

JEA Privatization Discussion Materials for Board of Directors Workshop

March 20, 2018



The objective of this discussion document is to *facilitate discussion and dialogue* between JEA Board members

Process to Date

December 5

Letter from Chair Howard directing staff to “evaluate our prospective position in the marketplace, and report back on what the private market value of JEA” within 60-90 days

February 7

Draft Report from PFM provided in response to public records request

February 20

Council formed Special Committee to study possible JEA privatization¹

November 28

Mr. Petway introduced question “Would the customers of JEA and the people of Jacksonville be better served in the private marketplace?”.

December 12

JEA Board Chair discussion on the need for an expedited evaluation of the privatization of JEA

February 14

Final Report from PFM presented to Council and JEA Board

March 20

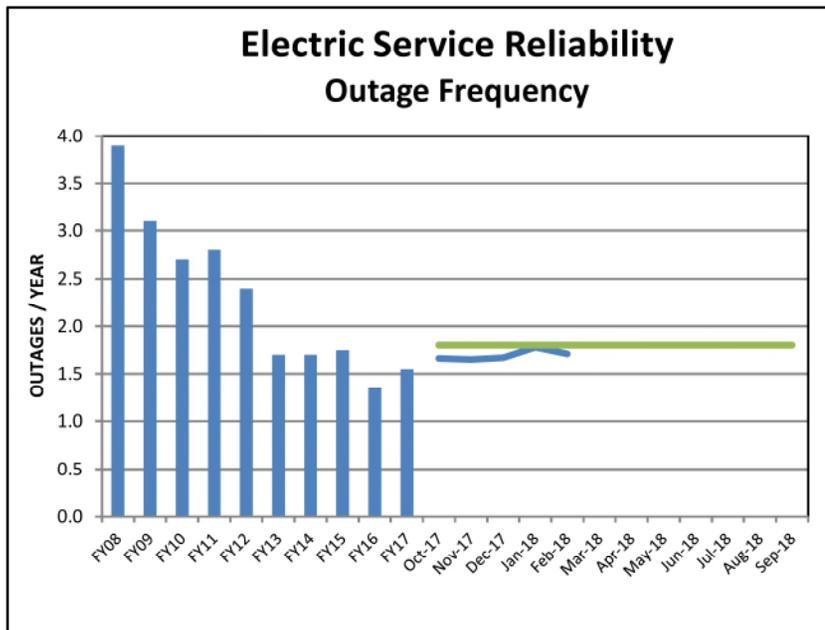
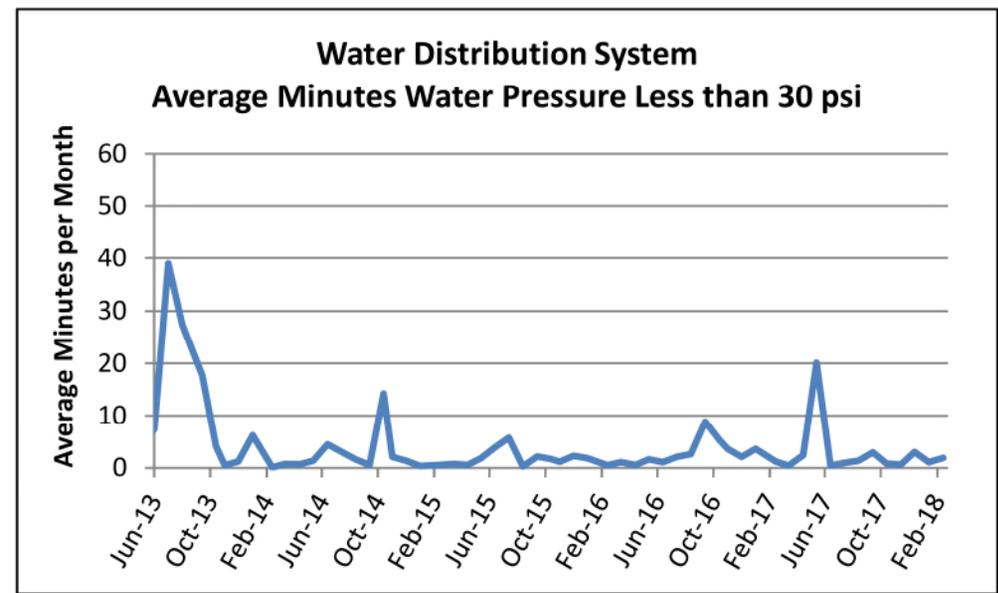
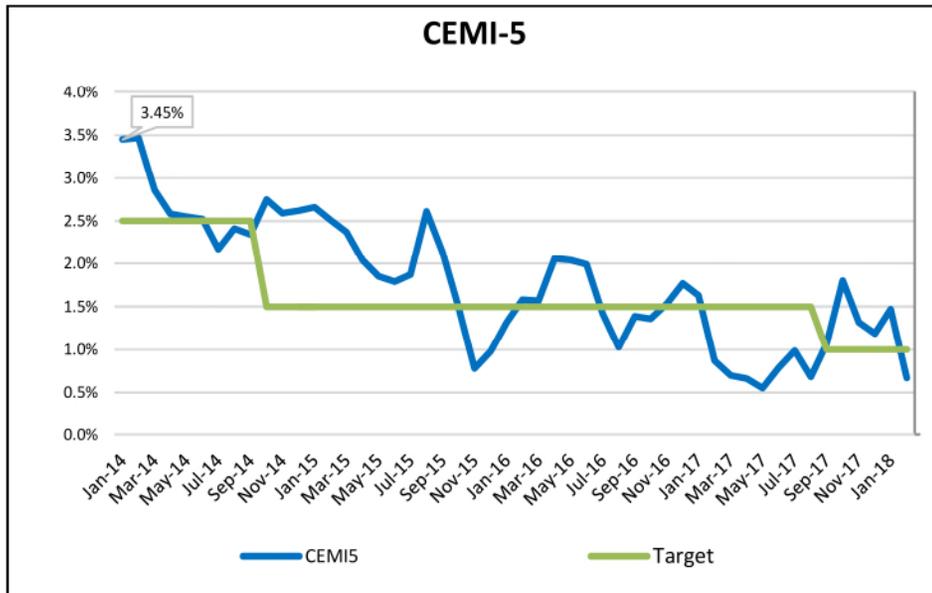
JEA Board workshop to discuss possible privatization

¹Scheduled to meet weekly through June 21st

Framework Outline

- JEA Operating and Financial Performance.....5
- Electric Industry Trends.....8
- Water & Sewer Industry Trends.....16
- Contribution Agreement and other COJ partnerships.....23
- Capital Markets.....25
- Valuation (PFM).....27
- Possible Structures.....31
- Challenges.....32

JEA is Operating At or Near Peak Performance



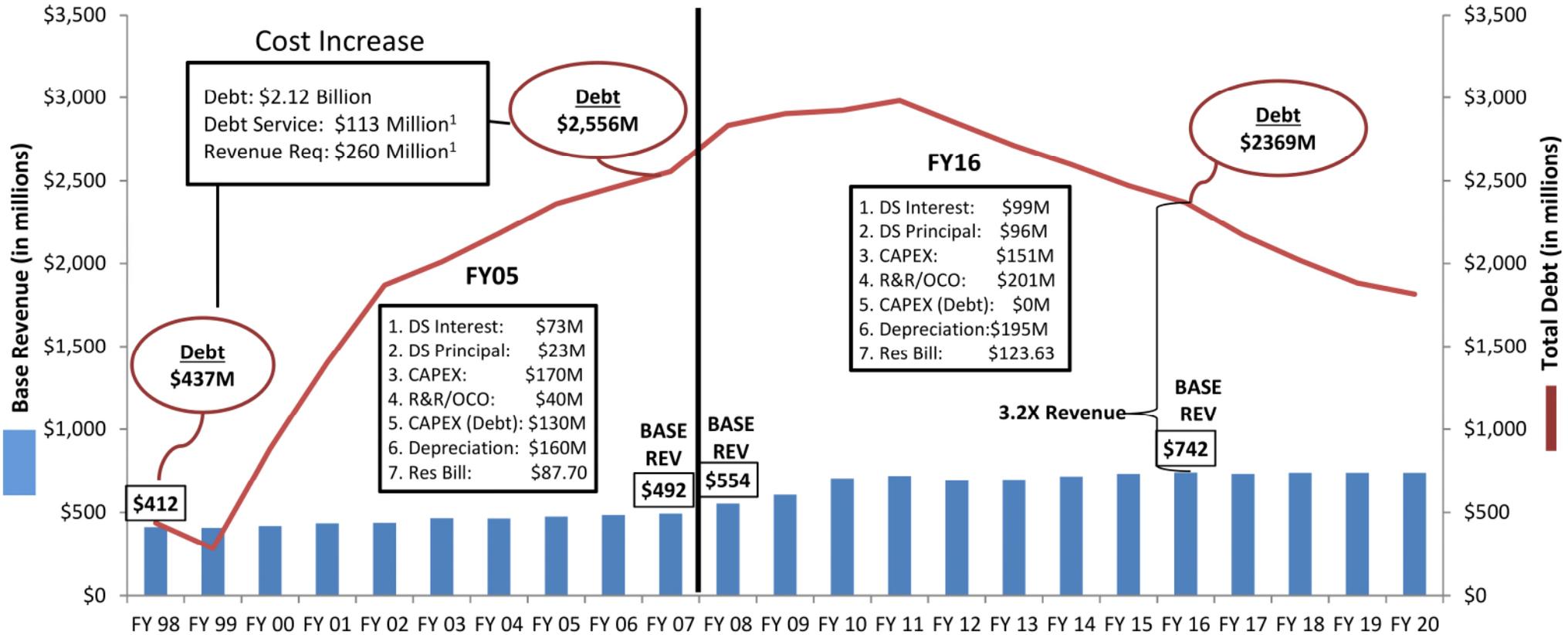
Balance Sheet Flexibility: Continue to Pay-Down Debt Electric System Base Revenue, Debt, and CAPEX

Electric System FY98

Customers: 344,000
GWh Sales: 10,905

Electric System FY16

Customers: 451,788
GWh Sales: 12,561



Leveraged Balance Sheet → Significant Cost Increases

Base Rate Δ Res	—%	—%	—%	—%	—%	—%	—%	—%	—%	—%
Base Rate Δ Yield	—%	—%	—%	—%	—%	—%	—%	—%	—%	—%
Debt Service ³	\$44	\$45	\$61	\$59	\$60	\$88	\$87	\$97	\$117	\$124
Coverage ³	3.4x	3.2x	2.4x	2.4x	2.6x	2.3x	2.0x	2.1x	2.3x	2.4x
Debt/Asset	69%	67%	71%	75%	78%	80%	83%	86%	87%	90%
Bond Rating										

Stabilized Balance Sheet → Significant Rate Increases

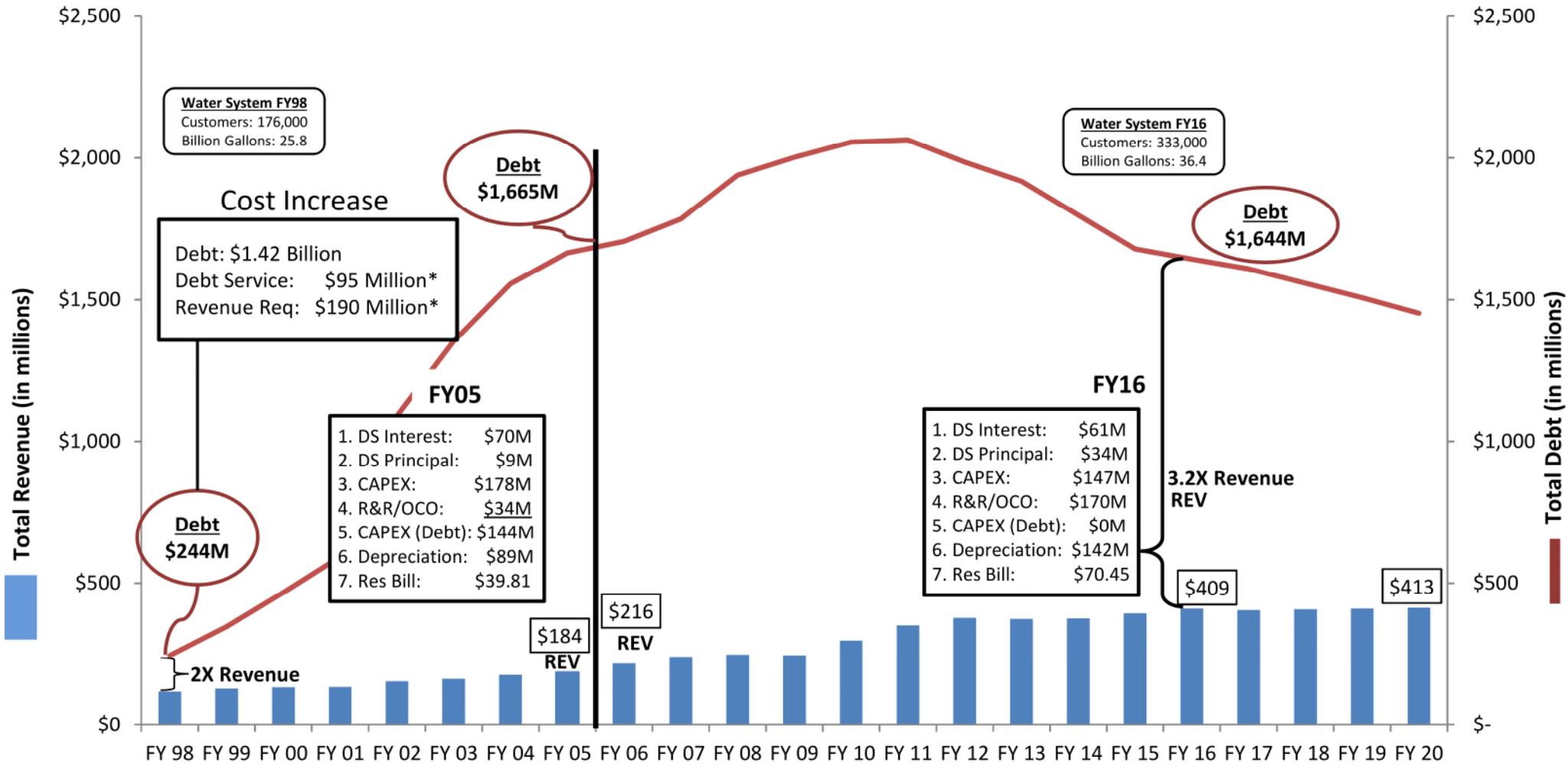
	13%	9%	9%	5%	4%	—% ²	—%	—%	—%	6%	—%	—%	—%
	13%	14%	12%	4%	4%	—% ²	—%	—%	—%	4%	—%	—%	—%
	\$141	\$119	\$126	\$186	\$158	\$154	\$162	\$199	\$195	\$226	\$217	\$207	\$142
	2.4x	3.0x	3.4x	2.8x	2.7x	2.6x	2.4x	2.6x	2.9x	2.3x	2.3x	2.3x	2.5x
	91%	88%	88%	84%	79%	77%	74%	69%	66%	64%	61%	58%	58%

¹Minimum annual requirements @ 4.5% interest rate for 30 years and 2.3x coverage

²Presented for simplicity that the \$2.90 Fuel Recovery Charge conversion occurred at the beginning of FY2012 fiscal year vs. the actual Jan 1, 2012 effective date

³Debt Service Coverage Basis

Balance Sheet Flexibility: Continue to Pay-Down Debt Water and Sewer System Base Revenue, Debt, and CAPEX



Leveraged Balance Sheet → Significant Cost Increases

Rate Δ Res.	—	—	—	—	—	—	—
Rate Δ Yield	—	—	—	—	—	—	—
Debt Service	\$20	\$22	\$31	\$37	\$49	\$64	\$79
Coverage	3.2x	3.4x	2.6x	2.3x	2.0x	1.9x	1.7x
Debt/Asset	25%	31%	37%	42%	56%	61%	64%
Bond Rating							

Stabilized Balance Sheet → Significant Rate Increases

5%	7%	7%	4%	10%	10%	3%	—%	—%	—%	—%	—%	—%	—%	—%
7%	7%	9%	6%	20%	12%	17%	—%	—%	—%	—%	—%	—%	—%	—%
\$89	\$93	\$100	\$97	\$109	\$121	\$120	\$116	\$114	\$101	\$95	\$118	\$119	\$120	\$120
2.0x	1.9x	1.6x	1.7x	1.8x	2.1x	2.2x	2.4x	2.5x	2.8x	3.3x	2.5x	2.4x	2.4x	2.5x
64%	62%	64%	65%	66%	64%	62%	59%	56%	55%	52%	50%	47%	45%	43%

*Minimum annual requirements @ 4.5% interest rate for 30 years and 2.0x coverage

Electric Industry Trends

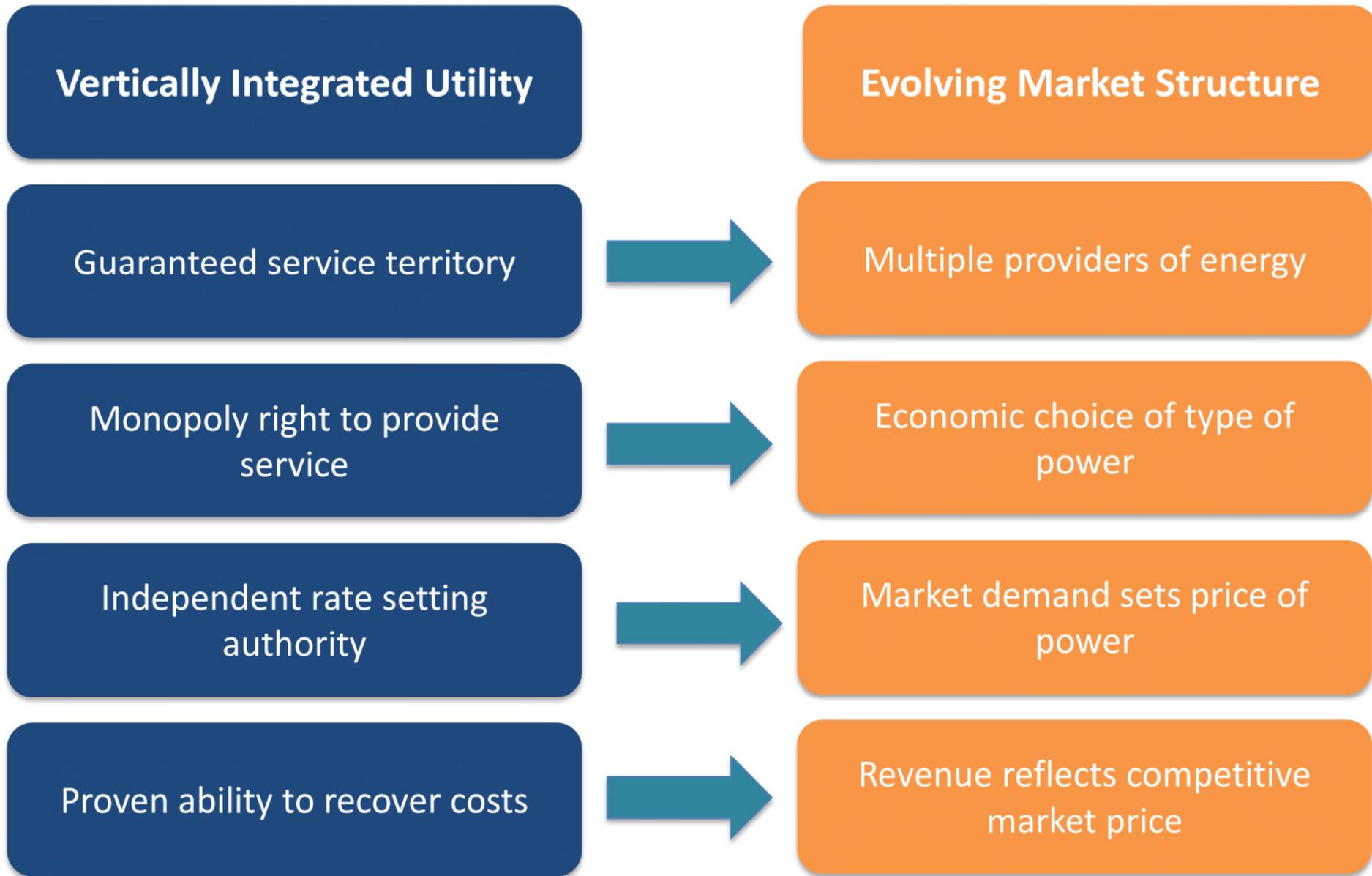
Risks

- Market structure changes present uncertainty (page 9)
- Sales are flat or declining (page 10)

Opportunities

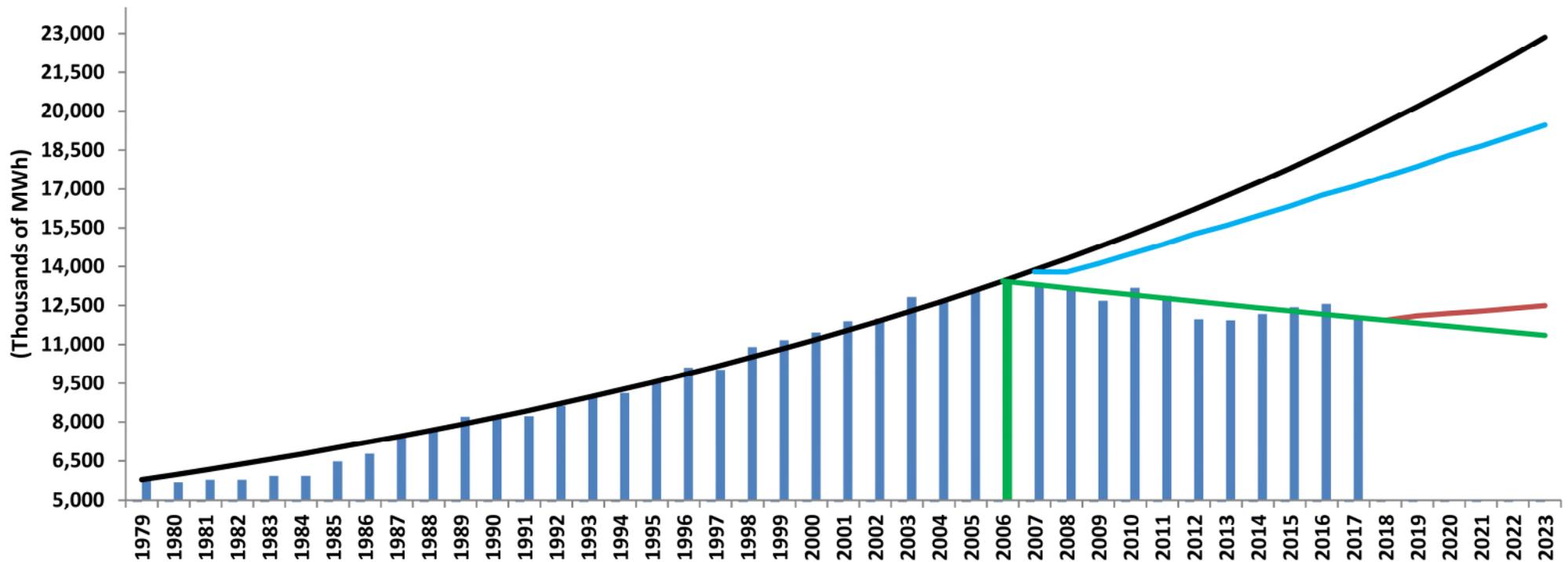
- Renewable prices continue to fall, providing economic opportunity but disrupting model of large, centralized fossil power plants (pages 11-13)
- Electric vehicles could help buoy declining sales trend if adoption becomes widespread (page 14)
- The future of technology development could bring more industry change (page 15)

New Market Structures Challenging Traditional Utility Model



Lower Margin and Threat of Stranded Costs

JEA Electric Sales Growth is a Challenge



- Projection based on Annual Growth Rate 1979-2006
- 2006 Sales Projection (IRP-Based)
- 2017 Sales Projection (TSP-Based)
- Projection Based on Annual Growth Rate 2006-2017

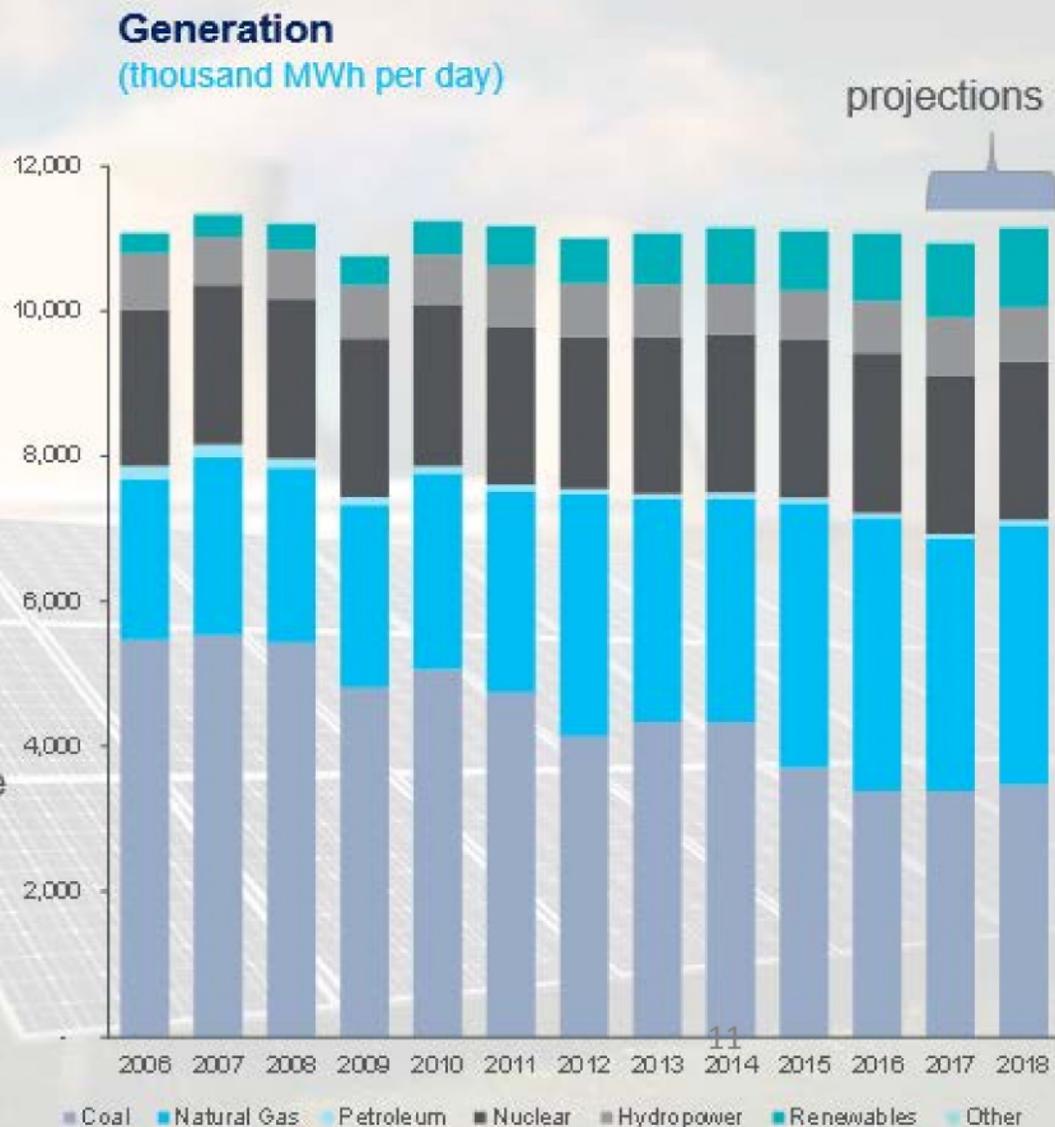


IRP = Integrated Resource Plan
TSP = Ten Year Site Plan

Electric Growth Has Been Sluggish (modest – flat – down)

Demand growth cannot mask the trend to lower costs, cleaner generation.

- ✓ An LED light burns 8% of the watts of an incandescent bulb.
- ✓ The growing demand for lower cost, renewable energy is stranding older coal generation and limiting the choice of new capacity.
- ✓ Advances in energy efficiency are offsetting increases in economic activity.
- ✓ Corporate PPAs often require “additionality” – a concept of identifiable new (additional) renewable generation to satisfy their objective of sustainability. Consequently new incremental demand is met through new incremental generation leaving existing utility loads (flat) and resources (old) unaffected.



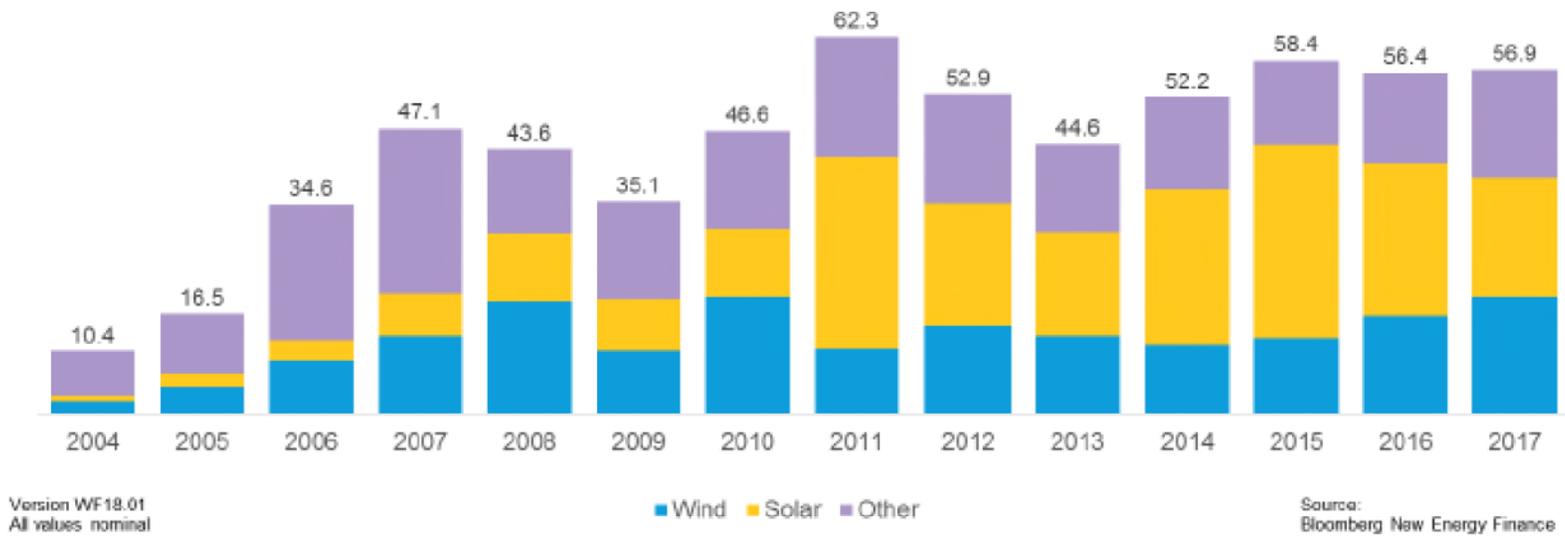
Sources: EIA

New Investment in Clean Energy United States, by sector

2004 – 2017

\$bn

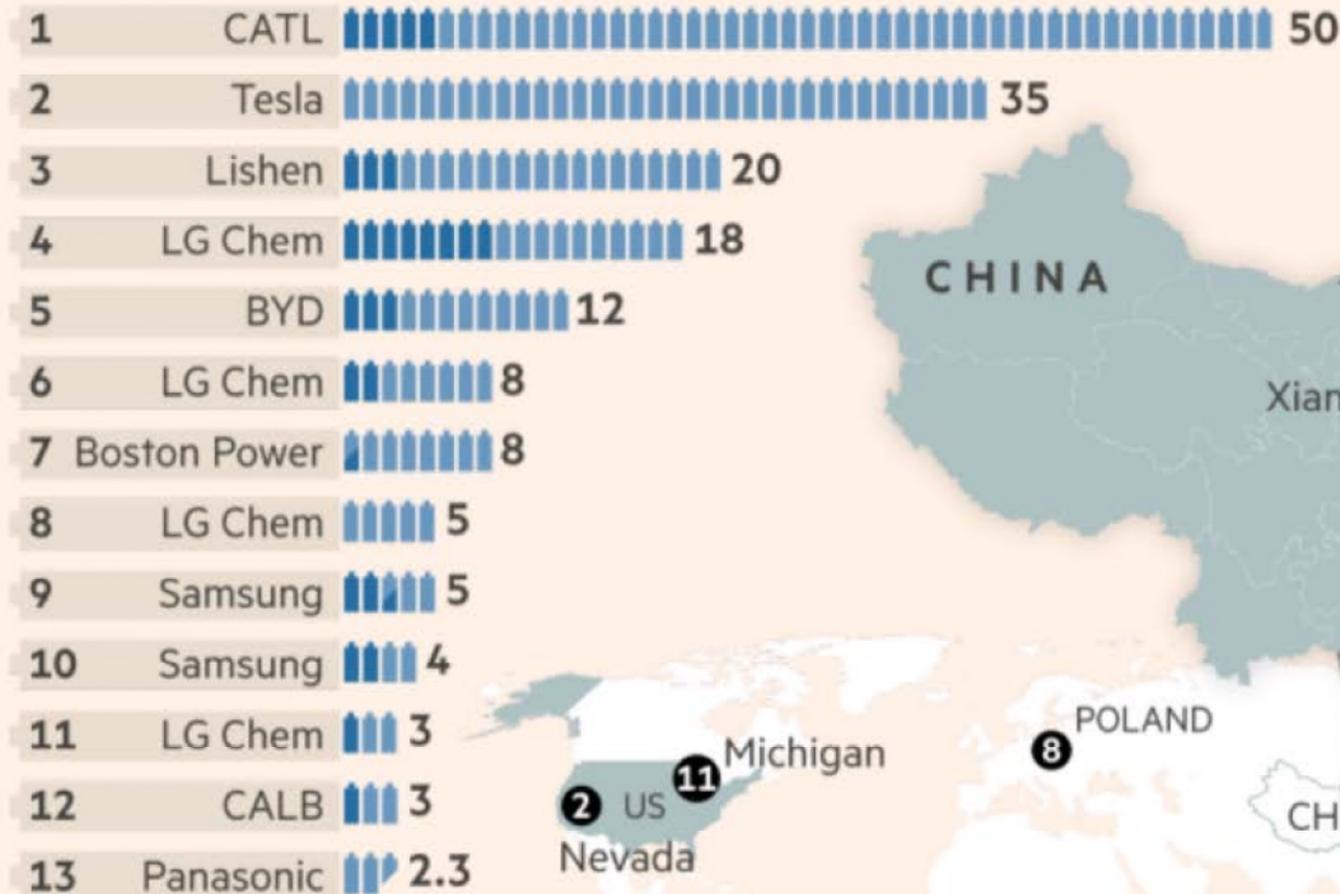
Renewable investments in the United States continue to challenge the centralized power plants model



Battery production is forecast to increase substantially

A battery* production boom is set to turbocharge green energy growth

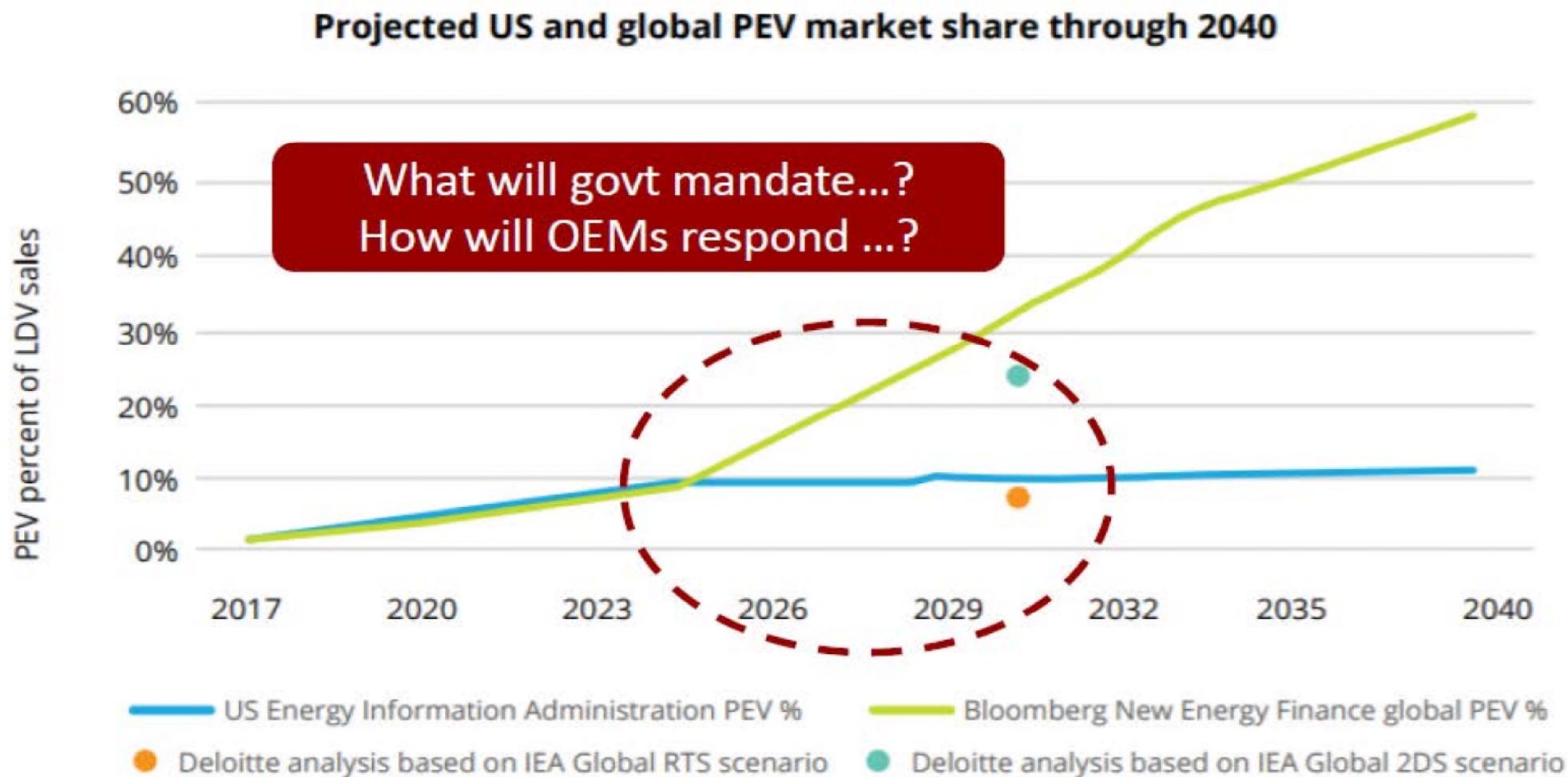
* Lithium-ion 1 GWh 2016 capacity 2020 forecast



Source: Benchmark Mineral Intelligence

FT

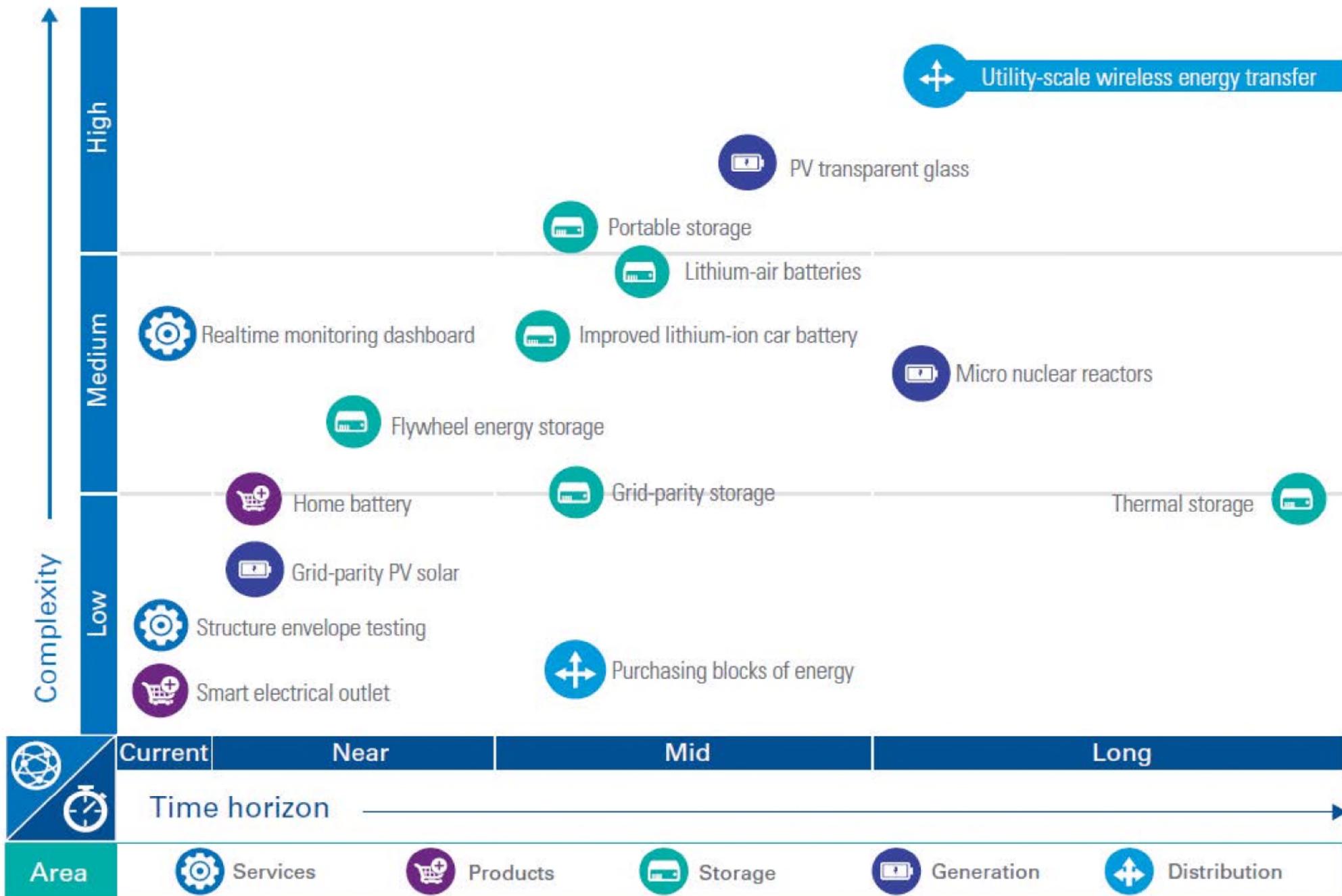
Figure 2. Projected PEV share of total light-duty vehicle sales



The IEA's Reference Technology Scenario (RTS), projecting 56 million electric cars in circulation by 2030, reflects projections that respond to policies on energy efficiency, energy diversification, air quality, and de-carbonization that have been announced or are under consideration. The IEA's 2DS scenario, projecting 160 million EVs in circulation by 2030, occurs in a context consistent with a 50% probability to limit the expected global average temperature increase to 2°C. We estimated annual sales required to meet IEA's EV stock projections for 2030 and then calculated the EV share of sales as a percent of total light-duty vehicle sales projected by Bloomberg New Energy Finance for 2030.



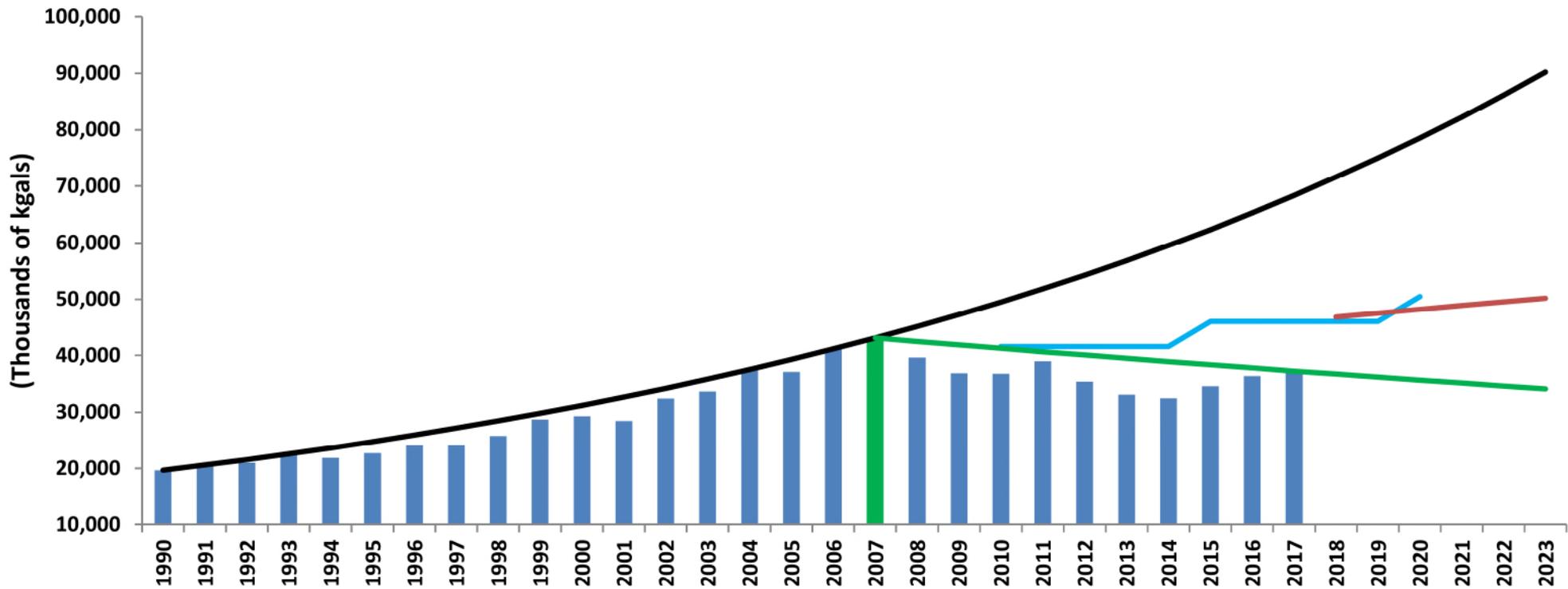
Products & services horizon chart



Water & Sewer Industry Trends

- After a substantial decline, sales are slowly beginning to increase as customer accounts grow (page 17)
- Expenses in many areas are rising faster than sales (page 18), squeezing margins across the industry
- Water supply is constrained and alternative sources of water are exponentially more expensive (page 19)
- Wastewater regulations and rising customer expectations – particularly locally – are leading to costly investments (pages 20-21)
- In the longer term, sea level rise is a risk to low-lying wastewater assets (page 22)

JEA Water Sales



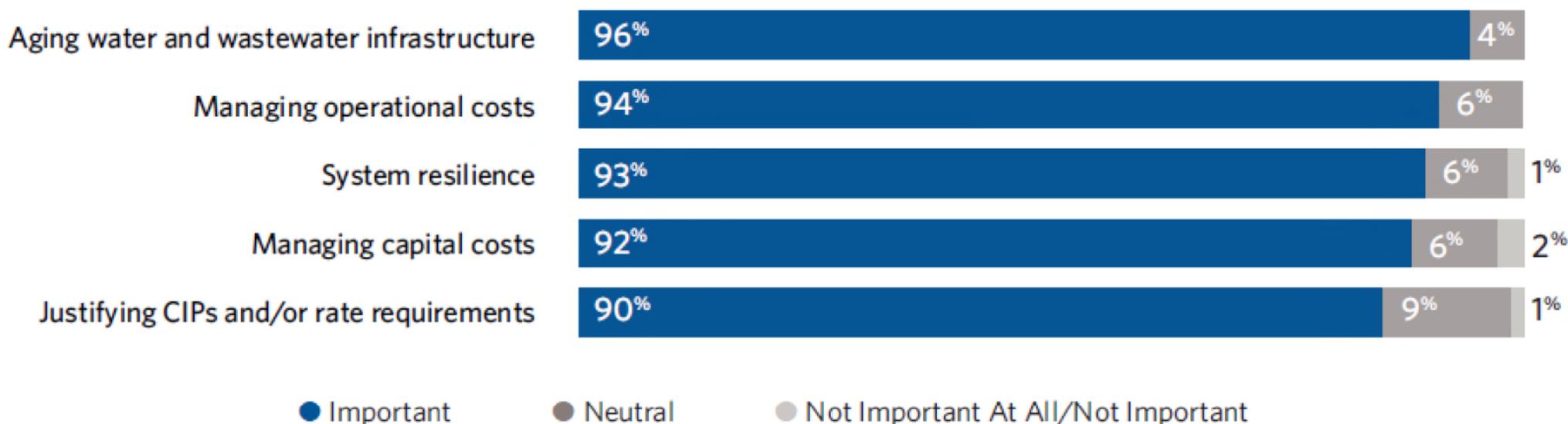
- Projection based on Annual Growth Rate 1990-2007
- 2008 Sales Projection based on Water Resource Master Plan
- 2017 Sales Projection based on Water Resource Master Plan
- Projection based on Annual Growth Rate 2007-2017



Managing Operational Cost is a Challenge for the Entire Industry

FIGURE 6

Please rate the importance of each of the following challenges to the water/wastewater/stormwater industry.



Source: Black & Veatch 2017 Water Industry Report

In surveys, water utility senior executives rank rising operational costs as their #2 highest priority

CUP: Water Supply Sustainability Plan

iWater

JEA Water Supply Testing and Rehabilitation Program

FY15 to FY20



IWRP Study

Integrated Water Resource Plan

FY18 to FY20



Comprehensive Plan

JEA Water Supply and Demand Program

FY18 ...

Production and Transmission

- Well rehab and performance for 84 of JEA's 137 raw water wells
- Hydraulic and water quality modeling
- Identify transmission piping projects

Supply and Transmission

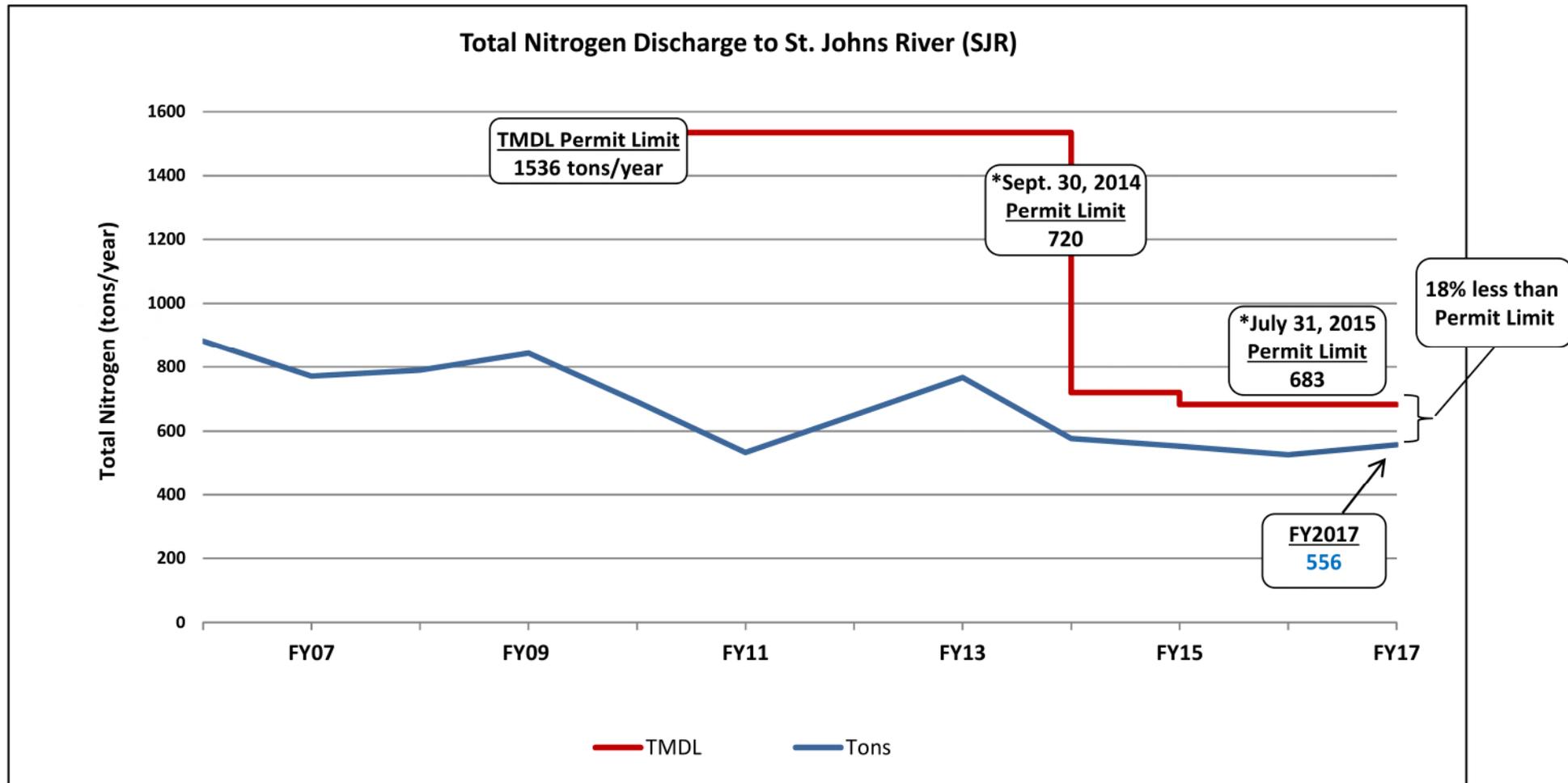
- Maximize reclaimed water
- TWMP* (FY 2000 to Present)
- Water purification pilot
- 3rd river crossing evaluation
- Intermediate aquifer study

Supply and Demand

- Conservation messaging
- Demand-side management program
- Comprehensive communication plan

- Effective May 2011, JEA obtained a 20-year consolidated Consumptive Use Permit (CUP) from the St. Johns River Water Management District (SJRWMD) to secure aquifer withdrawal
- JEA continues to implement the TWMP and iWater Programs and expand the Reclaimed system to successfully supply growing service area within all CUP conditions
- Sustainable water supply will integrate demand side programs; outcomes of the IWRP study will select the most beneficial incremental water supply within an overall comprehensive plan

Nitrogen Discharge Requirements Became More Stringent Over Time

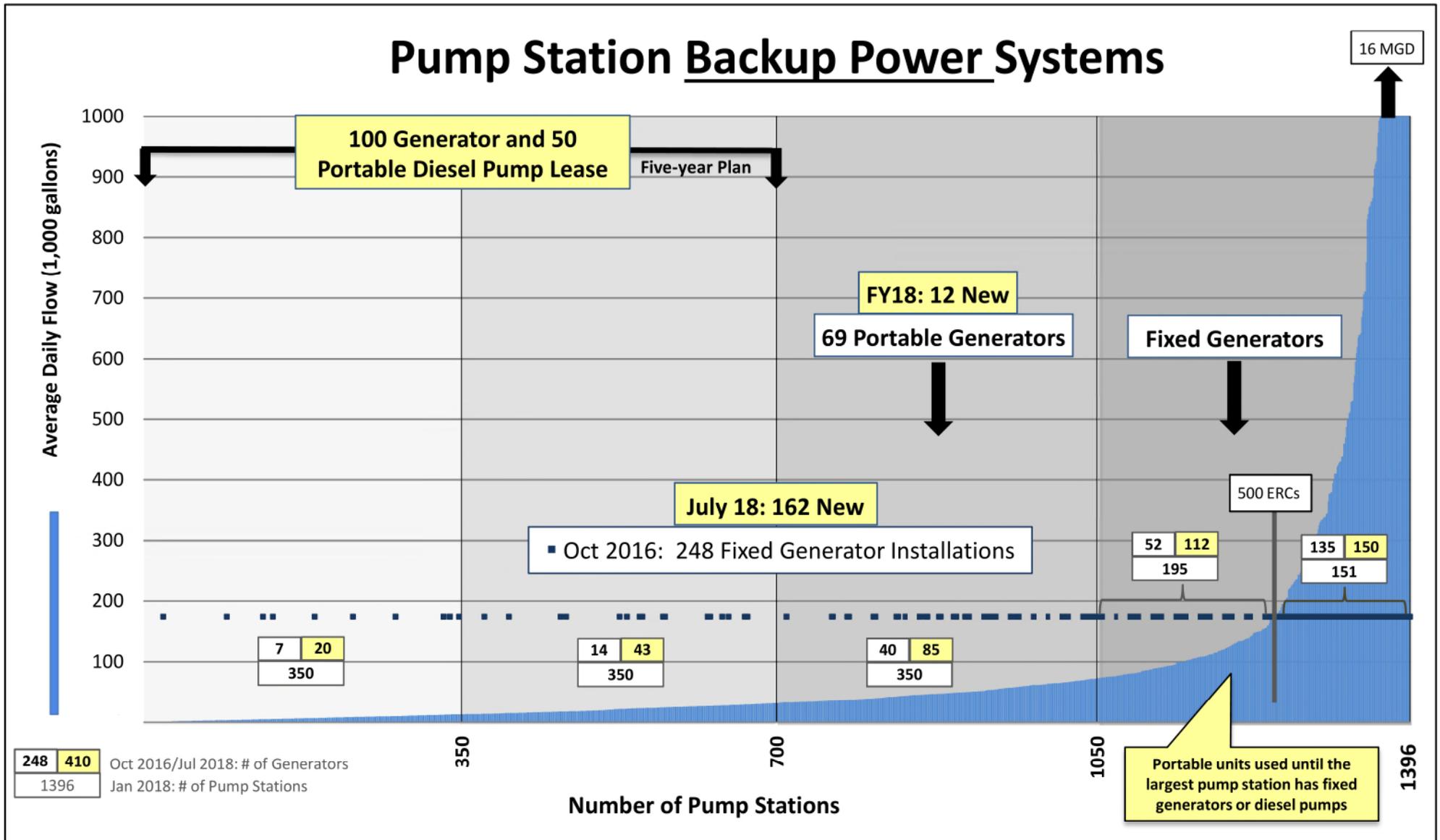


Nitrogen Discharge to St. Johns River

Florida Department of Environmental Protection (FDEP) has reduced the Total Maximum Daily Load (TMDL) to 683 tons with Water Quality Trading Credits allocated to the COJ

Sewer Resiliency Investments Driven by Local Priorities

Pump Station Backup Power Systems



MGD: Million Gallons per Day, annual average daily flow
 ERC: Equivalent Residential Connections

Sea Level Rise Will Challenge Water and Wastewater Infrastructure

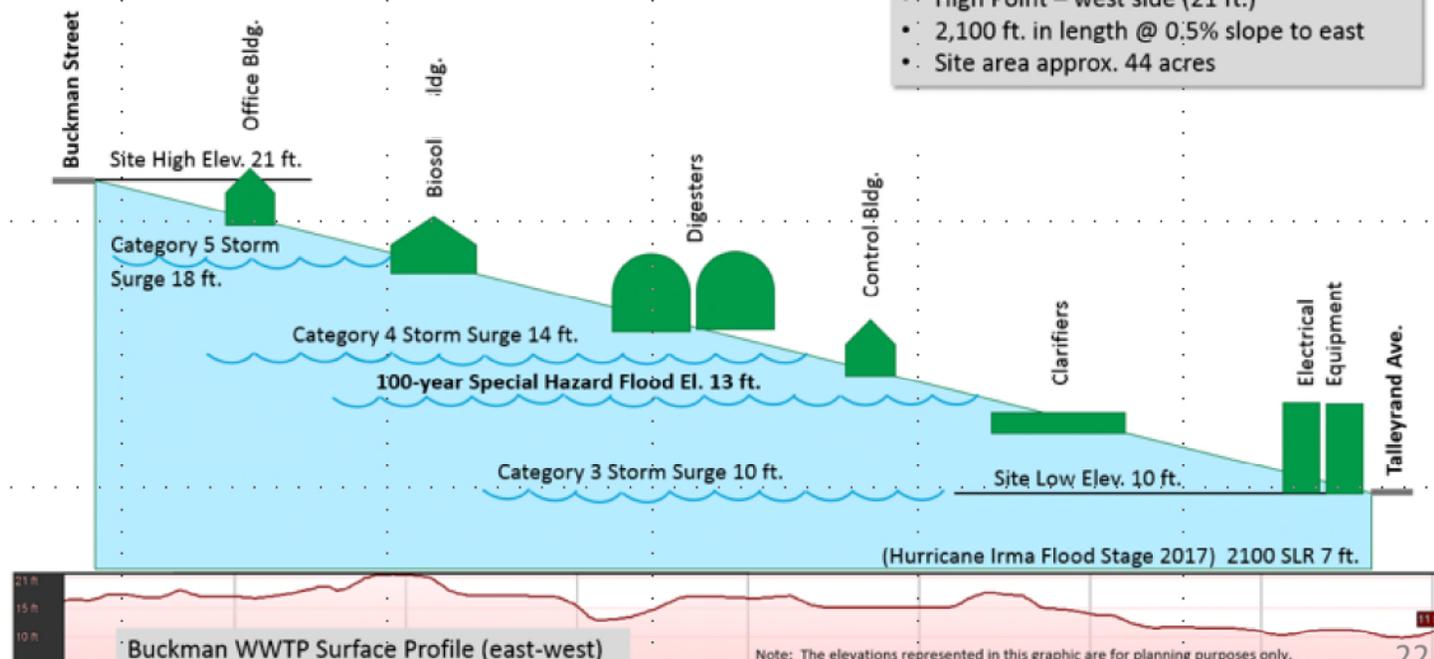
Extreme Weather Scenarios

- ❑ Rainfall / Flooding (32" of rainfall in the fourth quarter of FY17)
- ❑ Hurricane / Storm Surge
 - 100 year flood + 1 to 5 feet
 - 500 year flood + 1 to 5 feet
- ❑ Sea Level Rise

Buckman WWTP

Site Statistics

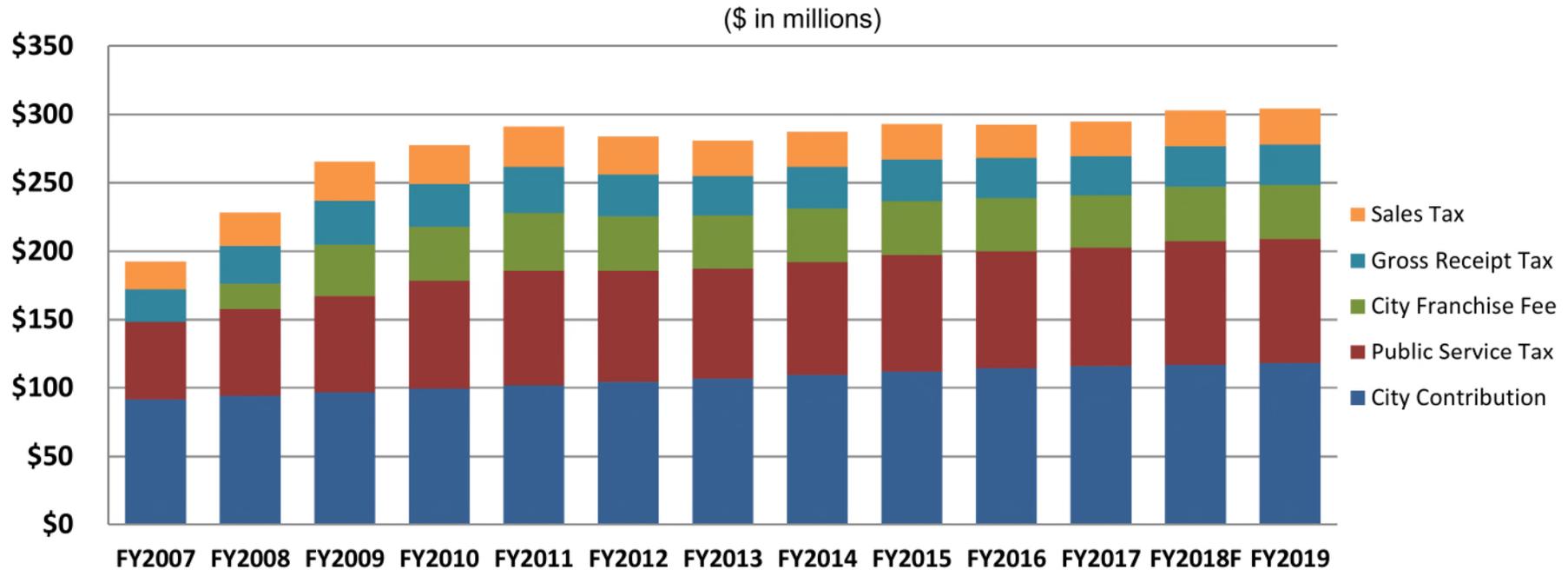
- Low Point – east side toward river (10 ft.)
- High Point – west side (21 ft.)
- 2,100 ft. in length @ 0.5% slope to east
- Site area approx. 44 acres



Buckman WWTP Surface Profile (east-west)

Note: The elevations represented in this graphic are for planning purposes only. Additional analysis and a survey is required to confirm all elevations.

Rising Contributions + Falling Sales = Rate Pressure



Description	Paid To	FY07	FY08	FY09	FY15	FY16	FY17	FY18F	FY19
City Contribution	COJ	\$91.4	\$94.2	\$96.7	\$111.7	\$114.2	\$115.8	\$116.6	\$117.9
Public Service Tax	COJ	56.9	63.6	70.5	85.6	85.8	85.8	90.8	90.9
City Franchise Fee	COJ	-	18.3	37.5	39.4	38.9	38.2	39.6	39.6
Gross Receipt Tax	State	23.7	27.6	32.1	30.2	29.8	29.2	29.4	29.4
Sales Tax	State and COJ	20.6	24.1	28.5	26.4	26.0	25.5	26.5	26.5
Total		\$192.6	\$227.8	\$265.3	\$293.3	\$294.7	\$294.5	\$302.9	\$304.3
Percent increase from FY2007			18%	38%	52%	53%	53%	56%	58%

\$248 COJ

JEA transfers to the City of Jacksonville have increased to \$248 million

Relationship Between JEA and the City Extends Far Beyond the Contribution

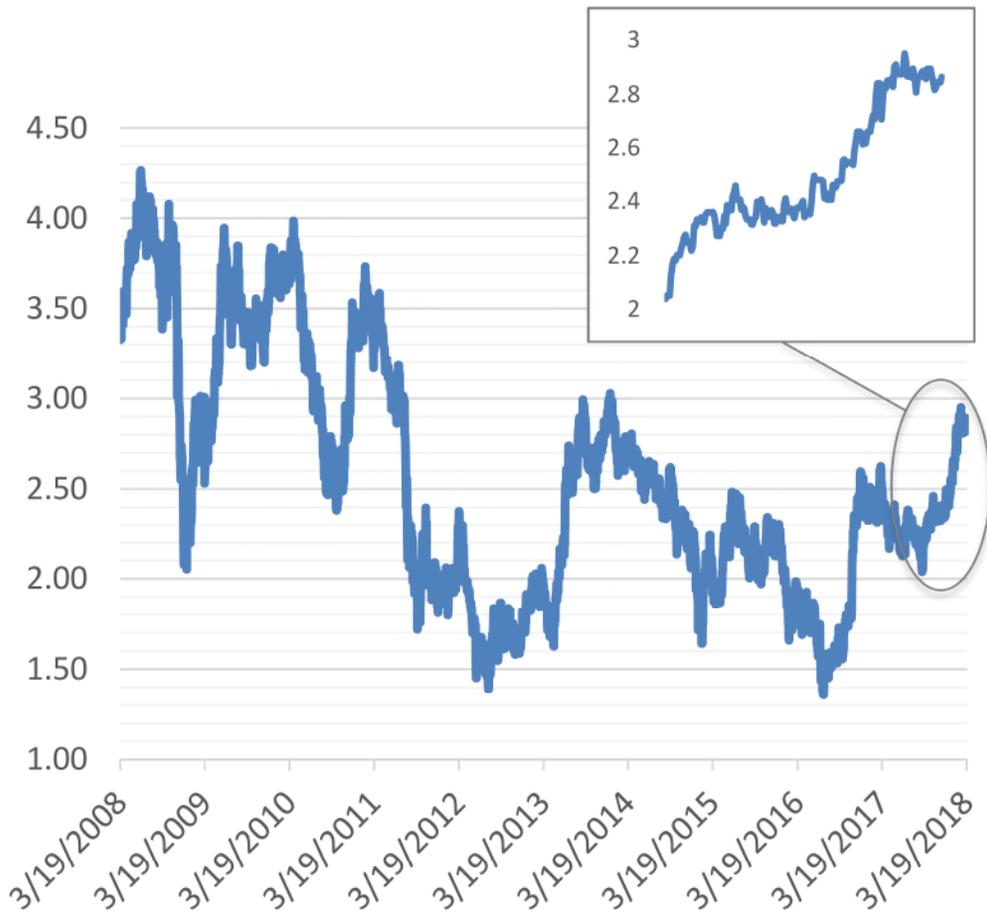
The City and JEA have a history of partnership on important initiatives and projects

- Transfer of the water and sewer utility to JEA in 1997
- Septic tank phase out program
 - Current program
 - JEA acted as the City's program manager on the Better Jacksonville Plan (BJP) septic tank phase out program in the 2000s
 - The City and JEA partnered on the Water and Sewer Expansion Authority creation and dissolution from 2003 to 2011
- JEA acquired approximately 5,000 acres of land as buffers or adjacent to JEA facilities in parallel with the City's Preservation Project as part of BJP
- Transition of Cecil Commerce Center (formerly Cecil Field): rebuilt the electric system and upgraded and expanded the water and sewer systems
- First Coast Radio
- LED streetlight conversion
- JEA provides Total Maximum Daily Load (TMDL) credits to the City
- Formation of voluntary overhead to underground conversion program
 - Overhead electric and communications undergrounded, funded upfront or over a 10 or 20 year term where JEA provides the capital and an annual fee is assessed on the property tax bill. Multiple projects completed, in progress or exploratory stages
- Coordination on multi-agency projects for upgrades, widenings, expansions, maintenance and repairs
- JEA coordinates with City Council or City departments on customer service issues, including maintenance, projects and initiatives and works with the City on policy related matters
- JEA provides treatment of the City's leachate, processing and review of the City's wireless facility attachment applications and chilled water to several City facilities

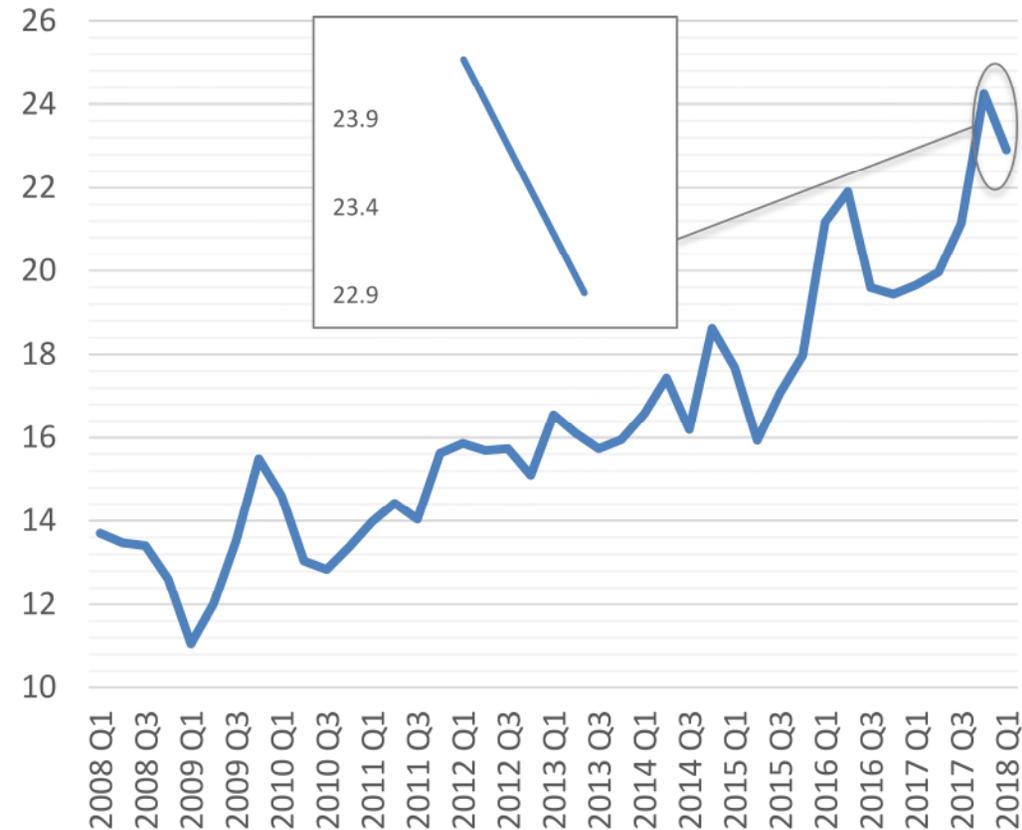


Equity and Debt Trends Over the Past Decade

10 Year UST Yields



Price/Earnings Ratio of Mid Cap Integrated Utilities



Utility valuations and interest rates are inversely correlated



Cost of Capital Drives Value

Utility Weighted Average Cost of Capital (60% Debt/40% Equity Capital Structure)





Utility Industry Valuation Trends:

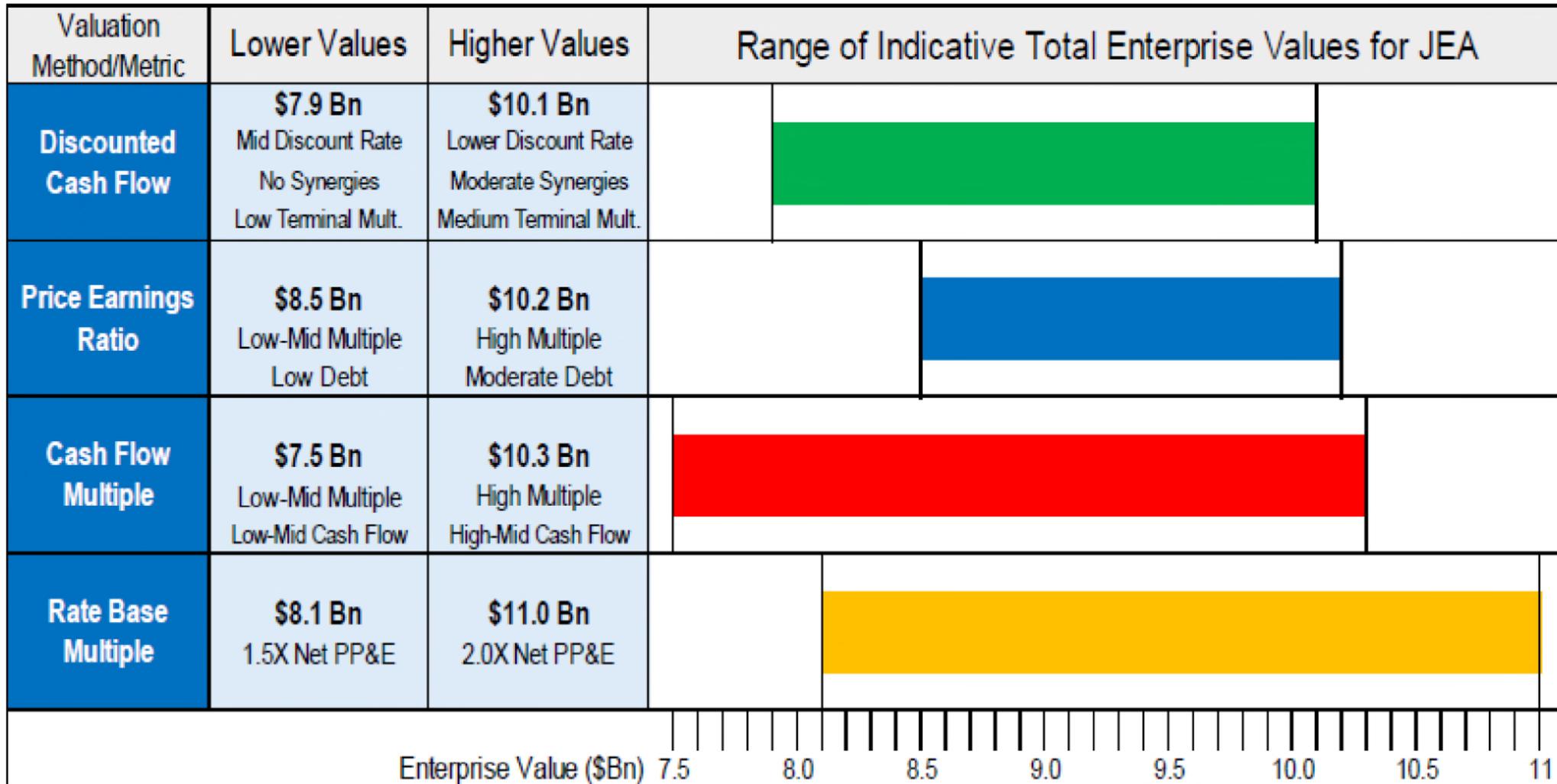
Recent Very High Values for Utility Assets

- Merger & Acquisition activity provide price and metric comparables

Buyer	Sempra	Hydro One	Great Plains	Fortis	Dominion	Duke	Emera	Wider Industry Averages
Sold	Oncor	Avista	Westar	ITC	Questar	Piedmont	TECO	
Date	Aug-2017	Jul-2017	Jul-2017	Feb-2016	Feb-2016	Oct-2015	Sep-2015	
Total Value	\$18.7 Bn	\$5.3 Bn	\$11.6 Bn	\$11.3 Bn	\$6.0 Bn	\$6.7 Bn	\$10.4 Bn	
Cash Flow Multiple	10.5 X	11.8 X	11.0 X	13.8 X	9.6 X	14.9 X	9.8 X	~12 X
P/E Ratio	27.9 X	24.2 X	21.5 X	22.0 X	19.4 X	30.5 X	28.4 X	~25 X
Rate Base Multiple	1.7 X	1.7 X	1.8 X	2.0 X	2.2 X	2.5 X	1.7 X	~2 X



Valuation Methodologies and Metrics: Results



PFM Electric and Water/Wastewater Valuation

ELECTRIC

Valuation Method/Metric	Lower Values	Higher Values	Less \$3.2 Bn Net Liabilities	
			Lower Values	Higher Values
Discounted Cash Flow	\$4.1 Bn Mid Discount Rate No Synergies Low Terminal Mult.	\$5.1 Bn Lower Discount Rate Moderate Synergies Medium Terminal Mult.	\$0.9 Bn	\$1.9 Bn
Price Earnings Ratio	\$4.5 Bn Low-Mid Multiple Low Debt	\$5.4 Bn High Multiple Moderate Debt	\$1.3 Bn	\$2.2 Bn
Cash Flow Multiple	\$4.5 Bn Low-Mid Multiple Low-Mid Cash Flow	\$6.1 Bn High Multiple High-Mid Cash Flow	\$1.3 Bn	\$2.9 Bn
Rate Base Multiple	\$4.1 Bn 1.5X Net PP&E	\$5.5 Bn 2.0X Net PP&E	\$0.9 Bn	\$2.3 Bn

WATER AND SEWER

Valuation Method/Metric	Lower Values	Higher Values	Less \$1.4 Bn Net Liabilities	
			Lower Values	Higher Values
Discounted Cash Flow	\$3.8 Bn Mid Discount Rate No Synergies Low Terminal Mult.	\$5.0 Bn Lower Discount Rate Moderate Synergies Medium Terminal Mult.	\$2.4 Bn	\$3.6 Bn
Price Earnings Ratio	\$4.0 Bn Low-Mid Multiple Low Debt	\$4.8 Bn High Multiple Moderate Debt	\$2.6 Bn	\$3.7 Bn
Cash Flow Multiple	\$3.0 Bn Low-Mid Multiple Low-Mid Cash Flow	\$4.2 Bn High Multiple High-Mid Cash Flow	\$1.6 Bn	\$2.8 Bn
Rate Base Multiple	\$4.1 Bn 1.5X Net PP&E	\$5.5 Bn 2.0X Net PP&E	\$2.7 Bn	\$4.1 Bn



Valuation Methodologies and Metrics: Net Value

● Adjustments to Gross Value/Price Paid

Estimated Adjustments to Value	Lower Values	Higher Values
Gross Transaction Value	\$7.5 Bn	\$11.0 Bn
2019 Debt Retirement Cost	(\$3.9) Bn	(\$3.9) Bn
Interest Rate Hedge Termination	(\$0.1) Bn	(\$0.1) Bn
Vogle Contract NPV of Debt Portion	(\$1.2) Bn	(\$1.2) Bn
Available Cash and Investments	\$0.6 Bn	\$0.6 Bn
Net Proceeds after Assets & Liabilities	\$2.9 Bn	\$6.4 Bn

Possible Privatization Structures

No change	Recapitalization	Financial	Independent Subsidiary	Integrated Strategic
	Large up-front \$ to COJ	Large up-front \$ to COJ	Large up-front \$ to COJ	Large up-front \$ to COJ
No sale: Management and operations continue under current structure, with regulation of JEA by the JEA Board (administration-appointed, council-approved)	Existing JEA team does a private placement capital raise to completely recapitalize the utility's balance sheet. All utility employees and operations remain unchanged. Community served by well-known brand with local HQ and operations. Regulation transfers to PSC and governance to newly-formed Board. Shortest timeline to contract.	JEA enterprise sold to a financial sponsor, such as a large private equity or pension fund. Ownership transfers to new entity who may or may not retain the JEA brand. Most of operations team and some or most of management team likely retained following employment guaranty period. Regulated by Florida PSC.	JEA enterprise sold to one or more out-of-state strategic acquirers. Ownership transfers to the new entity (or entities) who transitions the utility to its own brand. Most of operations team and likely some of management team retained following employment guaranty period, though "synergies" likely lead to some modest head count reduction. Regulated by Florida PSC.	JEA enterprise sold to one or more in-state strategic acquirers. Ownership transfers to the new entity who transitions the utility to its own brand. Some of operations team and likely little of management team retained following employment guaranty period. Synergies likely to lead to substantially lower head count over time. Regulated by Florida PSC.
	Example: Citizens	Example: CLECO	Example: TECO	Example: Liberty Utilities



Challenges to Privatization

- Employees
 - Security
 - Pension
 - Health Insurance
- Customers
 - Rates
 - Reliability
- Regulatory Approvals
- Real Estate
- Vogtle – see page 33
- Pension – see page 34



Challenges to Privatization: Vogtle

- In April 2008 JEA entered into a take-or-pay contract for nuclear capacity and energy from Plant Vogtle's units 3 & 4
- The project has experienced schedule delays, cost overruns, project mismanagement, and bankruptcies of key players
- The contract remains an obligation of JEA and its customers and contains restrictions around qualified tax use and assignment
- 20 year purchase power obligation, currently above market

Challenges to Privatization: Pension

- Pension benefits that are accrued and vested are fully protected under Florida law
- JEA employees participate in the General Employee Pension Plan and do not participate in social security
- This construct cannot exist under any privatization outcome, so impact on employees will have to be carefully considered
- In addition, JEA employees represent more than half of the City's unfunded liability in the GEPP
- While sales tax revenue is dedicated to funding unfunded pension obligations, any funding requirements, liquidity issues, normal cost adjustments, or other resulting actuarial or funding impacts will need to be carefully considered