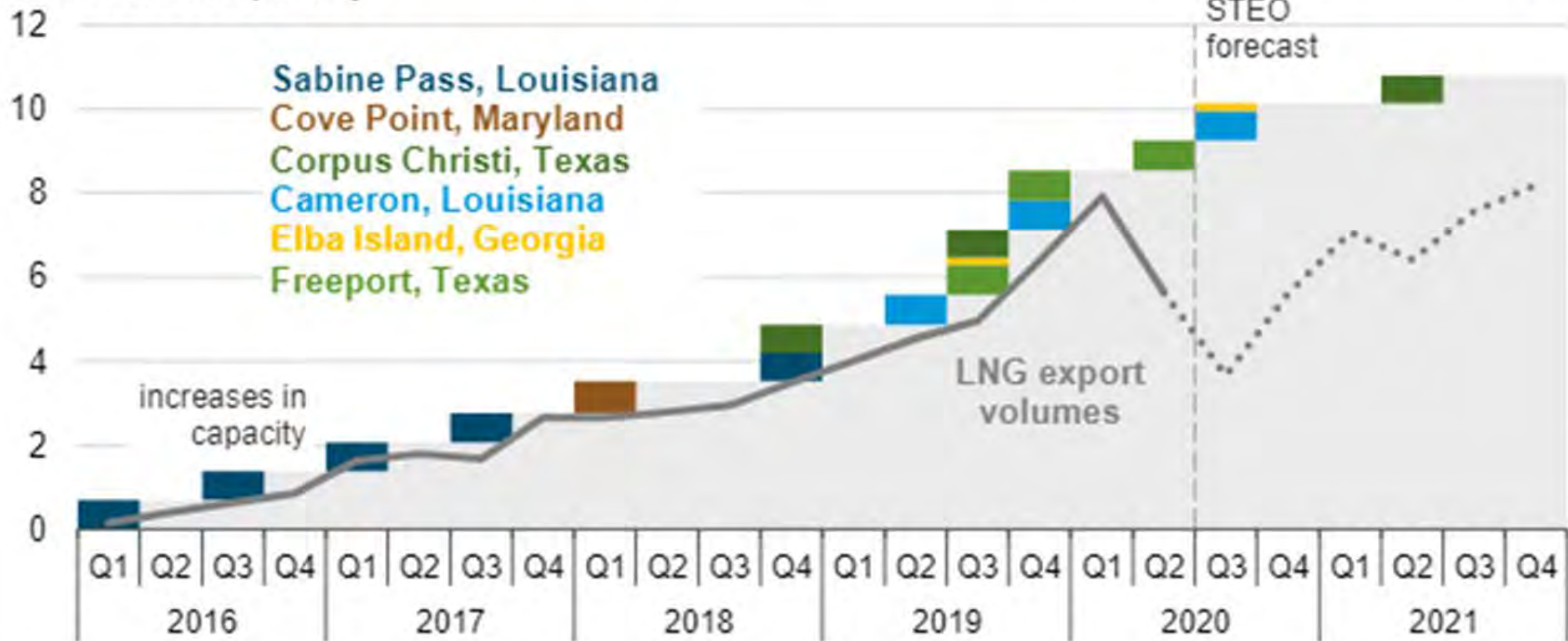


LNG Export Capacity Quadrupled Since 2017

Global Economic Uncertainty Clouds Growth Projections

Quarterly U.S. liquefied natural gas (LNG) exports and export capacity (2016–2021)

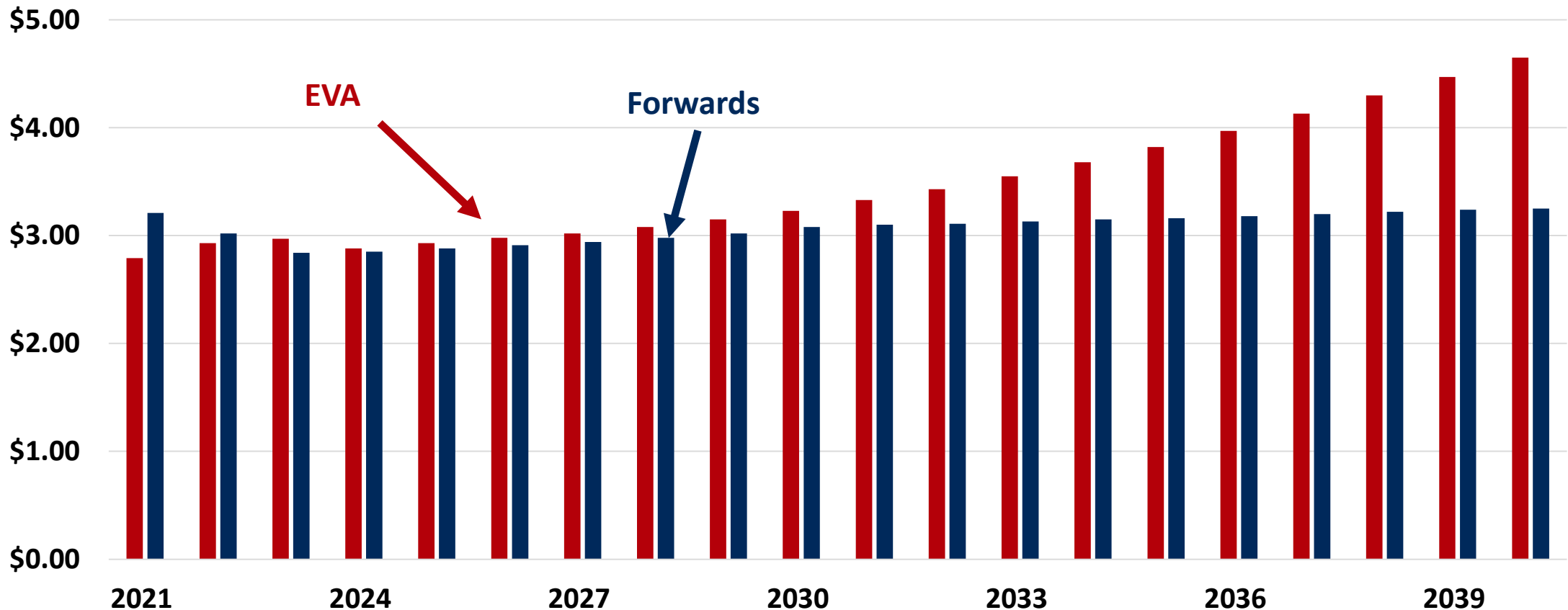
billion cubic feet per day



EVA Projects Steady Gas Price Growth

Power + LNG Demand Outpaces Supply Gains

Projected Natural Gas Prices EVA (Henry Hub) and Forwards (\$/MMBtu)





Strategic Planning Session

