



TVA BOARD  
MEETING

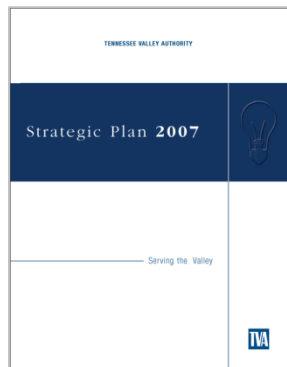
AUGUST 16, 2012



# PRESIDENT'S REPORT

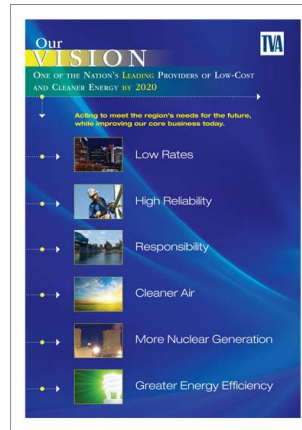
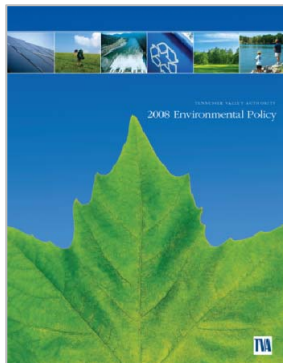
# SETTING THE RIGHT PATH

## 2006 to Today



2007

2008

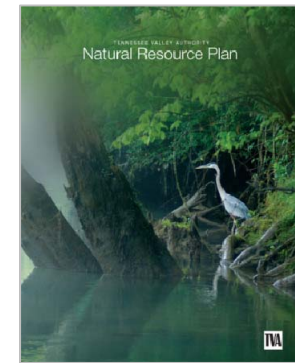


2010

2011



2011



# Our VISION

ONE OF THE NATION'S  
LEADING PROVIDERS  
OF LOW-COST  
AND CLEANER ENERGY  
BY 2020



# PATH TO THE VISION

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## RATES

- Top Quartile Rates

## RELIABILITY

- Focus on system reliability
- Attention to individual plant reliability
- Balanced Portfolio

## RESPONSIBILITY

- Financial health
- Cleaner air
- Economic development
- Trusted public partner

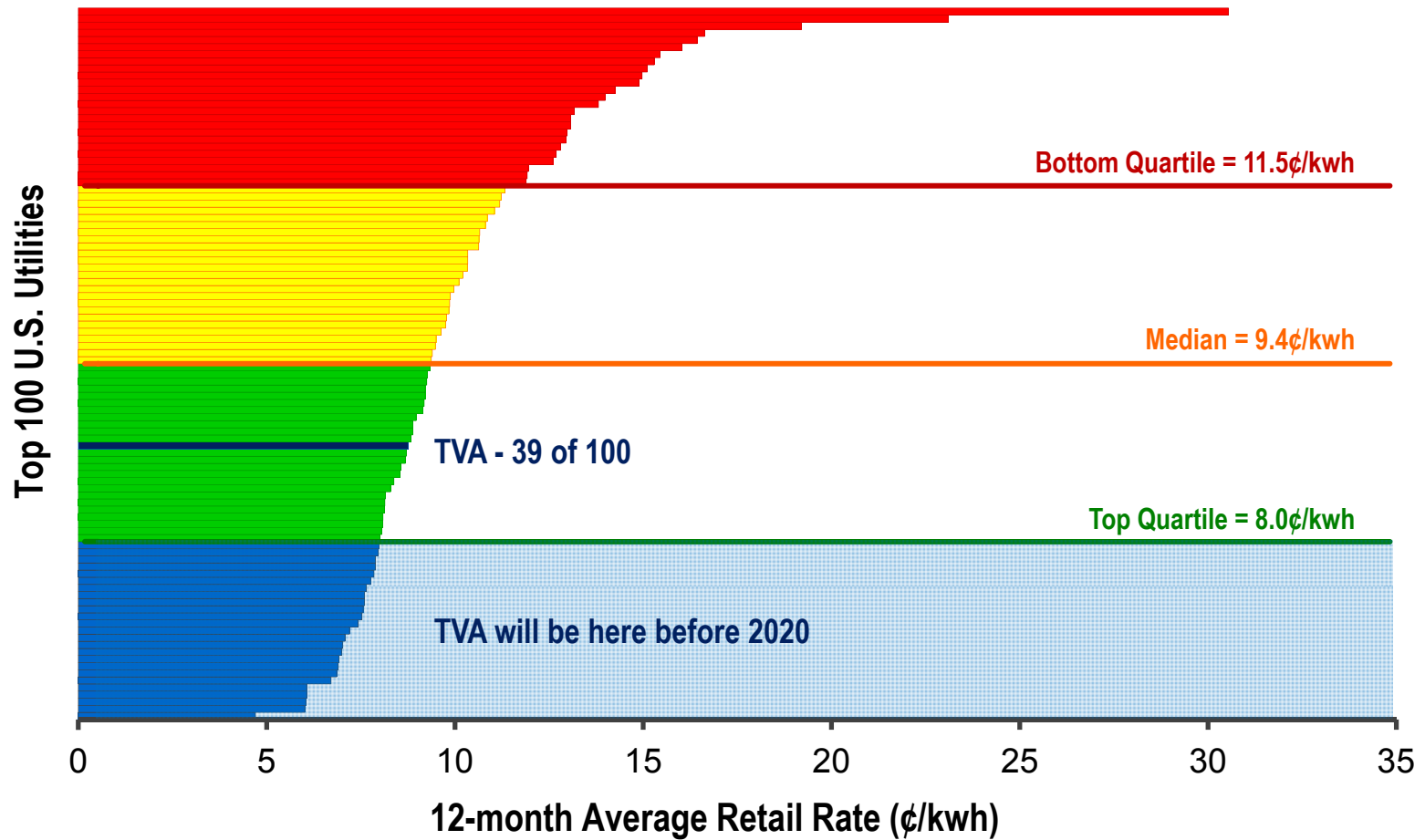
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# RATES



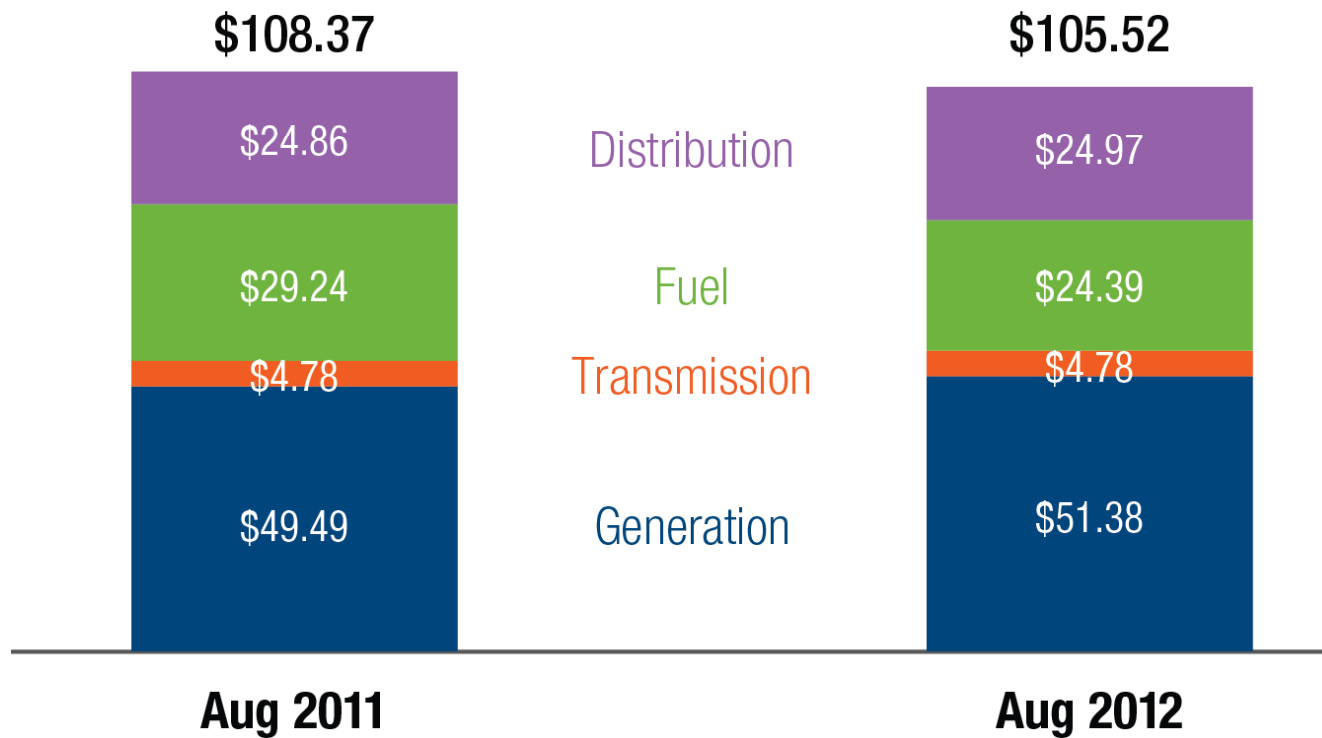
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# TOP QUARTILE RATES BEFORE 2020



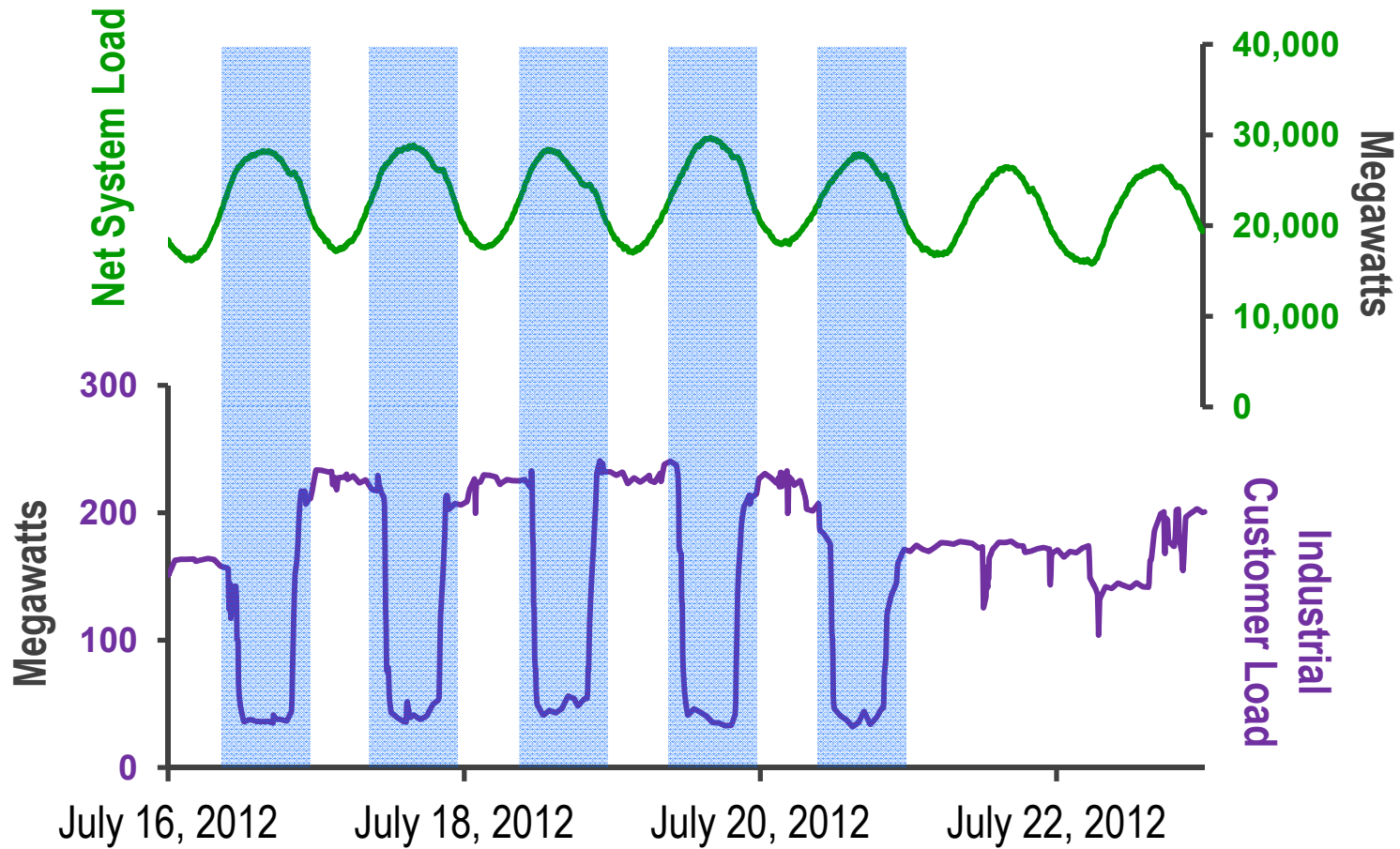
Apr, 2011 - Mar, 2012 Source: EIA-826 and ESS

# AVERAGE AUGUST 1,000 KWH POWER BILL

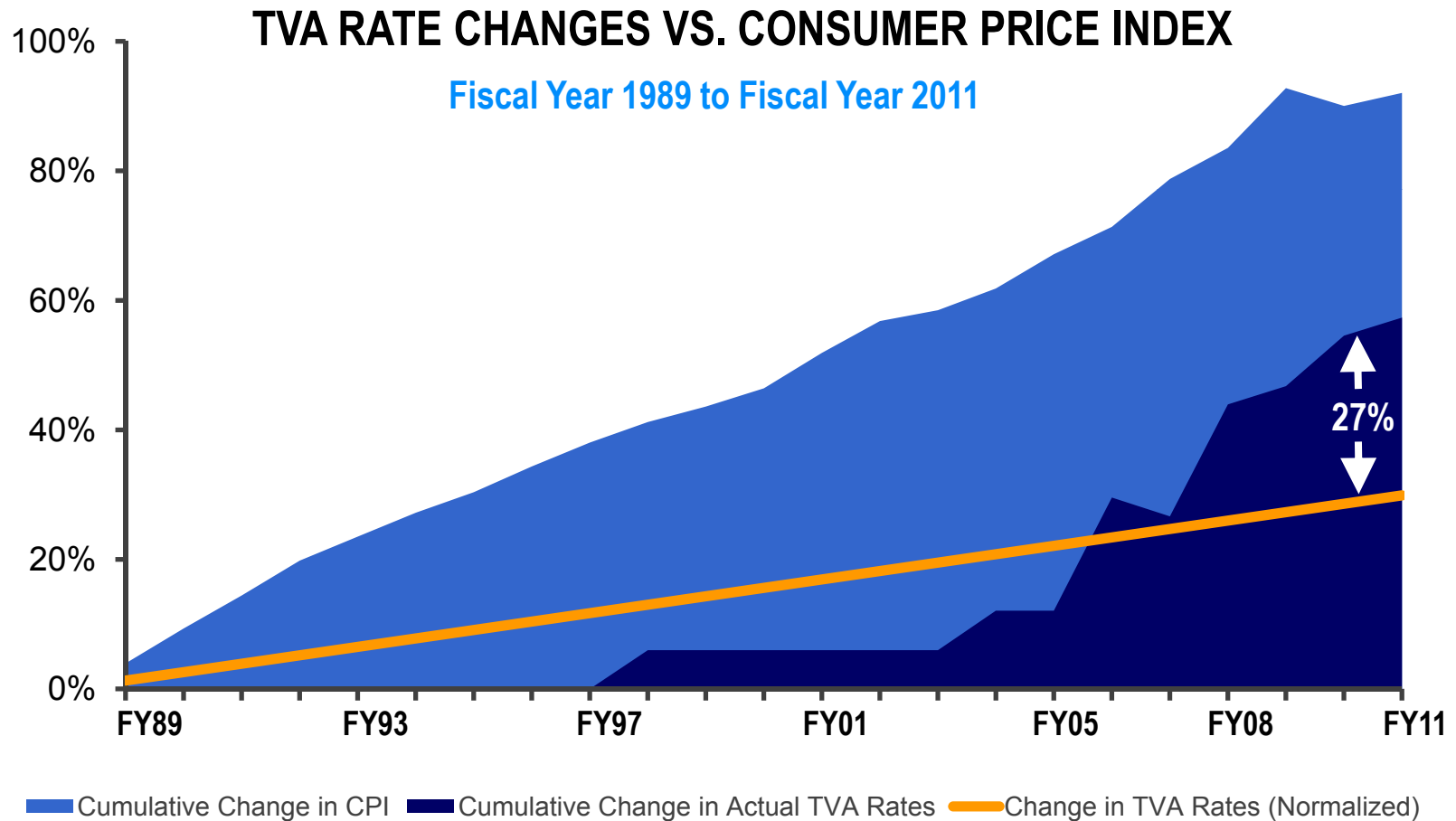




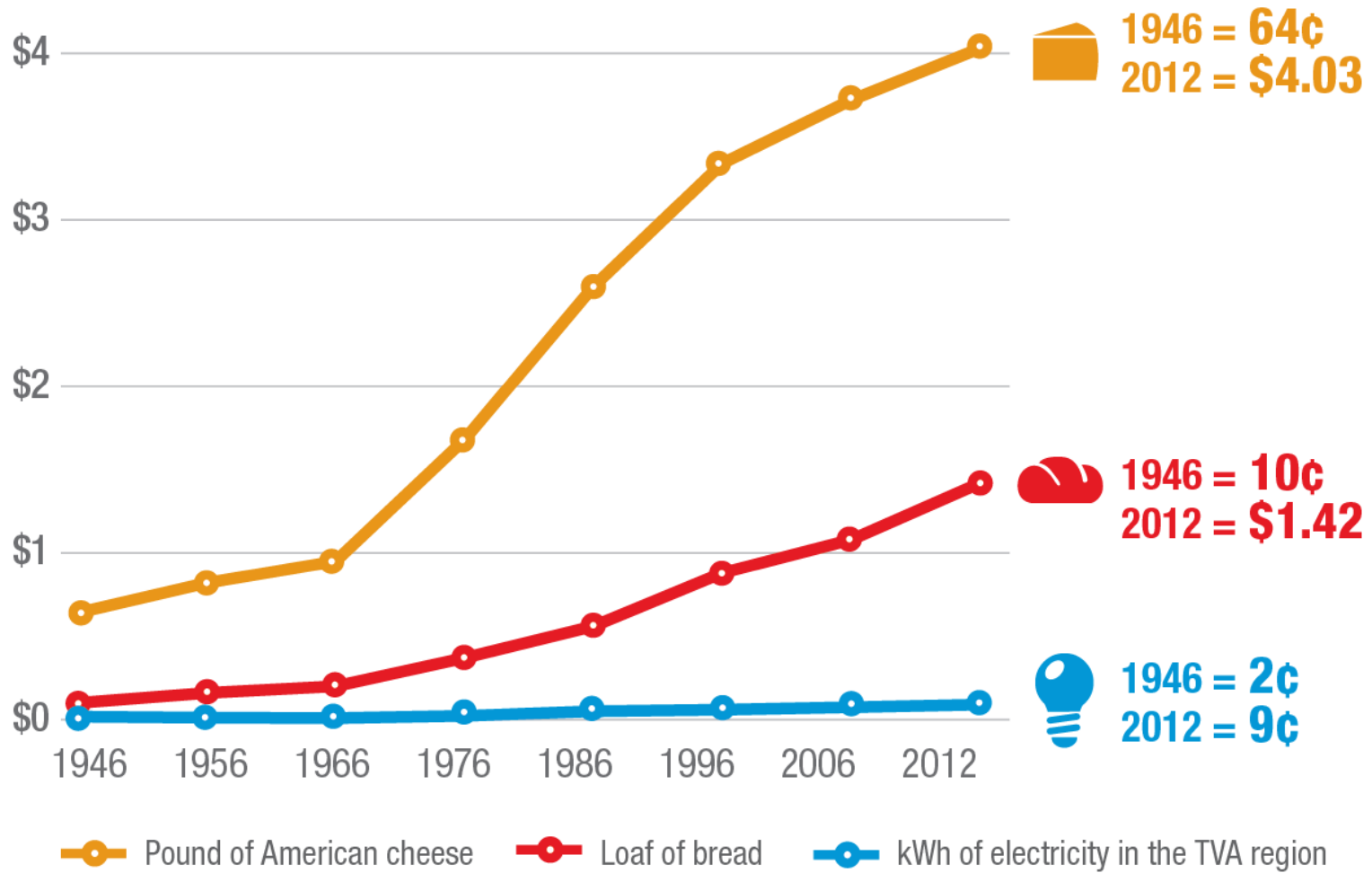
# TIME OF USE RATES ARE WORKING



# FUTURE RATE STRATEGY: AVOID SPIKES



# VALUE OF POWER



Source: U.S. Bureau of Labor Statistics

PRESIDENT'S REPORT

# RELIABILITY



AUGUST 16, 2012

# RESPONSE TO HEAT WAVE

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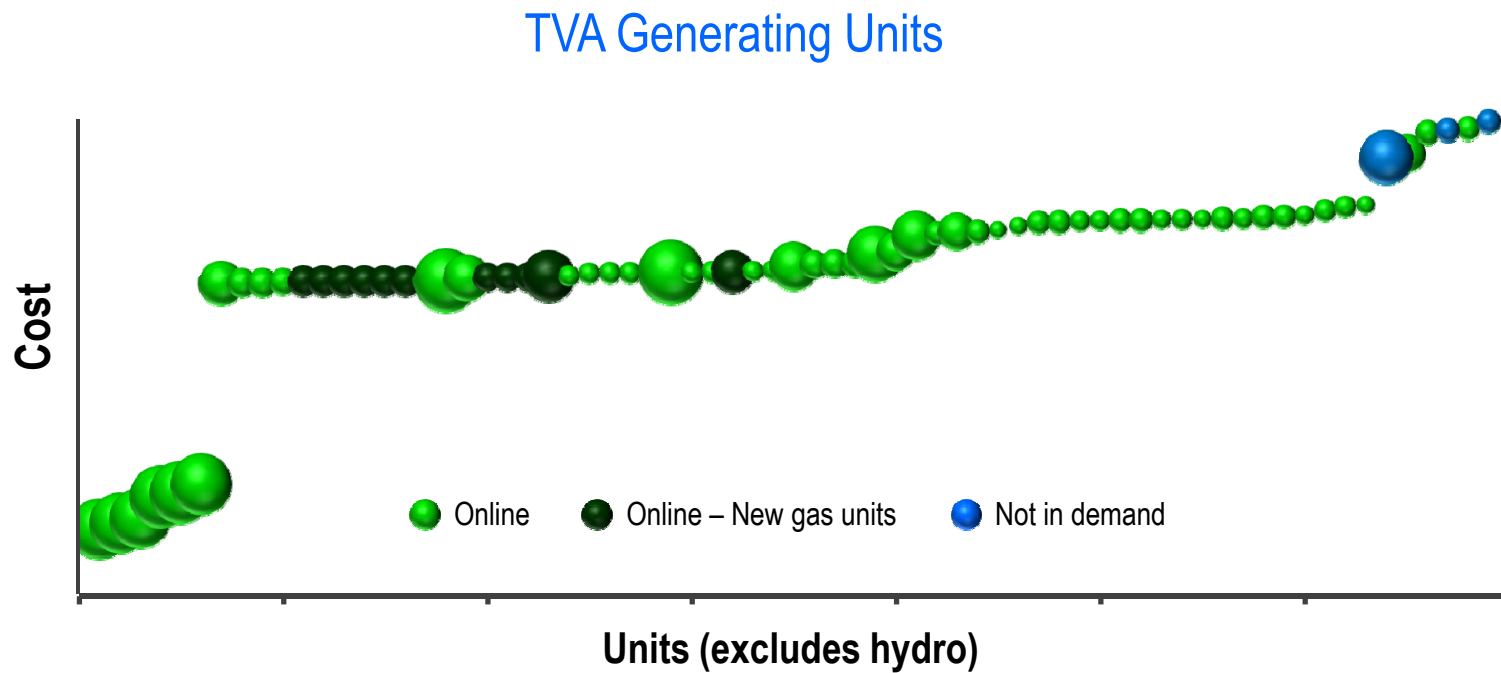
## Record-setting heat wave in 2012 June 25 to July 9

- Nashville, TN set an all time high temperature at 109°
- Chattanooga, TN tied an all time high temperature at 106°
- Tupelo, MS set a June high temperature at 106°
- All-time June peak load of 31,097 megawatts



# PLANT PERFORMANCE – JUNE 29, 2012

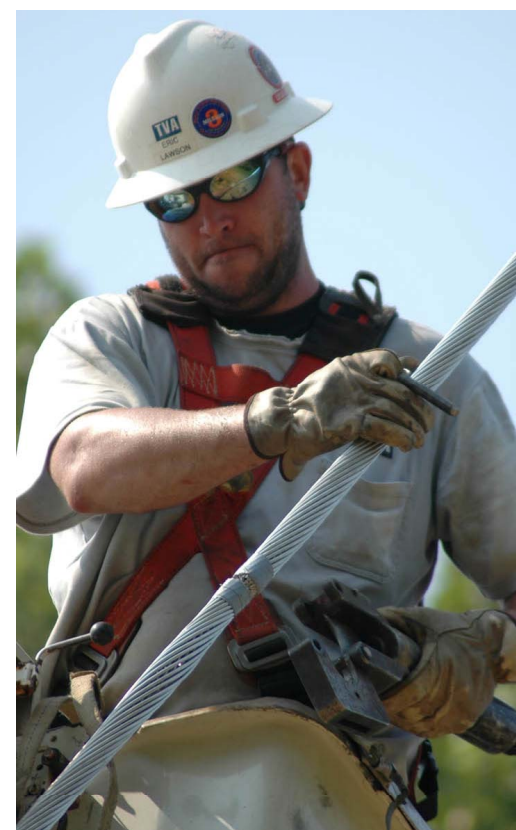
- All generation units running or available
- 11 new low-cost gas units



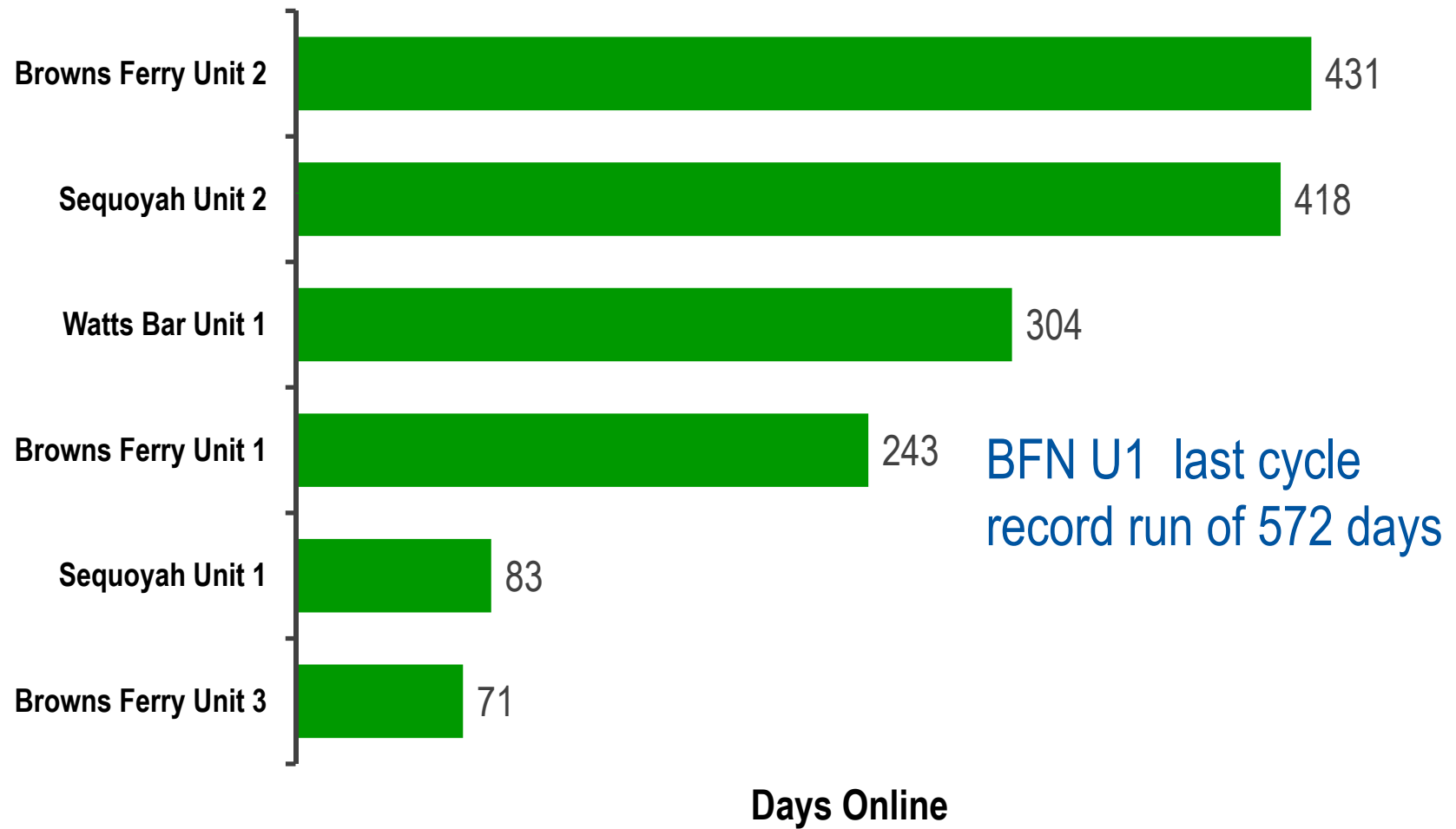
# OPERATIONAL PERFORMANCE

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- Reliable service provided during heat wave
- Transmission reliability 99.999%
- Worked to offset lower revenue
- Taking advantage of lower gas prices
- Coal units best (lowest) forced outage rate
- Nuclear units are running well



# NUCLEAR UNITS CONTINUOUS DAYS ONLINE





# OPERATIONAL CHALLENGES

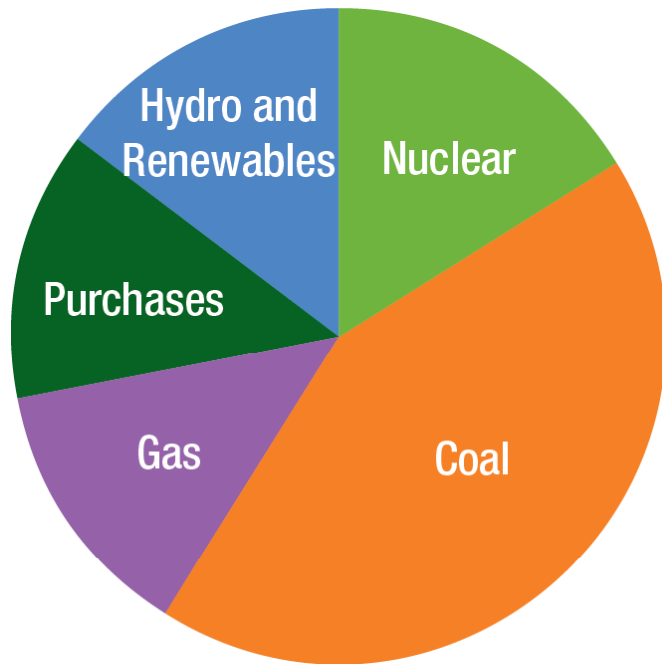
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- Browns Ferry regulatory status
- Raccoon Mountain unplanned outage
- Right-of-way management
- Balancing cost savings and capital investment

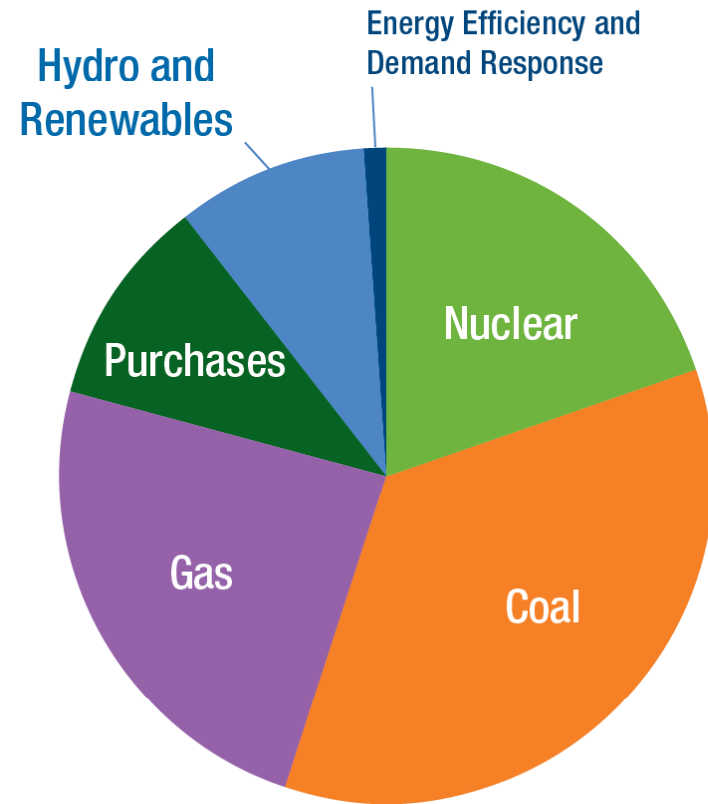


# A BALANCED PORTFOLIO LOWERS RATES AND PROTECTS RELIABILITY

2006

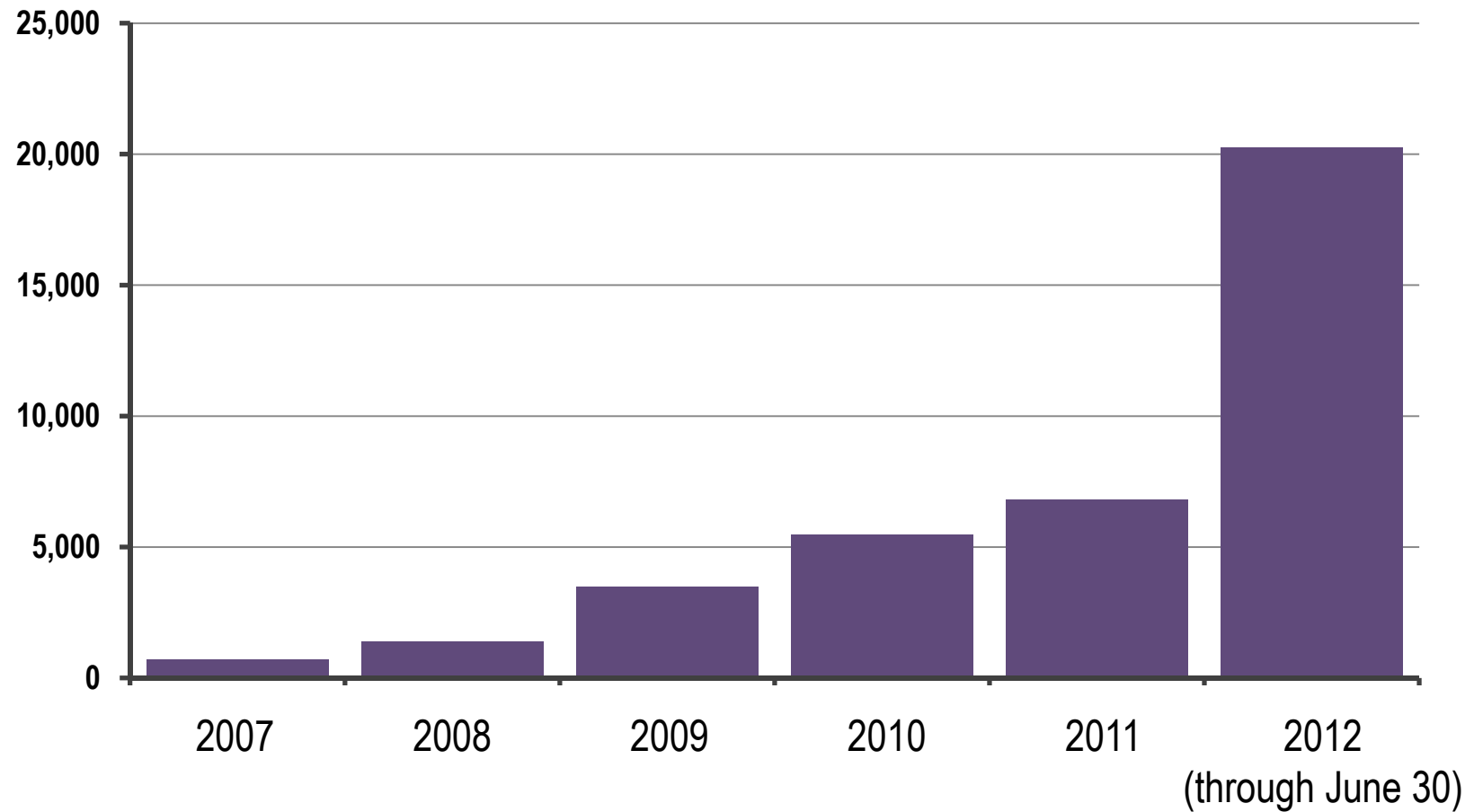


2012



# GROWING GAS GENERATION

millions of kWh



PRESIDENT'S REPORT | RELIABILITY: BALANCED PORTFOLIO

# NEW NUCLEAR

# WATTS BAR 2 UPDATE

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- Watts Bar 2 construction is on target
- Progress is monitored and continuous improvement plans are implemented as needed
- Regular reporting to TVA Board and the Nuclear Oversight Committee

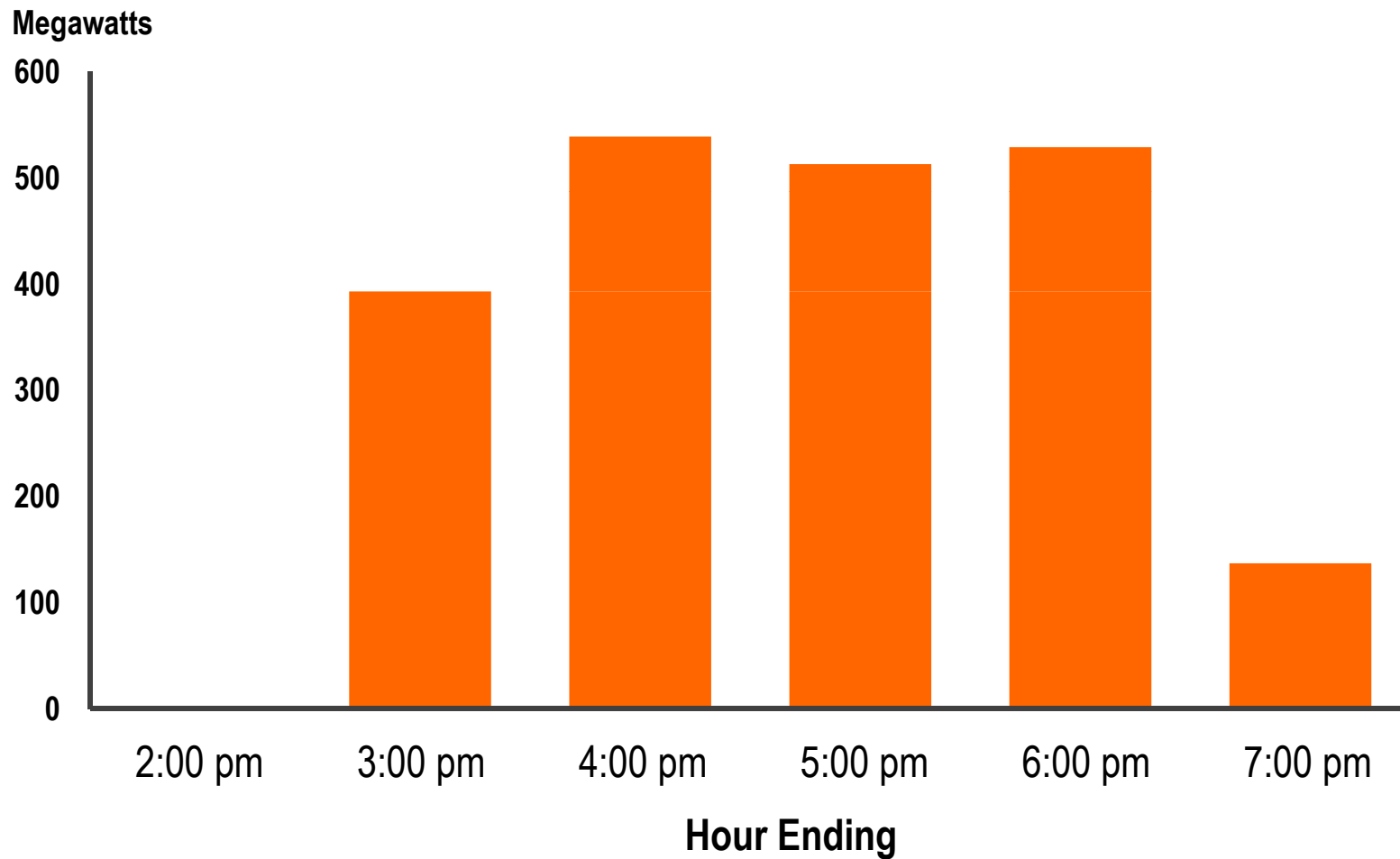


PRESIDENT'S REPORT | RELIABILITY: BALANCED PORTFOLIO

# GREATER LOAD MANAGEMENT

# DEMAND RESPONSE

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# ENERGY EFFICIENCY



## RESIDENTIAL

1. Insulation
2. HVAC
3. Hot water

Lower bills  
Better homes



## COMMERCIAL

1. Refrigeration
2. Lighting

Lower energy charge  
Lower demand charge  
with Demand Response



## INDUSTRIAL

1. Processes
2. Motors

Lower bills  
Processes efficiencies  
Retains jobs



PRESIDENT'S REPORT

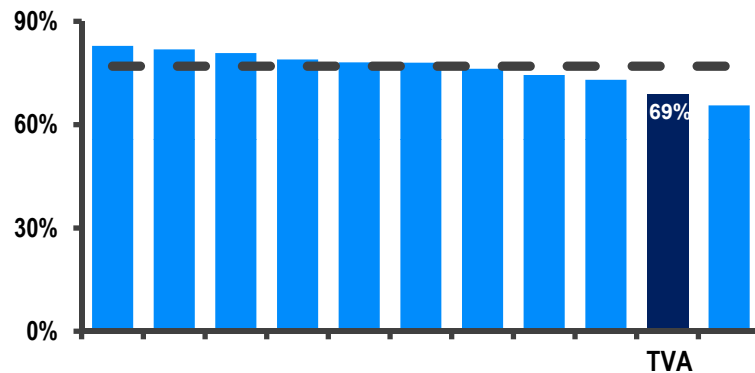
# RESPONSIBILITY



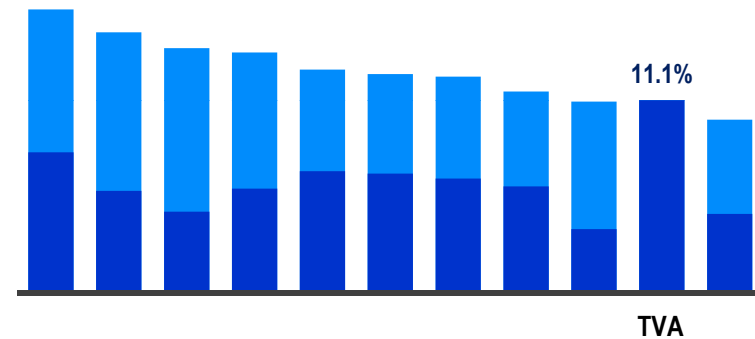
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# FINANCIAL HEALTH

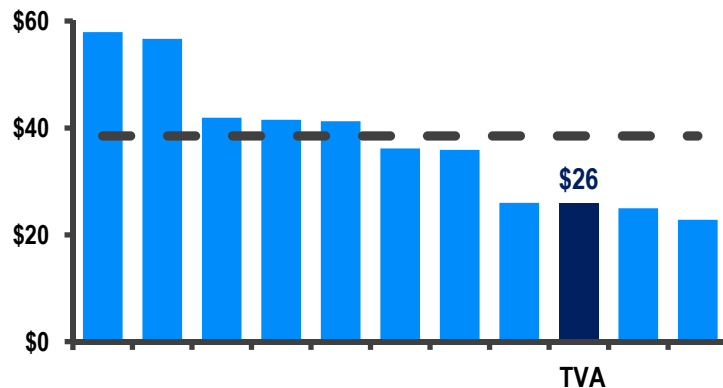
**Total Capitalization to Total Assets**  
versus Investor Owned Utilities



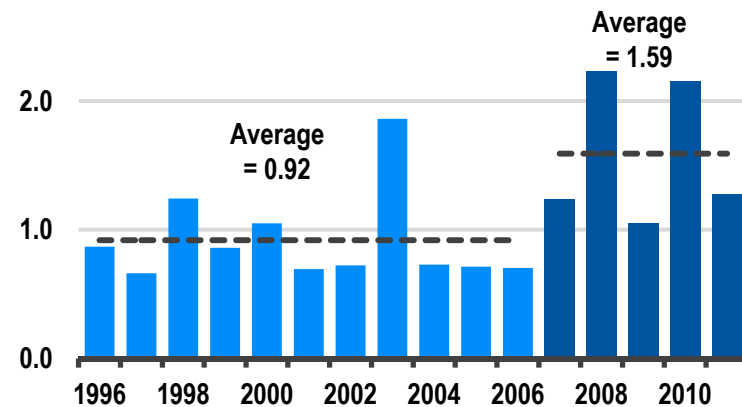
**Financing Expense as a % of Revenue**  
versus Investor Owned Utilities



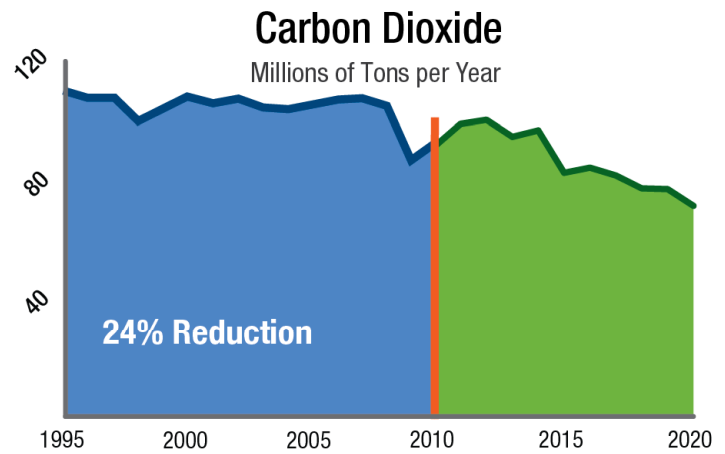
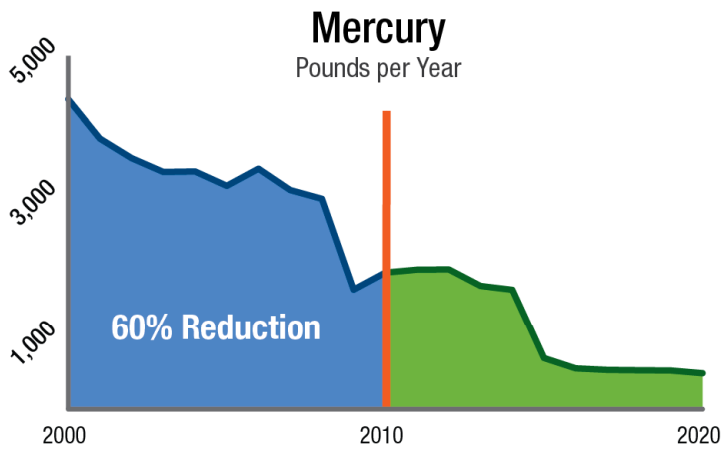
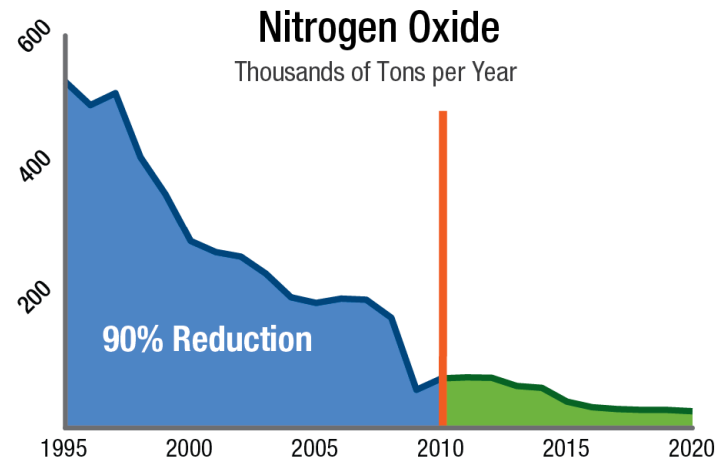
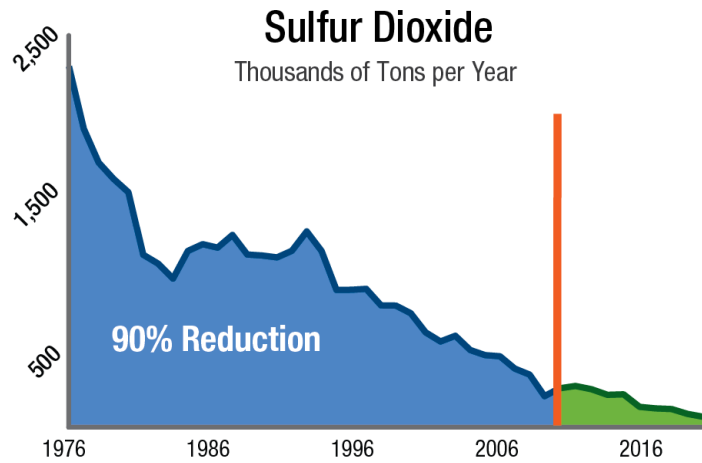
**Fuel and Purchased Power Cost**  
versus Investor Owned Utilities



**Debt Service Coverage**



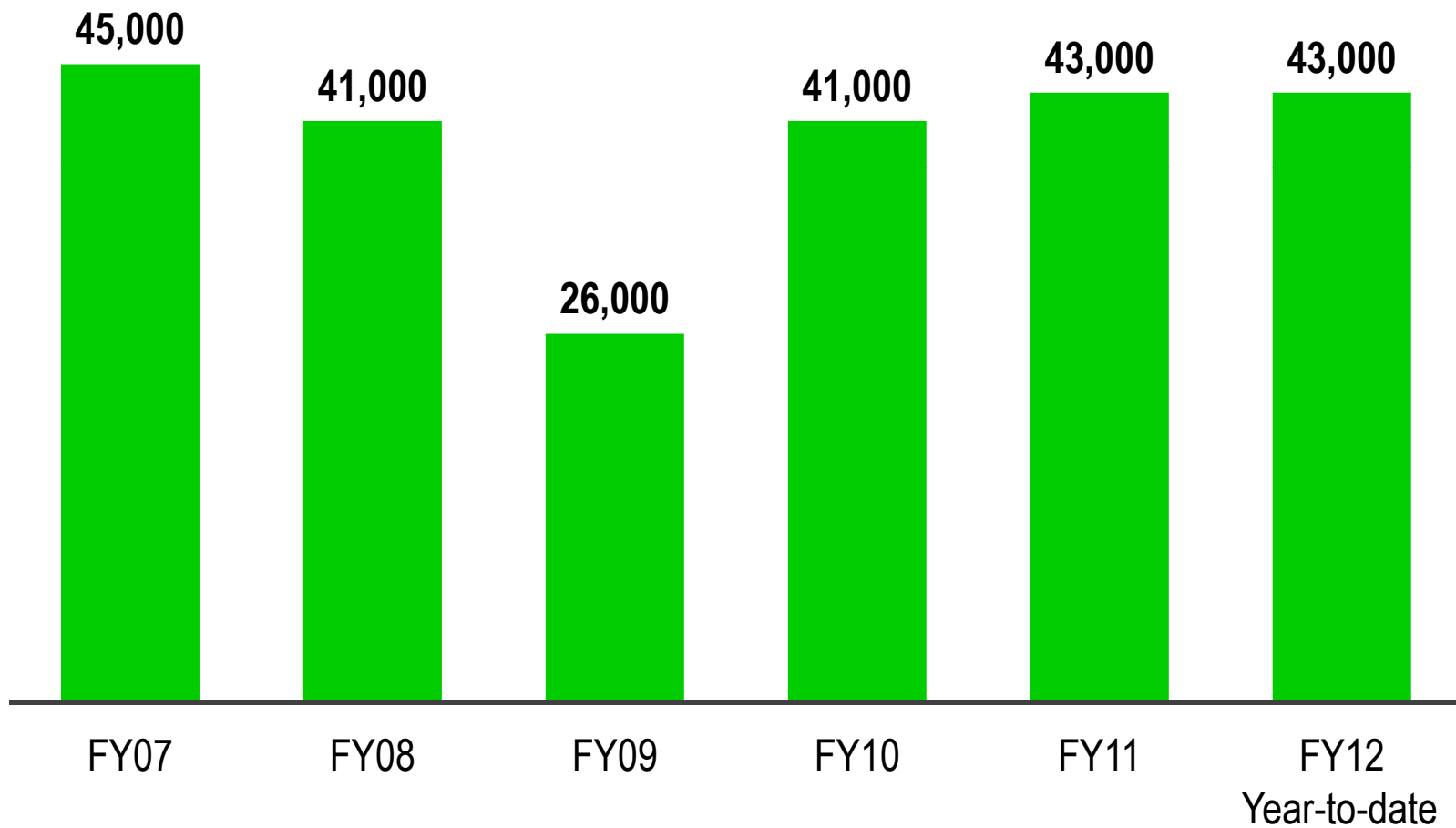
# CLEAN AIR



Data current as of November 2009

# ECONOMIC DEVELOPMENT: JOBS CREATED AND RETAINED

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# STRIVE TO BE A TRUSTED PUBLIC PARTNER

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Working to preserve  
public lands for the  
enjoyment of everyone



# SUMMARY

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On the right path to reach Our Vision

Focus remains on:  
**Rates, Reliability, and Responsibility**





# FINANCE, RATES, AND PORTFOLIO

COMMITTEE

FINANCE, RATES, AND PORTFOLIO COMMITTEE

# FY12 FINANCIAL UPDATE

AUGUST 16, 2012

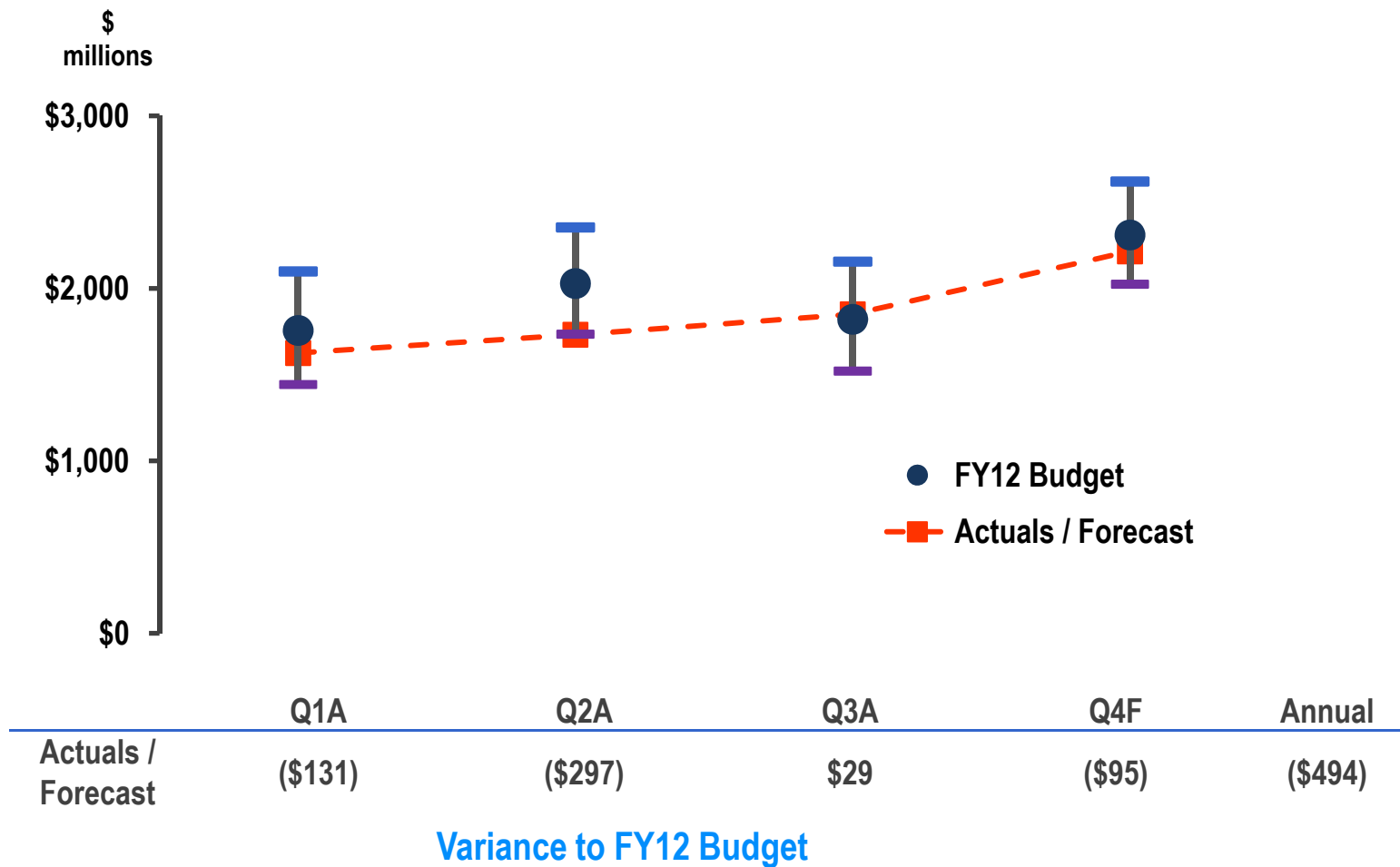


# FYTD JUNE 2012

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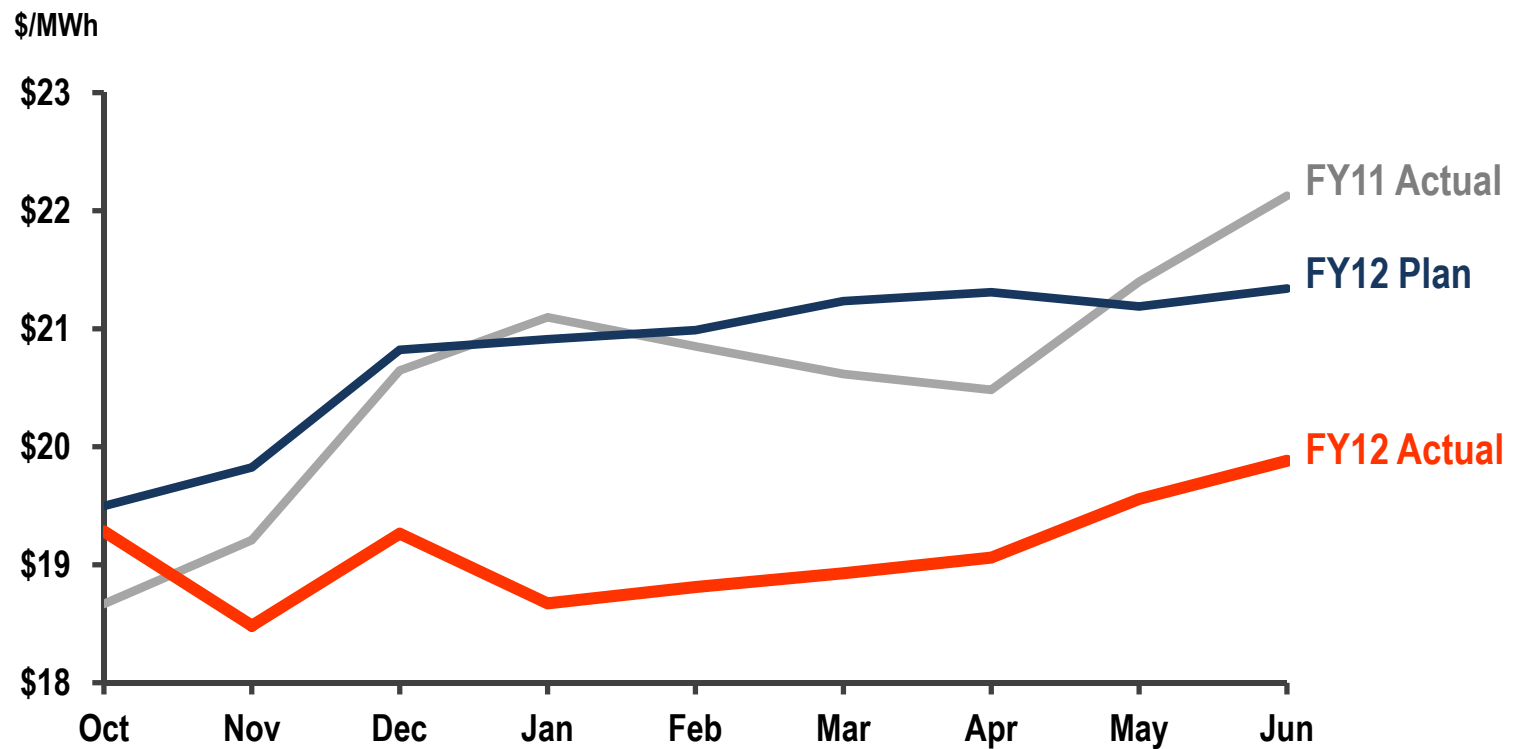
- Mildest temperatures in 60 years drove lower sales and demand
- Lower base revenues than planned
- Cash Flow impacted by lower revenues and offset by management actions
- Discretionary spending conserved to offset mild weather
- Capacity Expansion slowed to match current conditions
- Net Income unfavorable to plan and forecasted as a loss

# BASE REVENUES



# LOWER FUEL RATES

## FY12 Fuel Rates Lower than Plan



# SUMMARY INCOME STATEMENT

Base Revenue impacted by weather, economy, customer usage

<i>(\$ millions)</i>	<u>YTD Prior Year</u>	<u>YTD Budget</u>	<u>YTD Actual</u>	<u>Variance</u>
<b>Operating Revenue</b>	\$ 8,453	\$ 8,610	\$ 7,949	\$ (661)
Base Revenue	5,459	5,606	5,159	(447)
Fuel Revenue	2,903	2,914	2,691	(223)
Other Revenue	91	91	100	9
<b>Operating Expenses</b>	<b>7,534</b>	<b>7,581</b>	<b>7,288</b>	<b>293</b>
Fuel & Purchased Power	3,097	2,968	2,772	196
Operations & Maintenance	2,677	2,774	2,625	148
Depreciation / Amortization	1,296	1,375	1,439	(64)
Tax Equivalents, Other	464	464	452	12
<b>Operating Income</b>	<u>\$ 919</u>	<u>\$ 1,029</u>	<u>\$ 661</u>	<u>\$ (368)</u>
<b>Other Income</b> (investments, external business)	25	7	16	9
<b>Interest Expense</b>	979	1,049	967	81
<b>Net Income</b>	<u>\$ (35)</u>	<u>\$ (12)</u>	<u>\$ (290)</u>	<u>\$ (278)</u>

# SUMMARY CASH FLOW STATEMENT

Weather impacts offset by less spending on O&M and capital

<b>Fiscal Year to Date (\$ millions)</b>	<b><u>YTD Prior Year</u></b>	<b><u>YTD Budget</u></b>	<b><u>YTD Actual</u></b>	<b><u>Variance</u></b>
Beginning Cash and Short-term Investments	\$ 328	\$ 500	\$ 507	\$ 7
Cash Flow from Operating Activities	1,703	1,650	1,252	(398)
Cash Flow from Investing Activities	(1,880)	(2,850)	(1,867)	983
Cash Flow from Financing Activities	391	885	355	(530)
				-
Net Change in Cash & Cash Equivalents	<u>214</u>	<u>(315)</u>	<u>(260)</u>	<u>55</u>
Ending Cash and Short-Term Investments	\$ 542	\$ 185	\$ 247	62
<b>FYTD Debt and Financing Obligations</b>	<b>\$ 26,192</b>	<b>\$ 27,174</b>	<b>\$ 27,001</b>	<b>\$ 173</b>

# FYTD SUMMARY

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## Highlights

- Lower commodity prices (natural gas and purchased power)
- Diet & Exercise producing efficiency gains
- Lower borrowing and interest rates
- Lower spending on discretionary items

## Hard Spots

- Mild weather significantly impacted demand in winter
- Slower economic recovery
- Fuel inventory and natural gas margins are pressuring working capital
- Still addressing plant material condition

FINANCE, RATES, AND PORTFOLIO COMMITTEE

FISCAL YEAR 2013

# BUDGET AND BUSINESS PLAN

AUGUST 16, 2012

# FINANCIAL UPDATE

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## Discussion Topic

## Key Takeaway

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FY13 Planning

Top Quartile Rate Trajectory  
Slight Sales Growth

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Cost Drivers

Near Top Quartile  
Nuclear Recovery & Pension Challenges

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Debt Funded Obligations

Addressing Future Needs

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FY13 Rate Outlook

No increase recommended



# FY13 PLANNING PROCESS HIGHLIGHTS

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## Financial Guiding Principles

- Retire Debt Over Useful Life Of Assets
- Only Issue New Debt For New Assets
- Use Regulatory Treatment For Specific Unusual Events
- Rate Increases As Necessary To Fund Operational Spending
- Evaluate Rate Actions To Avoid Significant Rate Volatility

## Vision 2020

### Mission

- Low Rates
- High Reliability
- Responsibility

### Portfolio Balance

- Cleaner Air
- More Nuclear Generation
- Greater Energy Efficiency

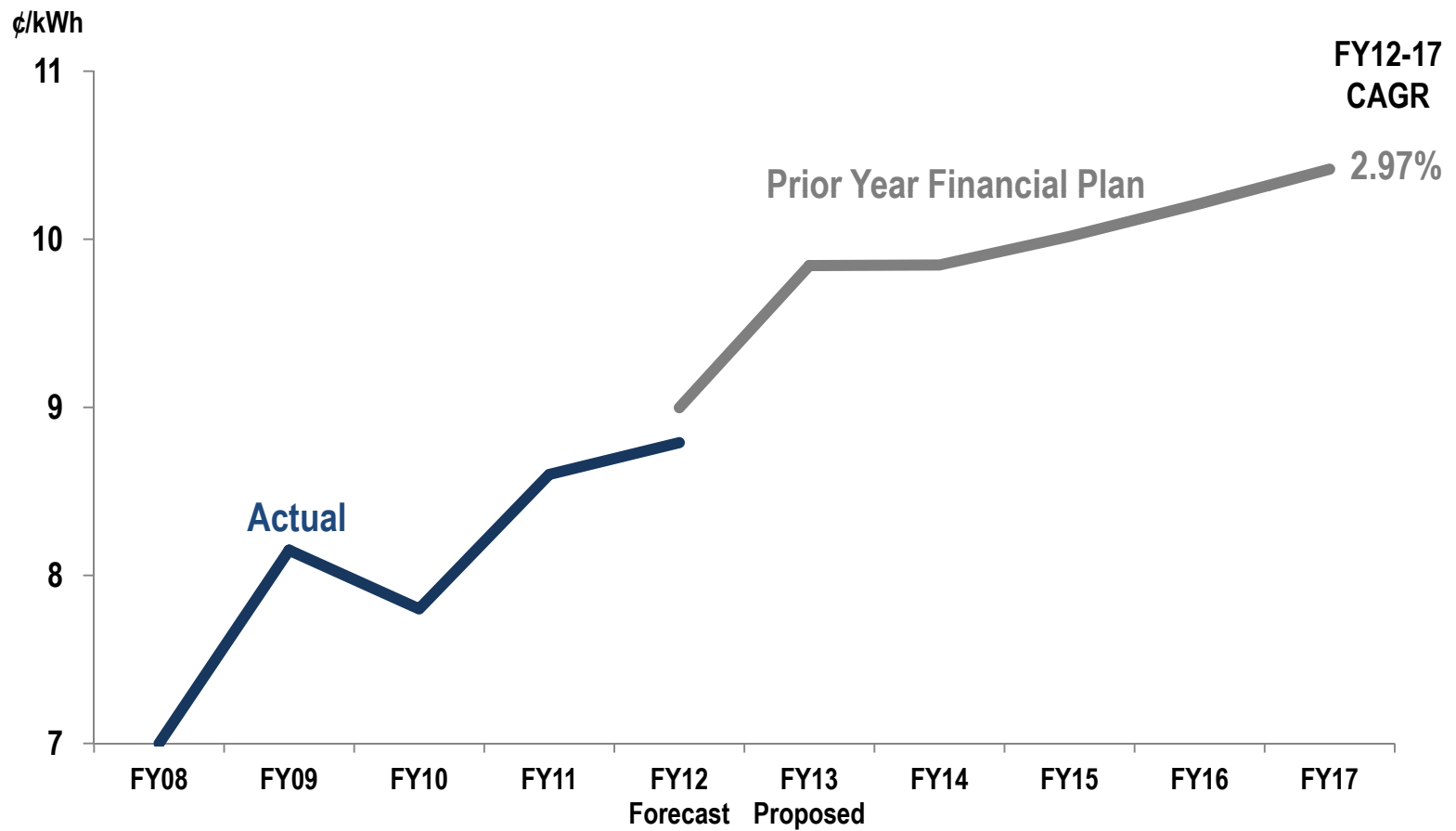
## External Considerations

- Increased Regulatory Pressures
- Commodity Prices
- Lower Growth/Slower Economy

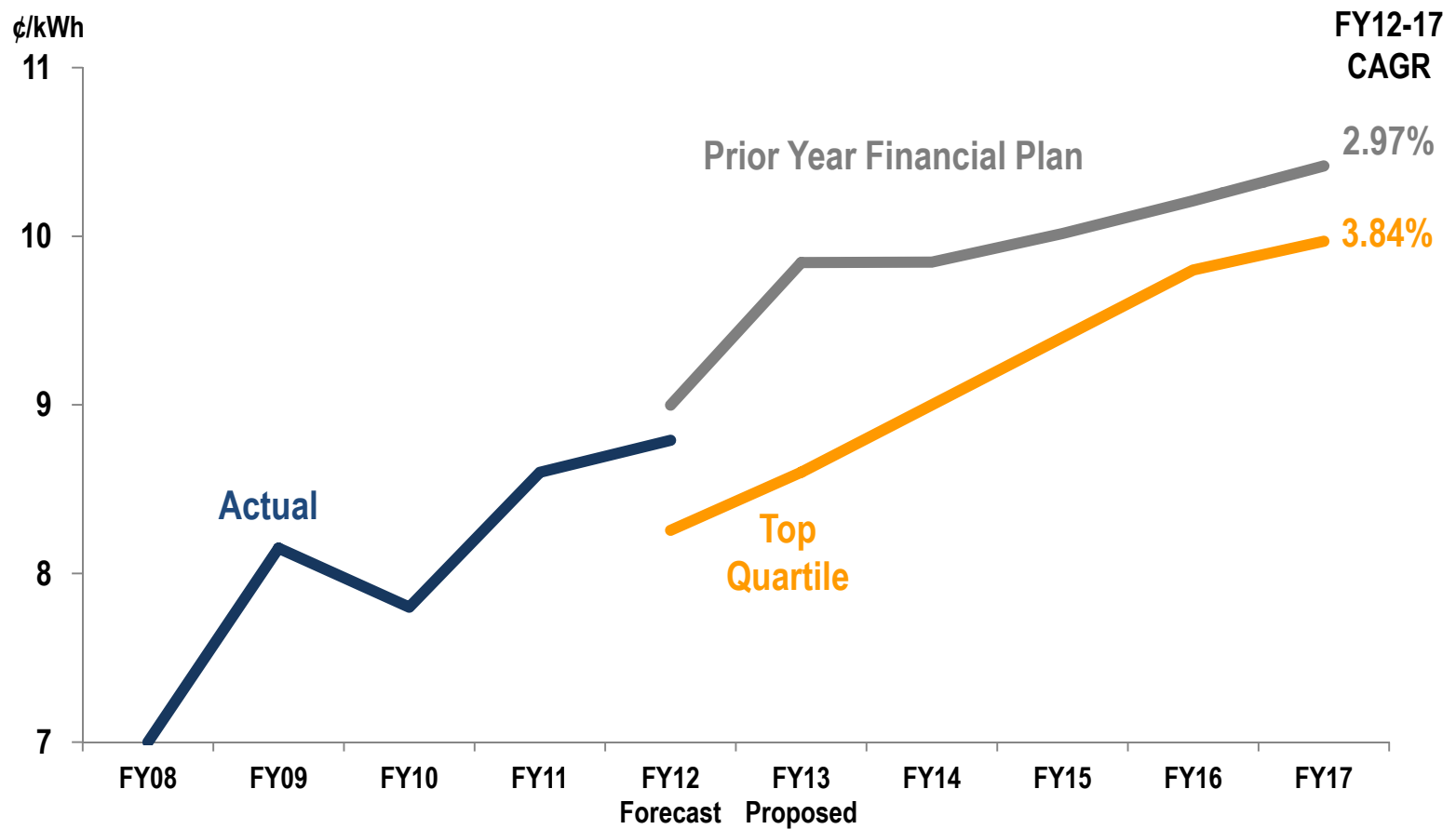
## TVA Challenges

- Increasing Our Rate Competitiveness
- Managing Risk
  - Material Condition
- Sustaining Productivity Improvements
- Executing Our Major Projects

# TVA RETAIL RATE

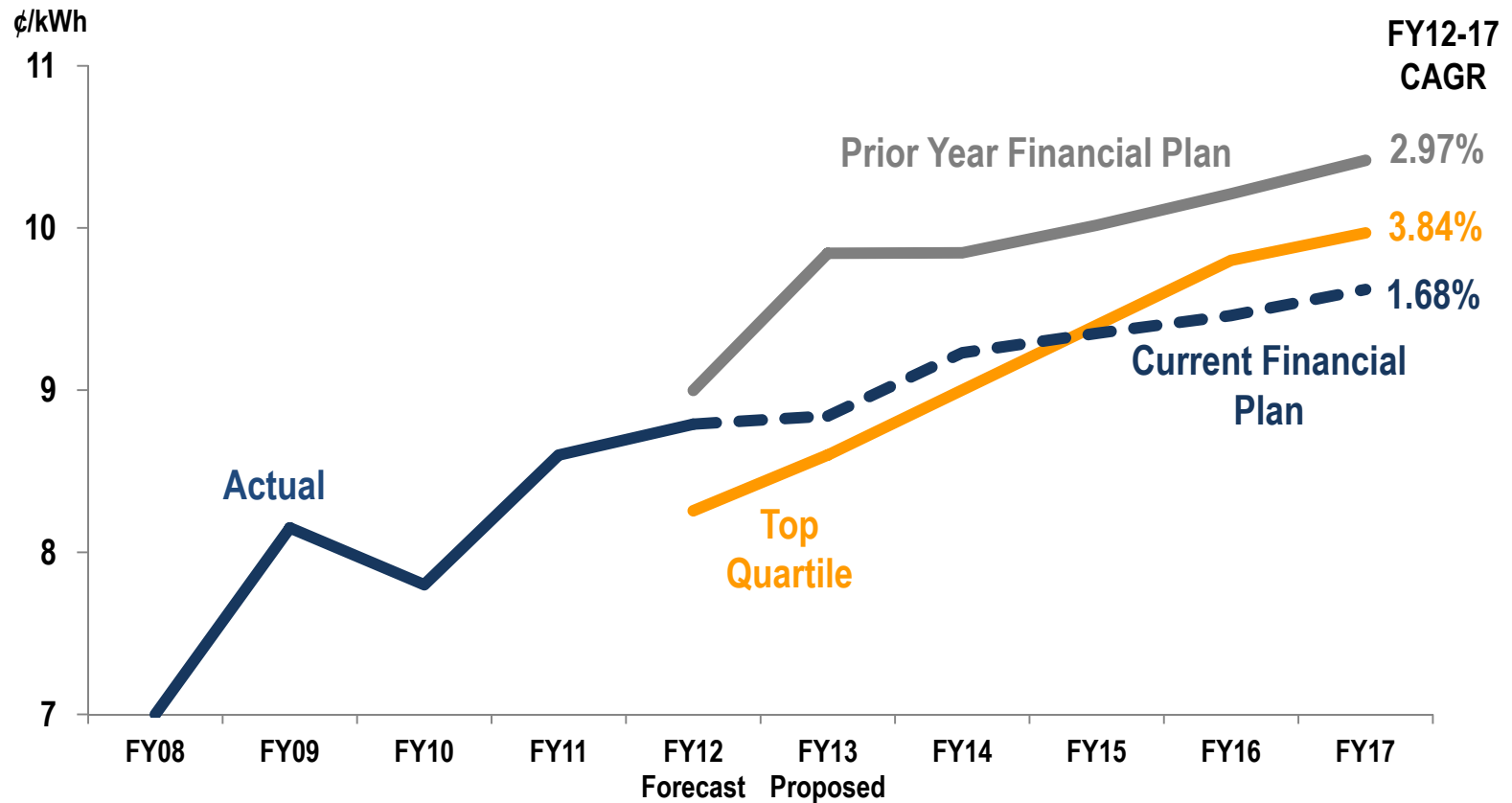


# TVA RETAIL RATE



# TVA RETAIL RATE

**Current trajectory achieves top quartile by FY16**



# ECONOMIC FACTORS

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## **Regional Growth 2.3%**

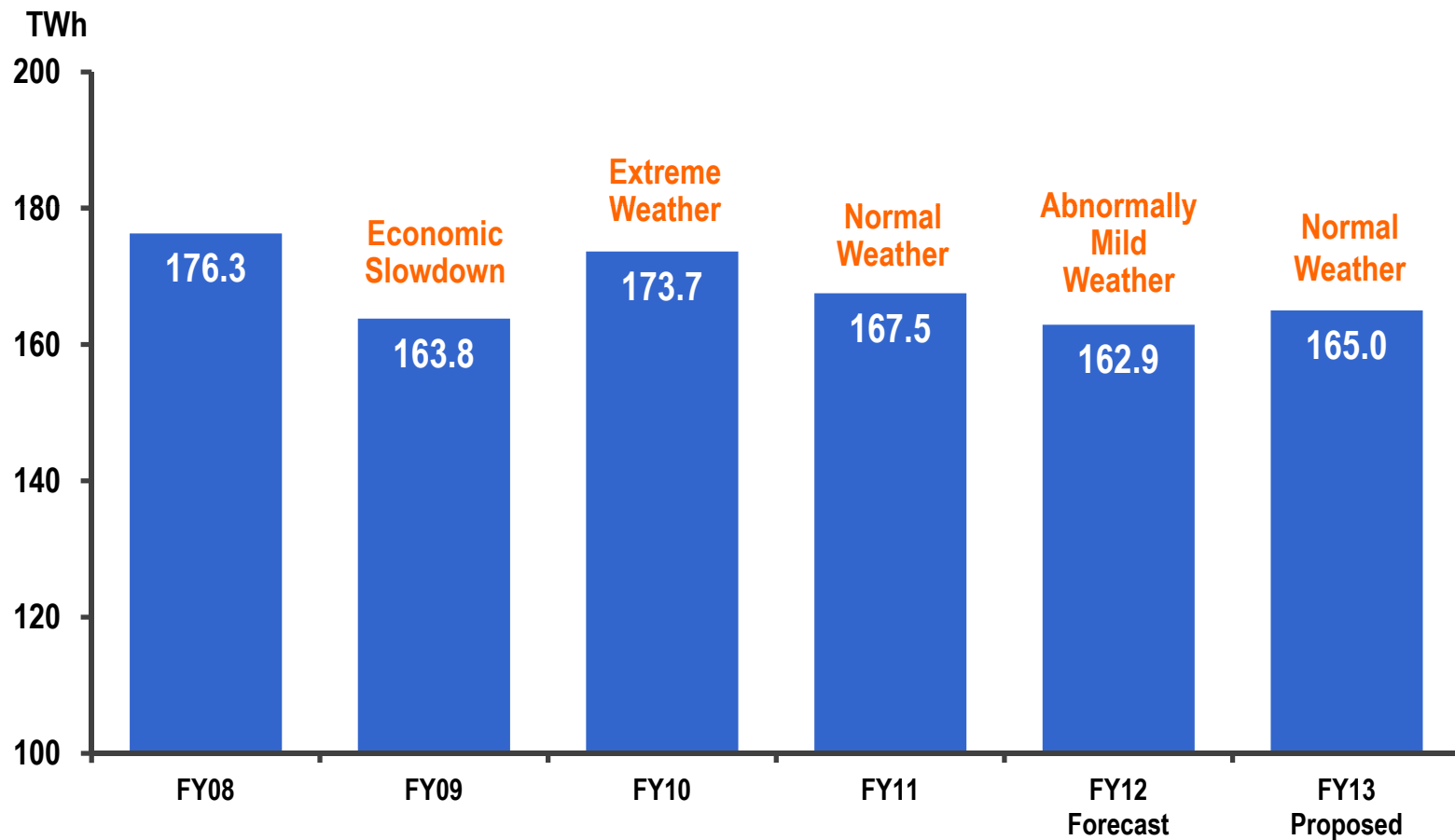
- Lower near-term

## **Regional Unemployment 8.2%**

### **Flat to little growth in:**

- Industrial Employment
- Population
- Real Income

# SALES



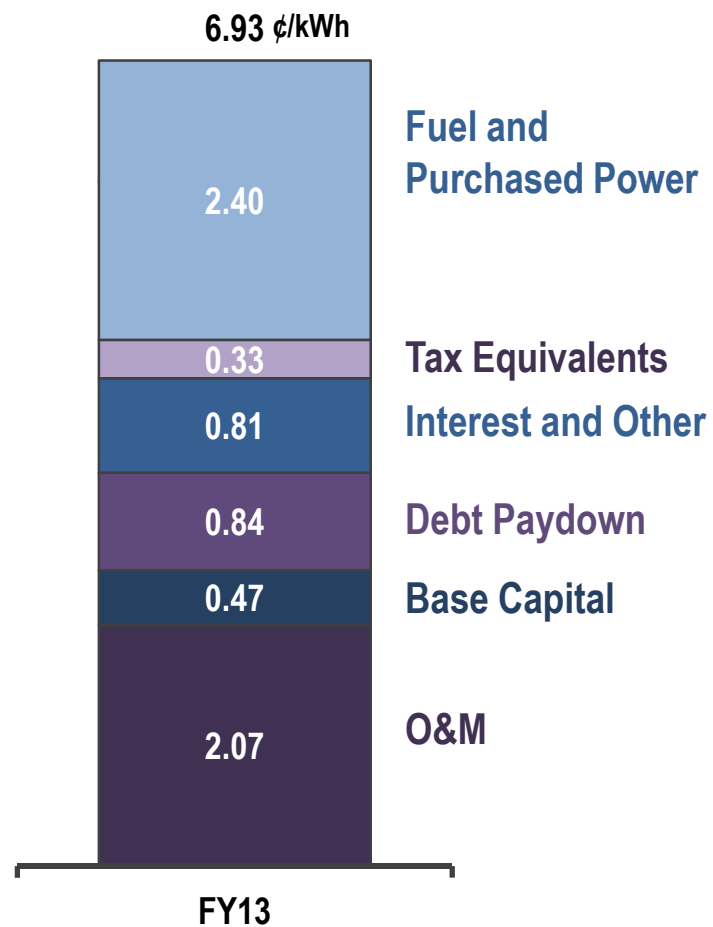
Projected TVA Sales (kWh) = System Energy less Transmission Losses

FINANCE, RATES, AND PORTFOLIO COMMITTEE  
FISCAL YEAR 2013: BUDGET PLANNING AND BUSINESS PLAN

# COST DRIVERS

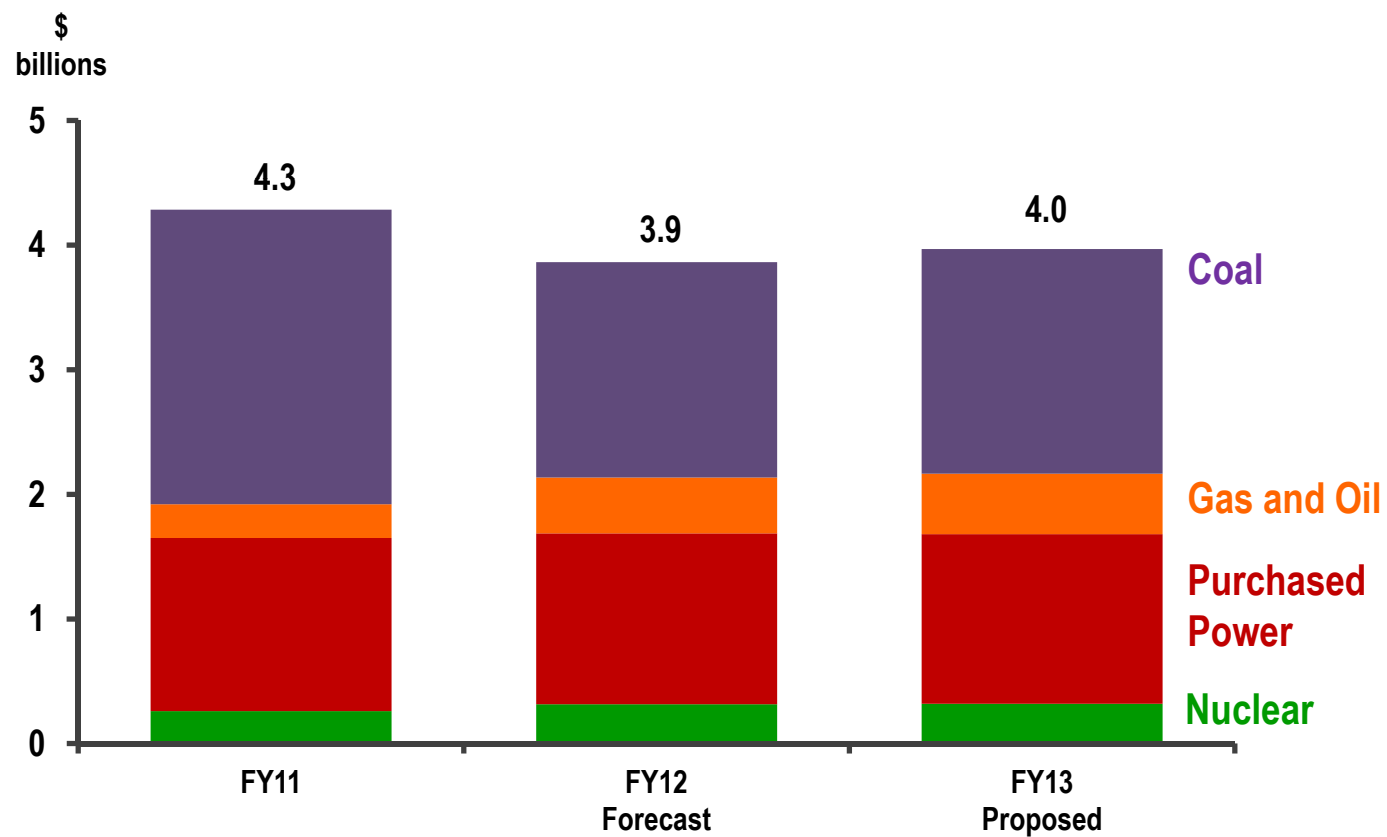
# TVA AVERAGE WHOLESALE RATE BY REVENUE REQUIREMENTS

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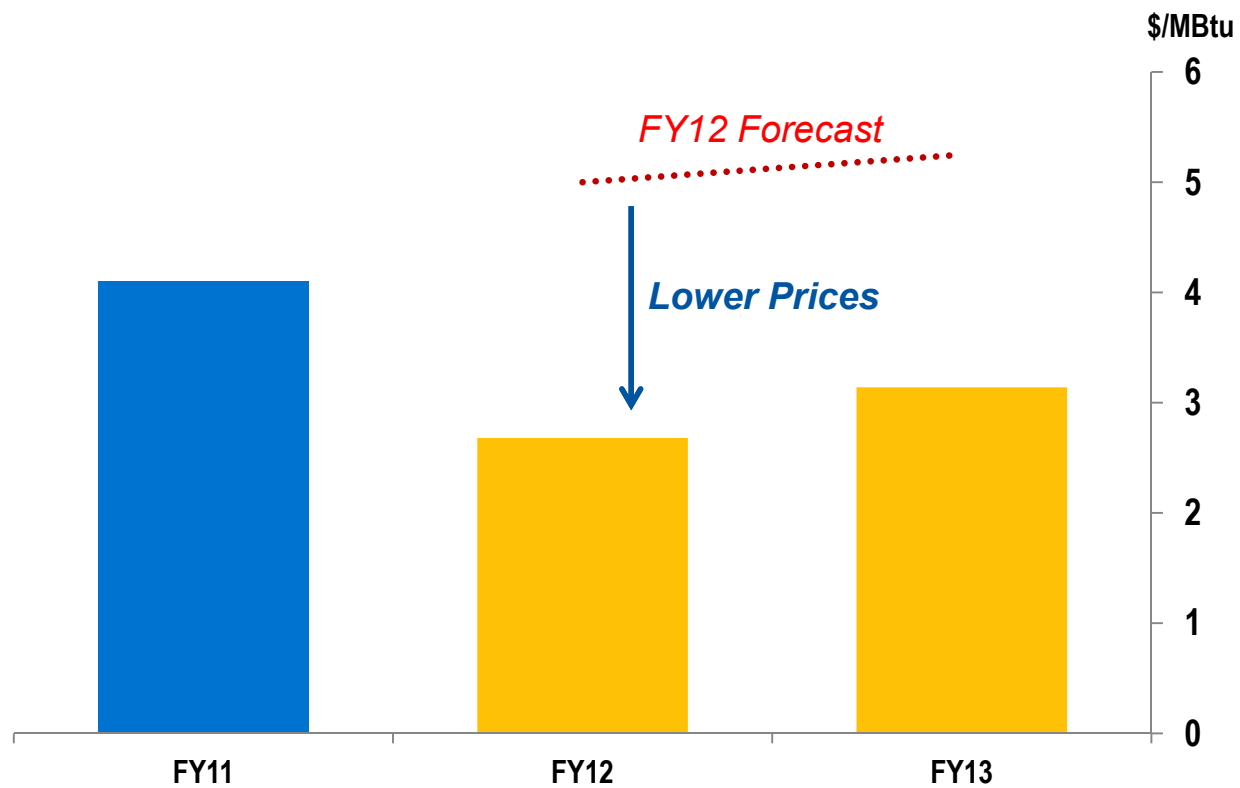
# FUEL AND PURCHASED POWER



Does not reflect adjustments to fuel expense related to FCA fuel revenue over/under recovery.

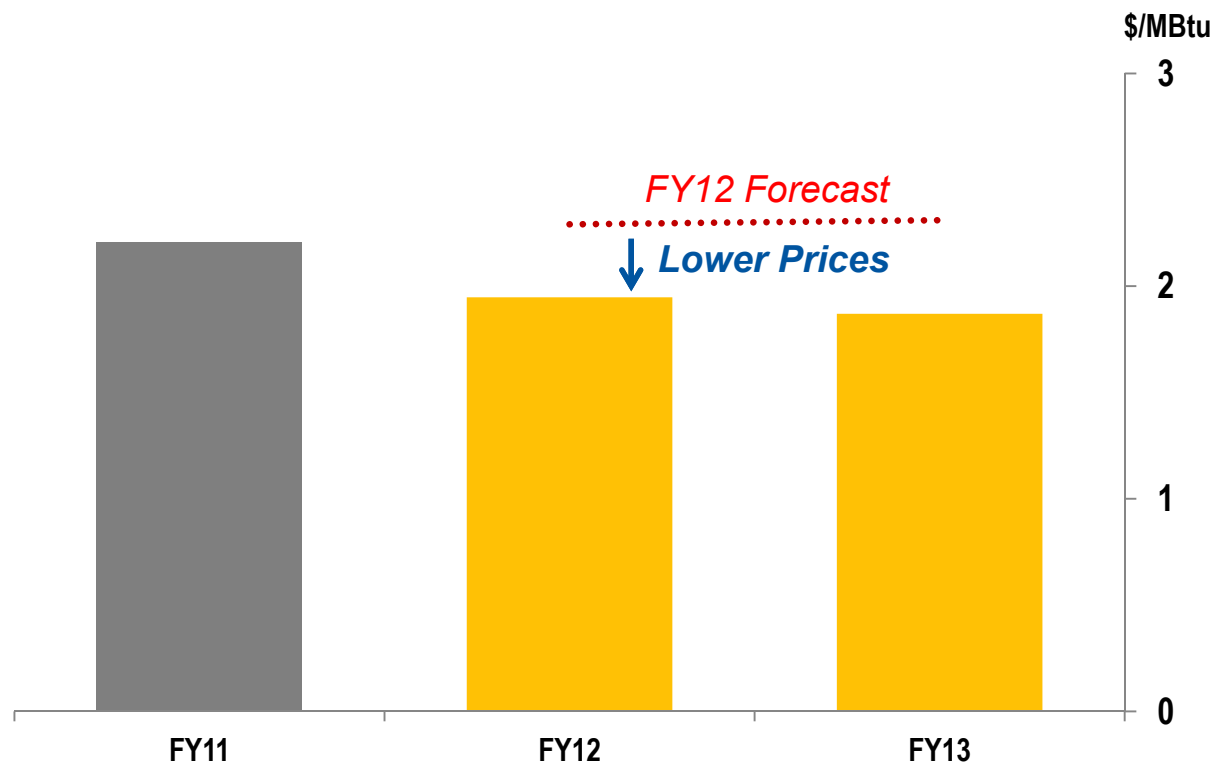
# COMMODITY PRICE OUTLOOK

## Natural Gas Price – Henry Hub



# COMMODITY PRICE OUTLOOK

## Illinois Basin Coal Price – FOB Mine

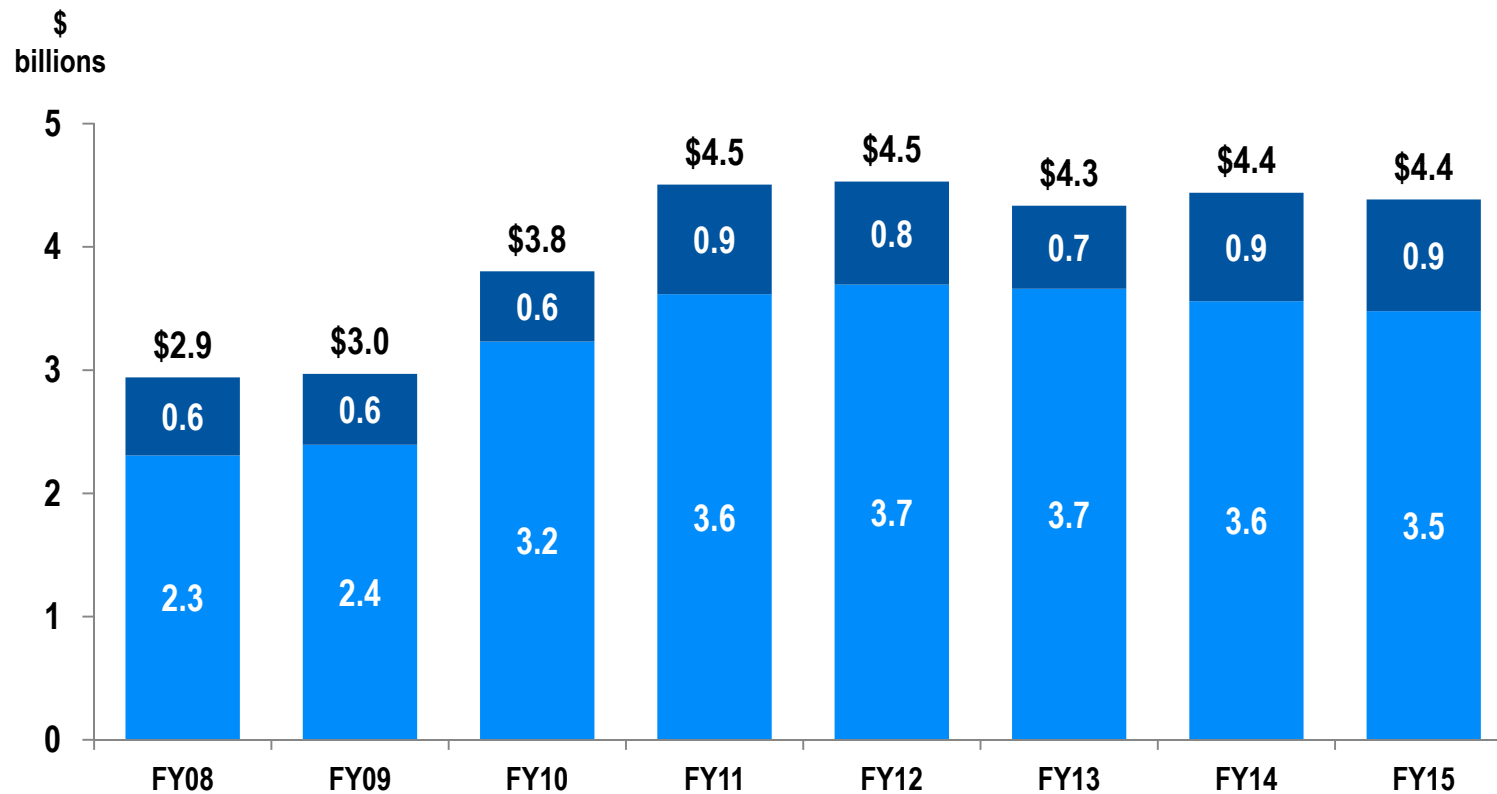


## FUEL AND PURCHASED POWER SUMMARY

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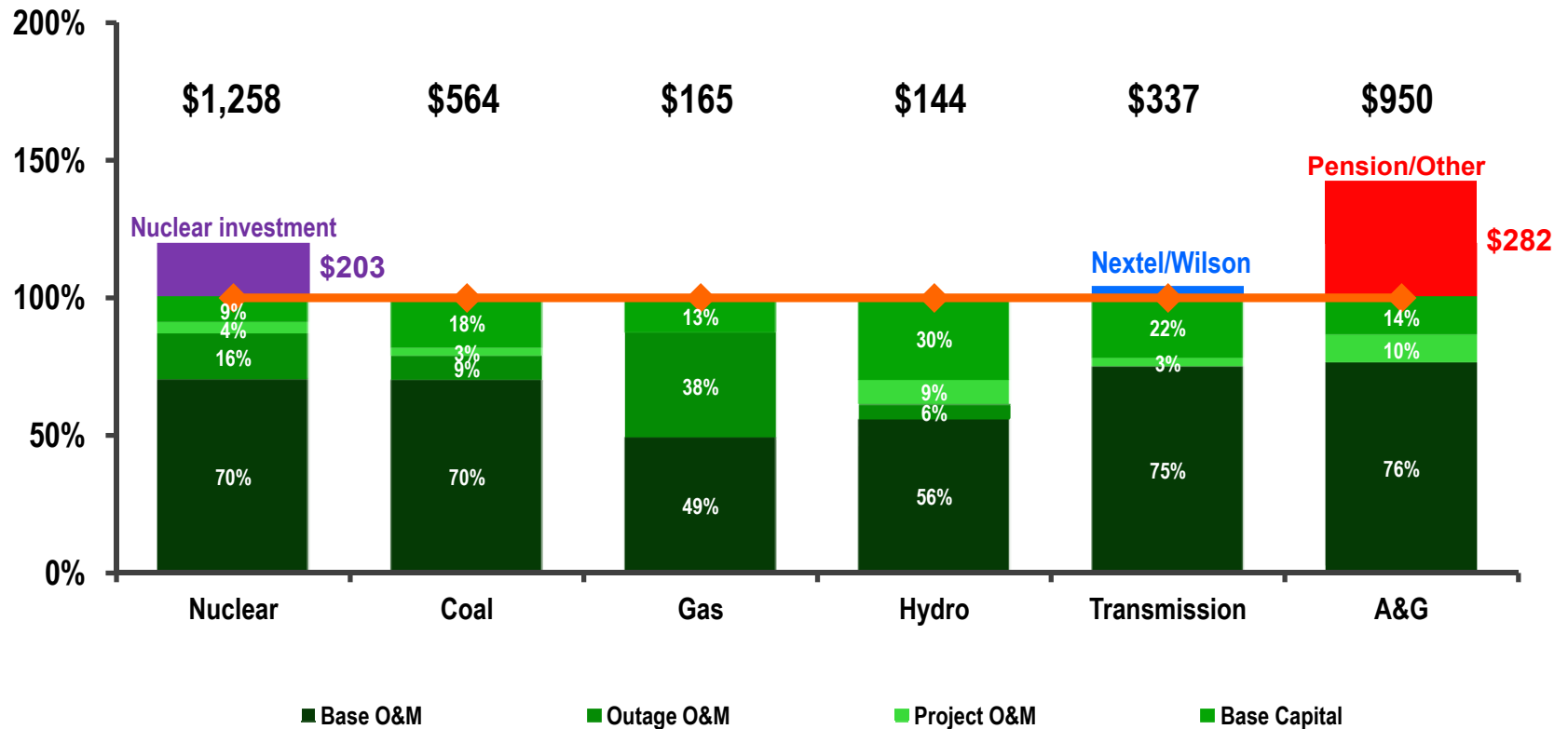
- Lower commodity prices (natural gas and purchased power)
- Increased fuel switching between coal and natural gas assets
- Reducing coal inventories
- Continued natural gas price volatility

# BASE EXPENDITURE TRENDS



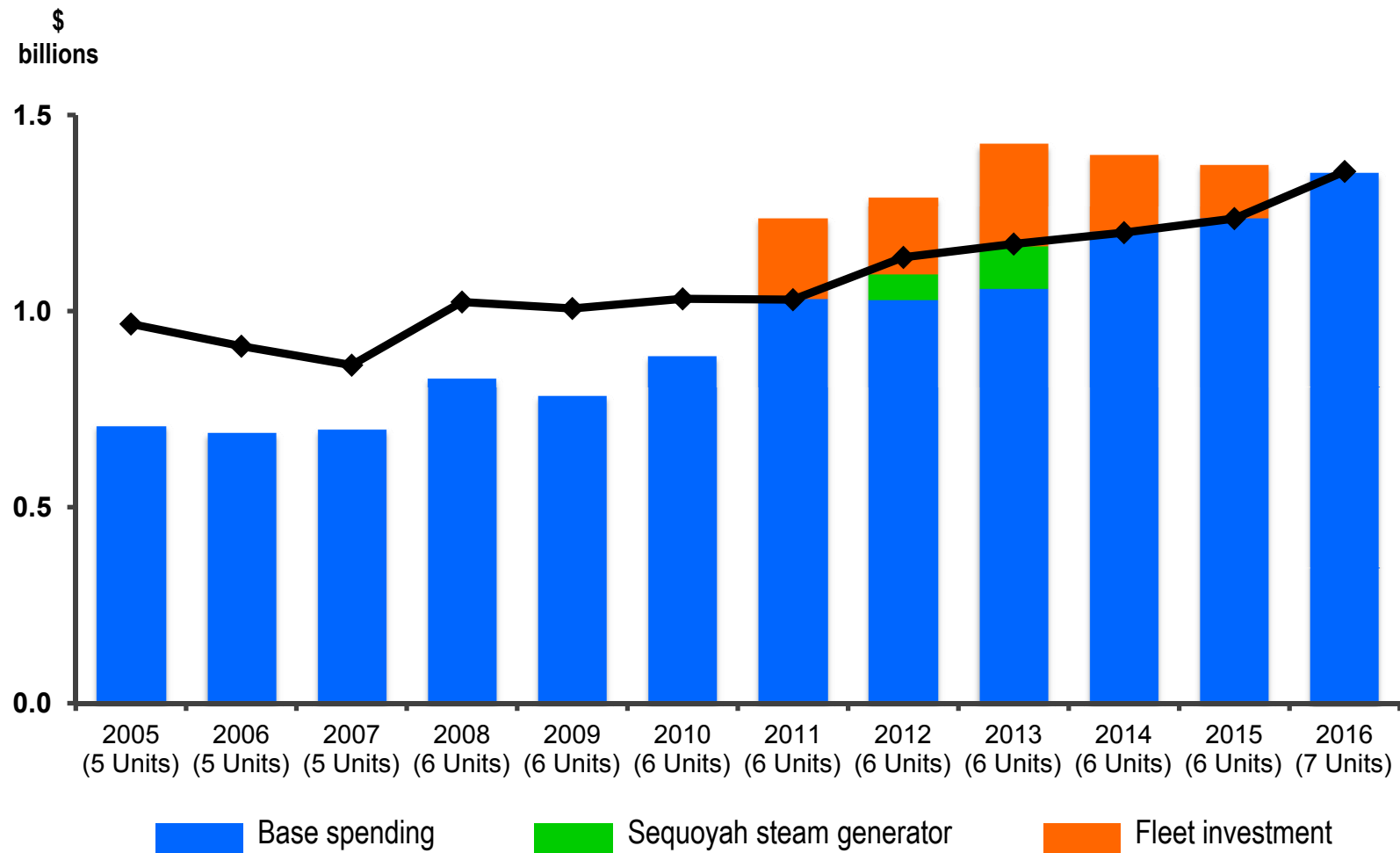
# FY13 BASE EXPENDITURES

## Total Spend vs. Top Quartile Target



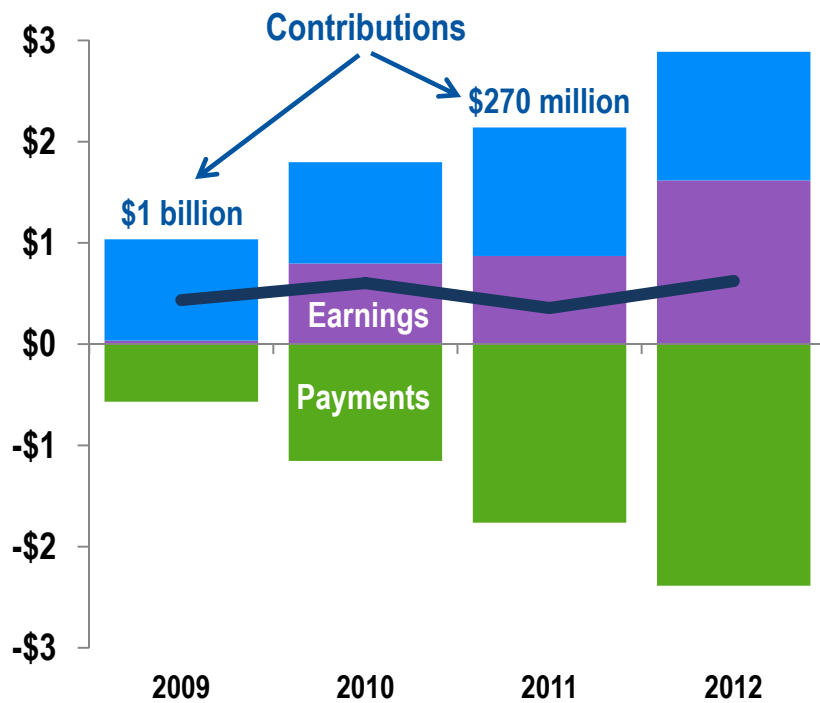
Top Quartile Target =100%

# NUCLEAR SPENDING



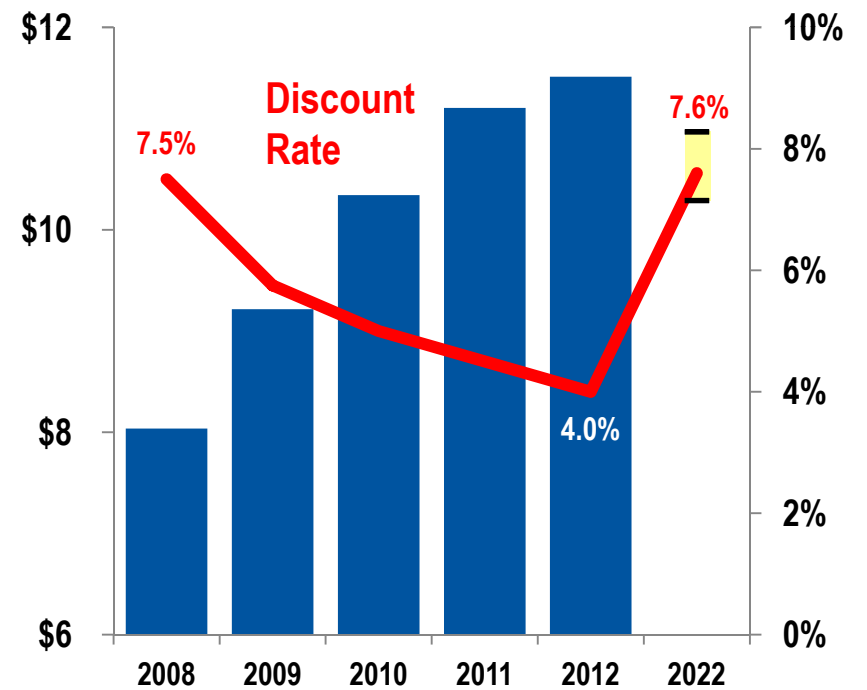
# PENSION

**Contributions and Earnings Have Increased Pension Assets**



Cumulative Change (billions)

**Pension Liabilities Have Been Impacted By The Drop in the Discount Rate**





# NUCLEAR SPENDING/PENSION SUMMARY

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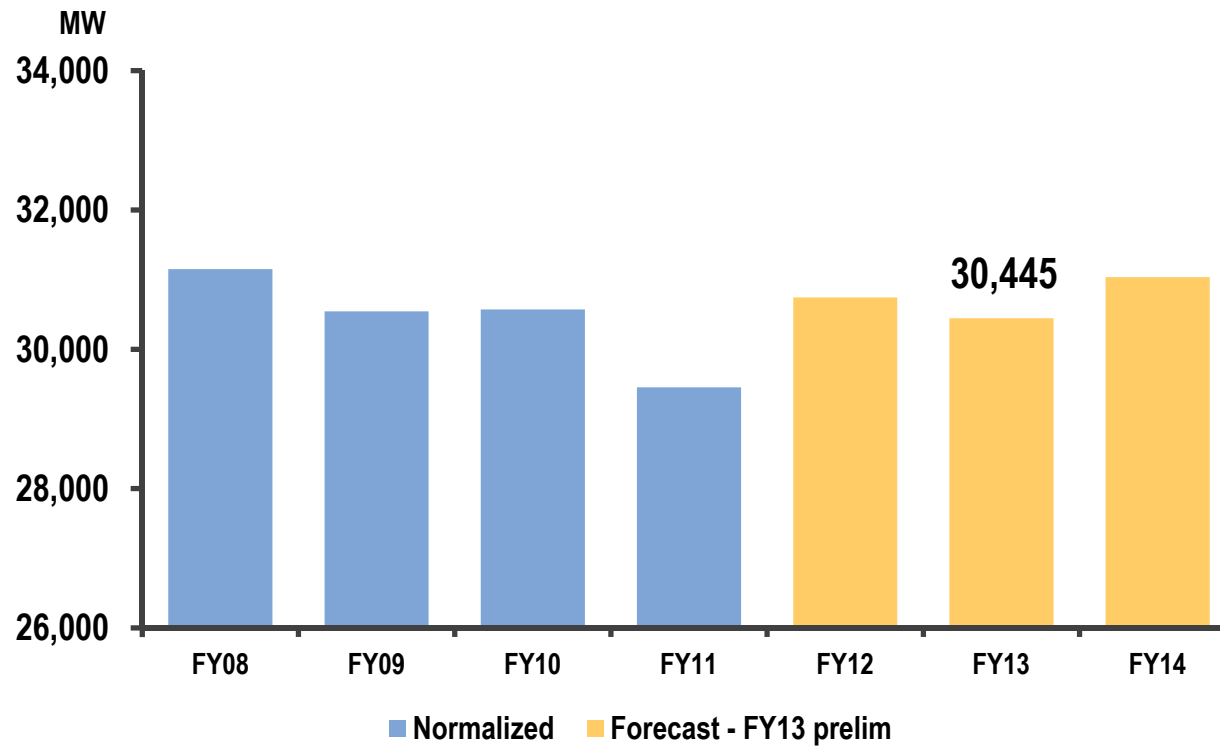
- No quick fixes; recovery addressed over many years
- Ongoing funding obligation
- Prioritization & Risk Management necessary as recovery continues

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FISCAL YEAR 2013: BUDGET PLANNING AND BUSINESS PLAN

# DEBT-FUNDED OBLIGATIONS

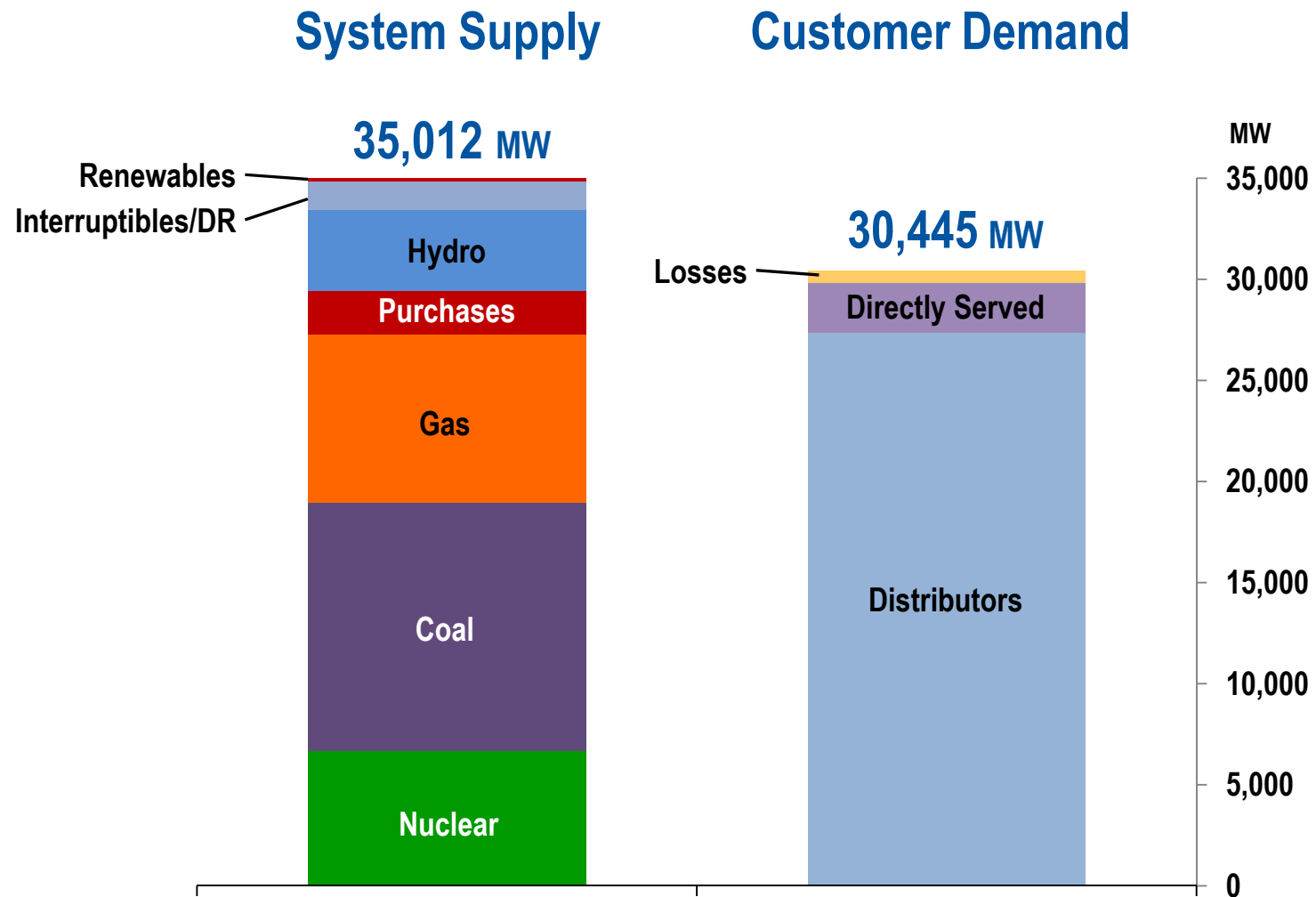
# SYSTEM PEAK

## Annual Summer System Peak – Weather Normalized

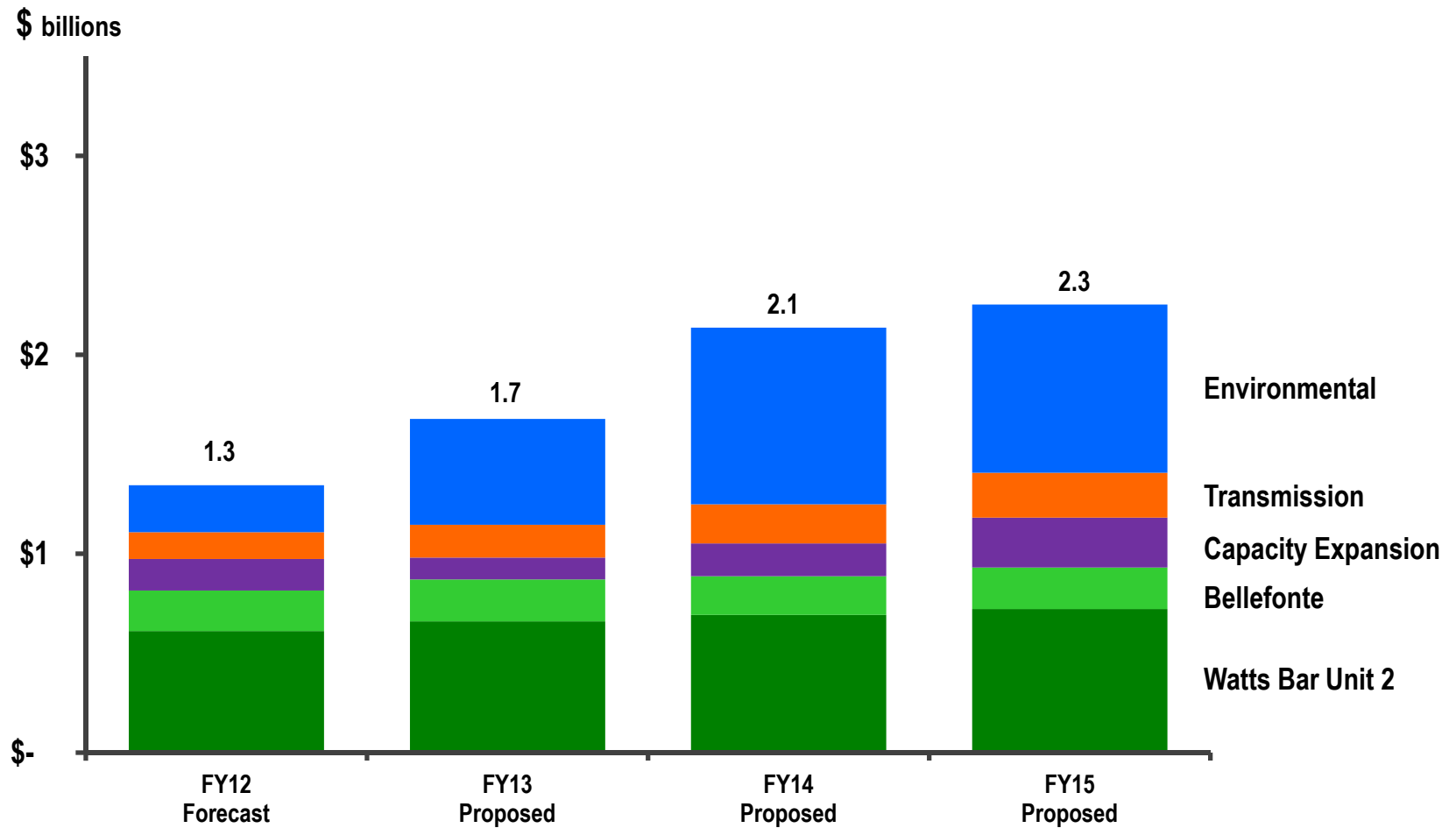


TVA All-Time Peak: 33,482 MW - August 16, 2007

# 2013 CAPACITY AND DEMAND BALANCE



# DEBT FUNDED INVESTMENTS



# DEBT AND DEBT-LIKE OBLIGATIONS

	<b>FY12</b>	<b>FY13</b>
	<b>Forecast</b>	<b>Proposed</b>
<b>Beginning Debt</b>	<b>\$ 26.7</b>	<b>\$ 26.9</b>
New Borrowings:		
Capacity Expansion	1.1	1.2
Kingston	0.1	0.2
Environmental	0.2	0.5
<b>Total New Borrowings</b>	<b>1.5</b>	<b>1.9</b>
<b>Total Debt Paydown</b>	<b>(1.3)</b>	<b>(1.4)</b>
<b>Total Change in Debt</b>	<b>0.2</b>	<b>0.5</b>
Ending Debt Levels:		
Alternative Financing	2.7	2.2
Statutory Debt Balance	24.2	25.2
<b>Total Financing Obligations</b>	<b>\$ 26.9</b>	<b>\$ 27.4</b>

# FISCAL YEAR 2013 FINANCIAL SHELF

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## **Power bonds are typically issued to:**

- Refinance existing debt: \$2.9 billion
  - Fund new capacity: \$1.9 billion
  - Additional Flexibility: \$0.2 billion
- Total: \$5.0 billion

**Interest rate hedges may be used to reduce exposure to fluctuating interest rates**

## **Issuing individual bonds requires:**

- Notification of Board Finance, Rates, and Portfolio Committee
- Approval of Chief Executive Officer and Chief Financial Officer

# RISKS AND CHALLENGES

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- Weather
- Economy
- Regulatory Pressures
- Asset Risk Management: Material Condition
- Sustainable Productivity Improvements



FINANCE, RATES, AND PORTFOLIO COMMITTEE  
FISCAL YEAR 2013: BUDGET PLANNING AND BUSINESS PLAN

# RATE OUTLOOK

# OPERATING BUDGET AND REVENUES

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## FISCAL YEAR 2013

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(\$ millions)

Operating Revenue	\$11,236
Operating Expenses	
Fuel & Purchased Power	3,967
Operations, Maintenance, and Other	3,662
Interest & Other	1,336
Tax Equivalents	<u>550</u>
Subtotal	<u>9,515</u>
Other Operating Cashflow	398
Operating Cashflow	<u>\$2,119</u>

# CAPITAL BUDGET

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## FISCAL YEAR 2013

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(\$ millions)	
Operating Cashflow	\$ 2,119
Capacity Expansion	1,146
Environmental	532
Nuclear Fuel	364
Nuclear	276
Fossil	104
Transmission	84
River Operations	43
Gas	22
Other	155
<b>Capital Expenditures</b>	<b>(2,726)</b>
Net Cashflow Prior to Financing	\$ (607)

# FINANCING

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## FISCAL YEAR 2013

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(\$ millions)

Net Cashflow Prior to Financing \$(607)

New Borrowings 1,844

Debt Paydown (1,362)

Other Financing 125

Subtotal 607

**Shortfall \$(0)**

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**No Increase Recommended**

# RECOMMENDATION

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## **Approve the 2013 budget:**

- Revenues of \$11.2 billion
- Operating Expenses of \$9.5 billion
- Capital Expenditures of \$2.7 billion

## **Approve Contracting Plan for Fuel and Purchased Power**

- Fuel & Purchased Power of \$4.0 billion (In Operating Expenses)

**Approve the Financial Shelf for issuance of up to \$5 billion of long-term bonds and the ability to utilize interest rate hedges in fiscal year 2013**

FINANCE, RATES, AND PORTFOLIO COMMITTEE

# DISTRIBUTOR POWER CONTRACT AMENDMENT

AUGUST 16, 2012



# NUCLEAR OVERSIGHT

COMMITTEE

AUGUST 16, 2012

NUCLEAR OVERSIGHT COMMITTEE

# NUCLEAR POWER GROUP PERFORMANCE



AUGUST 16, 2012



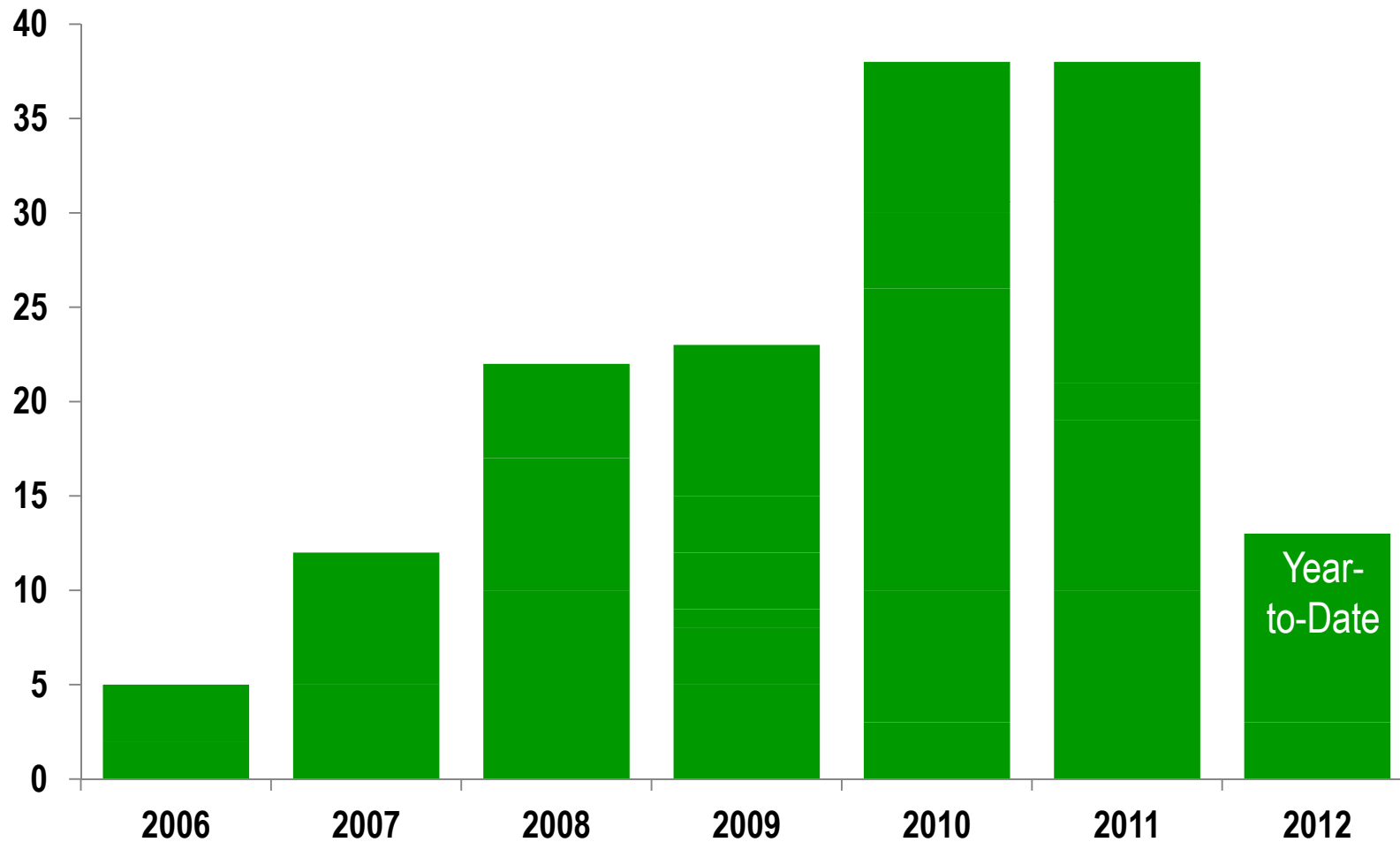
# PEOPLE

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- Excellent Safety Performance:  
OSHA Injury Rate of 0.25 vs. 0.36 three years ago
- Continued focus on:
  - Talent Management and Succession Planning
  - Training and Development
  - Increasing number of licensed personnel
  - First Line Supervisors accountability
- Positive results observed:
  - Safety
  - Human Performance Error Rate
  - New operators licensed
  - Cultural Health



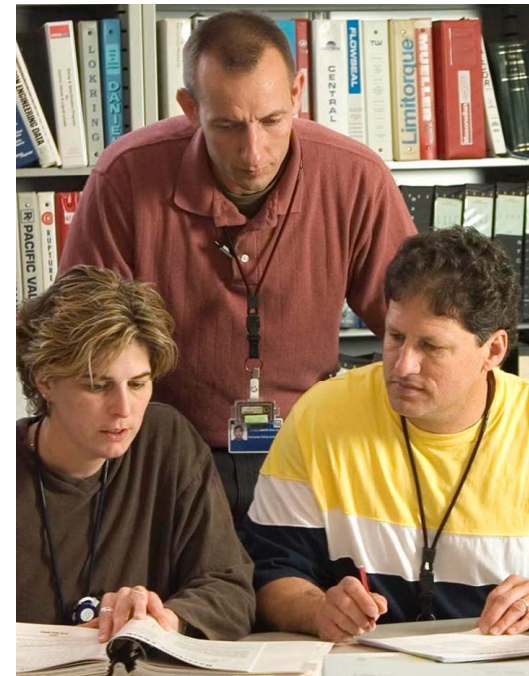
# NEW OPERATOR LICENSES



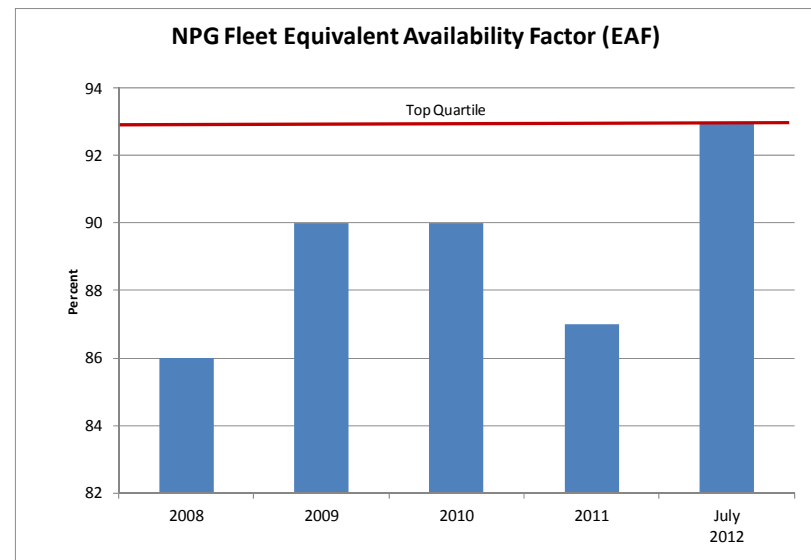
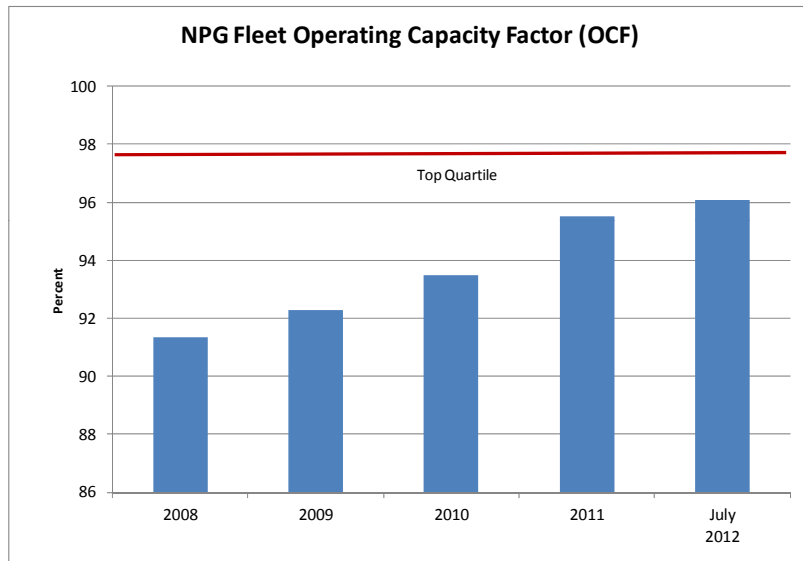
# PROCESSES



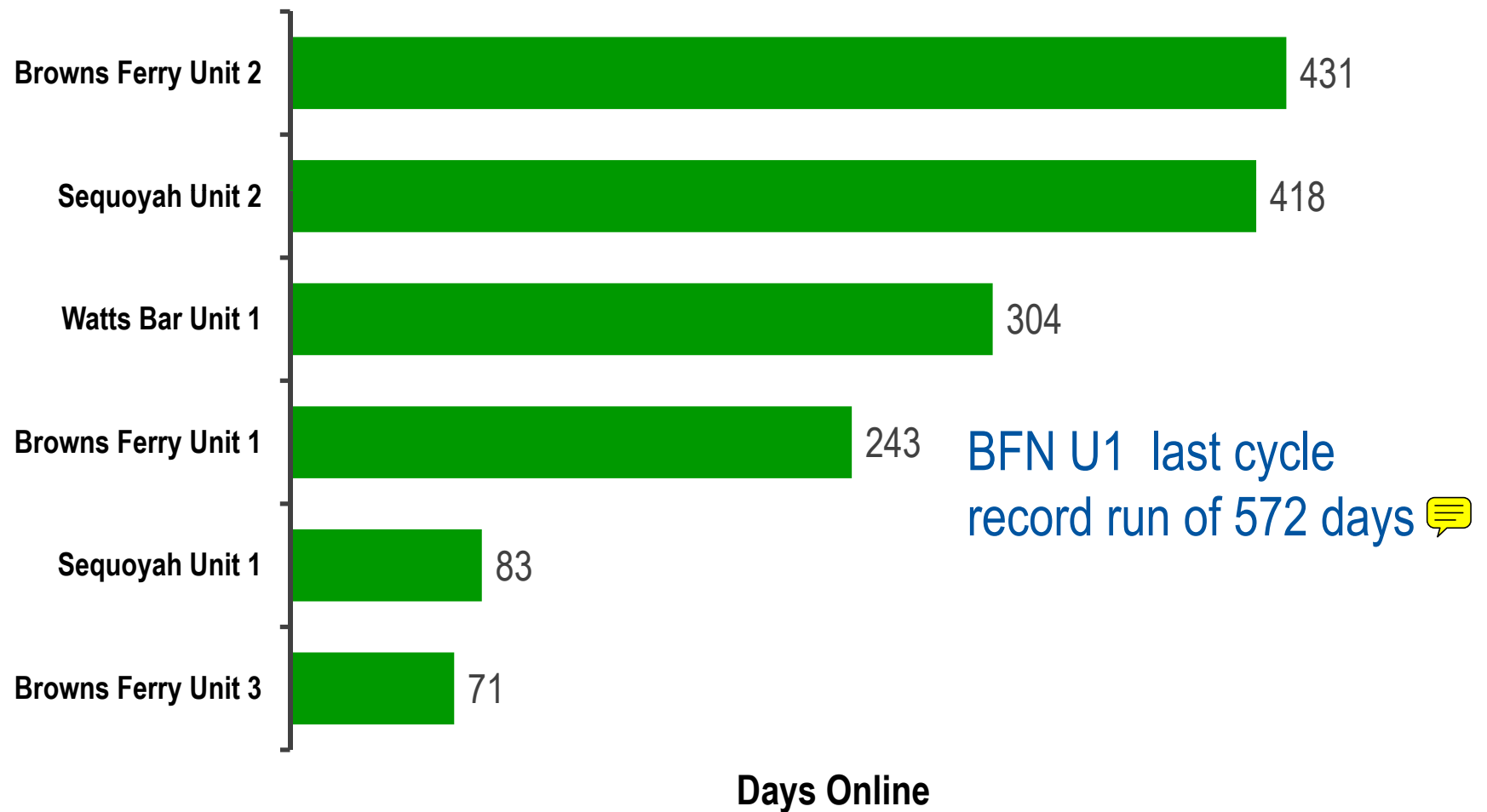
- Established Nuclear Operating Model
- Improved performance through five Focus Areas
- Implemented System, Component, and Program health monitoring



# NUCLEAR OPERATING CAPACITY FACTOR AND EQUIVALENT AVAILABILITY FACTORS



# NUCLEAR UNITS CONTINUOUS DAYS ONLINE



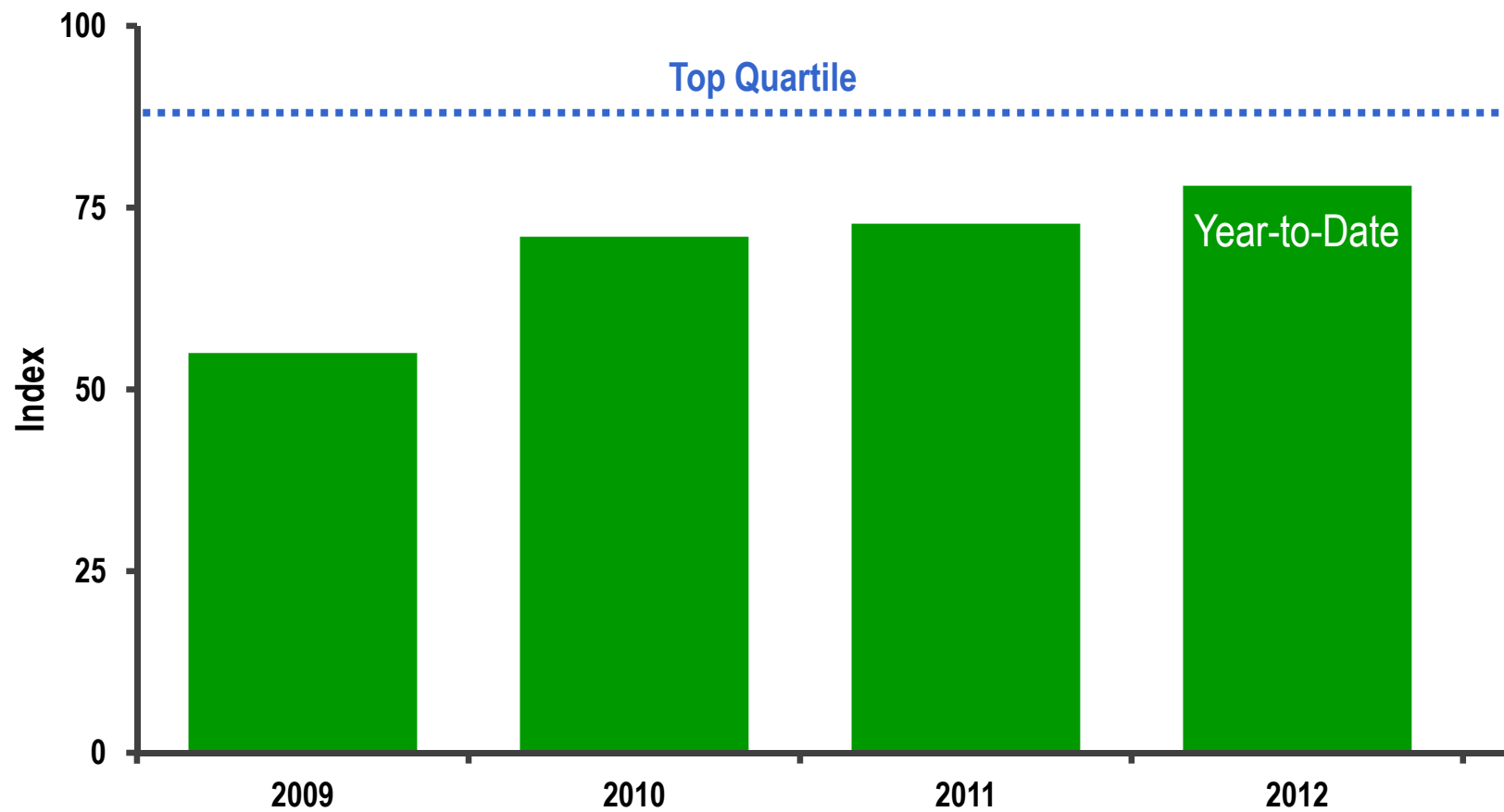
# PLANT

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- Improved the Equipment Reliability Index from 55 to 80
- Increased funding for Equipment Reliability improvements
- Developed engineering excellence plan
- At TVA, Nuclear Power continues to be low cost generator with a 2008-2010 average of \$17.54/MWH
- Success of BFN cooling towers has caused no power reduction in 2012, allowing approximately \$10 M savings vs. loss of \$53 M over 2010 and 2011



# EQUIPMENT RELIABILITY INDEX



# NEXT STEPS

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- Return Browns Ferry to normal regulatory oversight column
- Steam generators replacement at Sequoyah
- Asset management for equipment reliability
- Fukushima upgrades
- Watts Bar Unit 2 Integration
- Integrating licensed operators
- Operational excellence from reliable generation





NUCLEAR OVERSIGHT COMMITTEE

# WATTS BAR 2 UPDATE



AUGUST 16, 2012

# HIGHLIGHTS

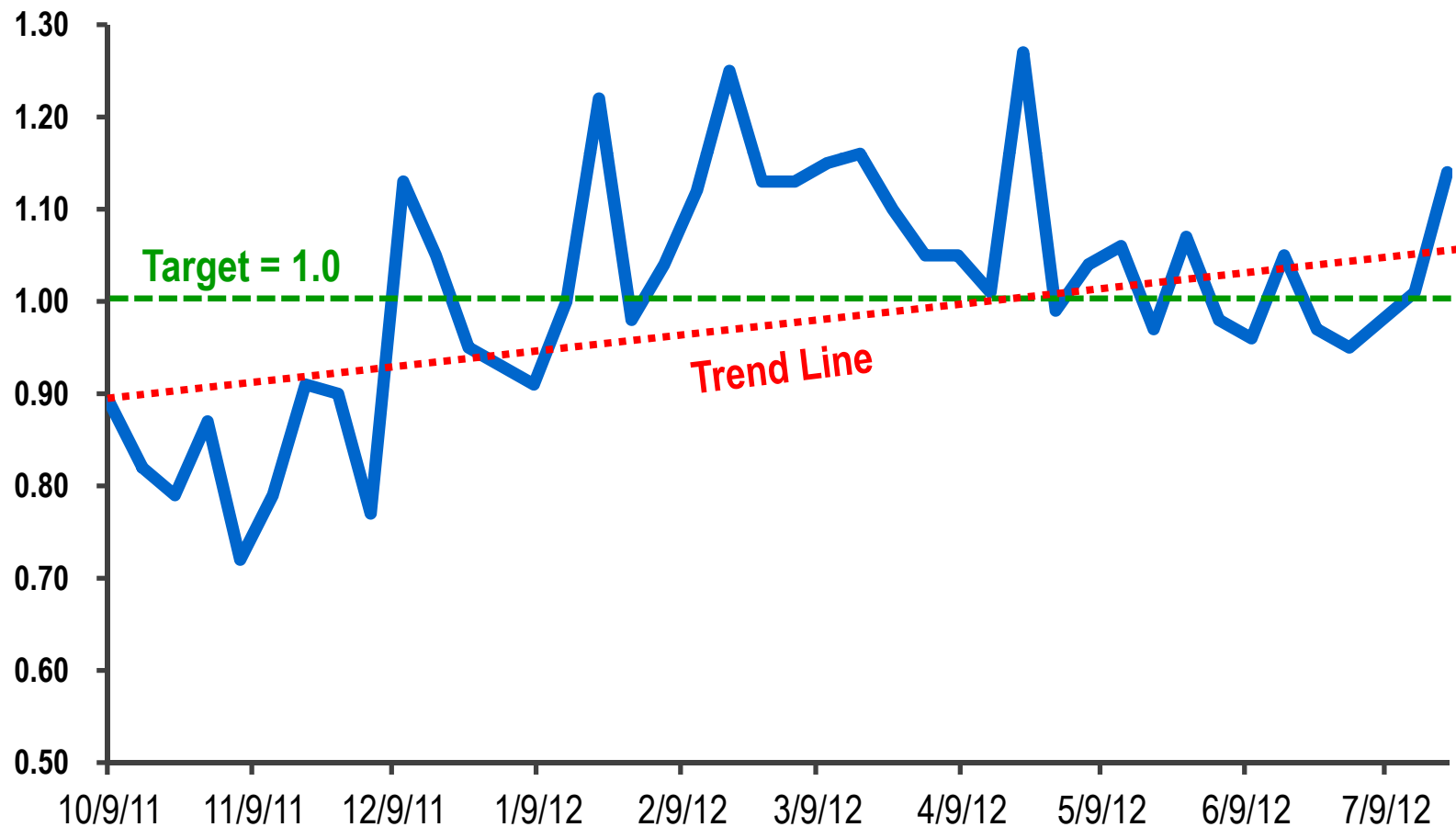
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- 15 million man-hours exceeded without a lost-time accident
- Corrective Action Program improvements
- Work package improvement
- Major equipment completions
- Organizational health initiatives

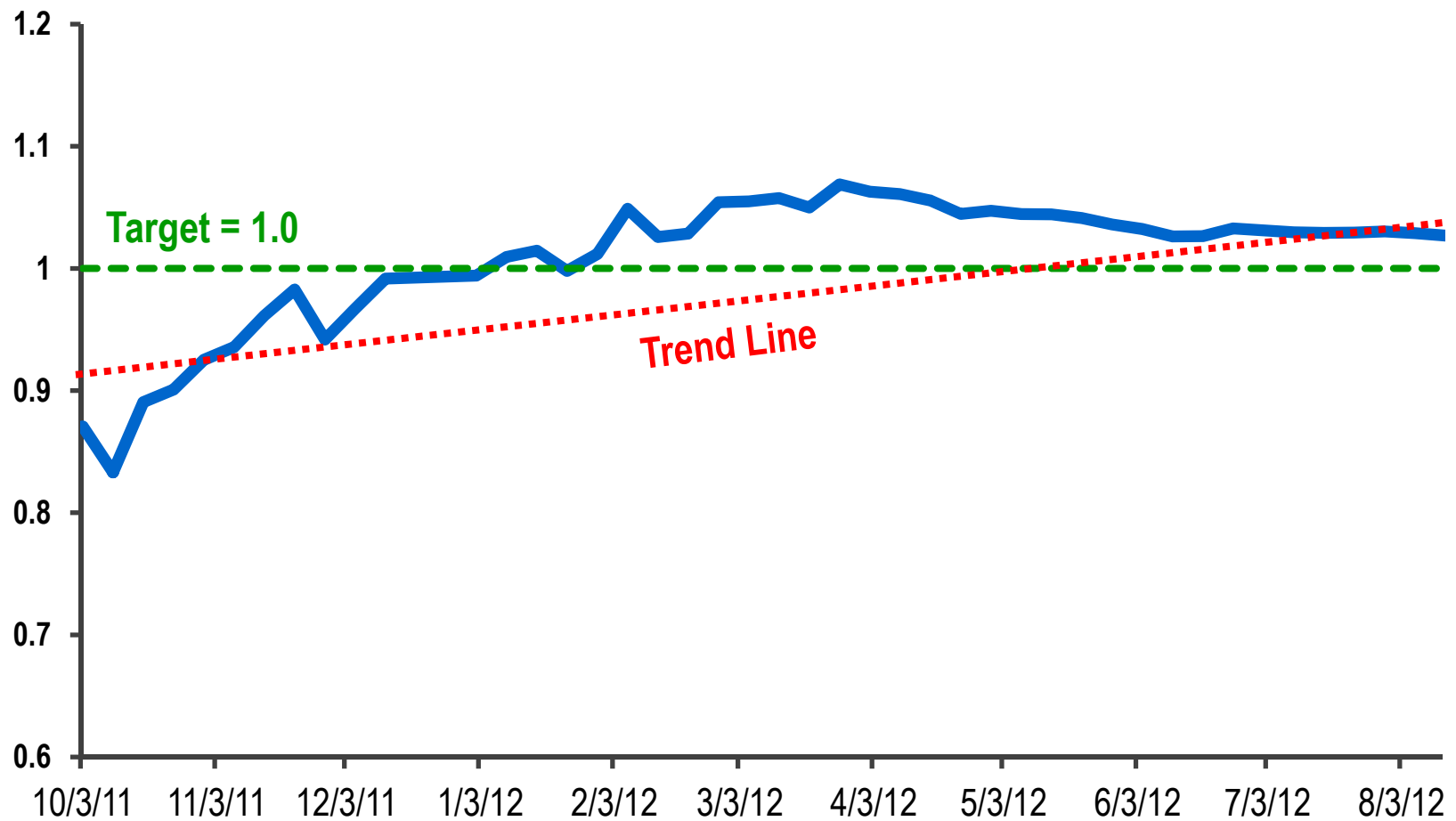


# WATTS BAR 2 COST PERFORMANCE INDEX

Cost Performance Index



# SCHEDULE PERFORMANCE INDEX



# GOING FORWARD

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- Documentation closure
- System turnover transition
- Watts Bar Unit 1 / Unit 2 integration
- Completion of quarterly Estimate To Complete update





# NUCLEAR OVERSIGHT

COMMITTEE

AUGUST 16, 2012



# PEOPLE AND PERFORMANCE

COMMITTEE

AUGUST 16, 2012



# AUDIT, RISK, AND REGULATION

COMMITTEE



AUDIT, RISK, AND REGULATION COMMITTEE

# FY13 EXTERNAL AUDITOR SELECTION



# EXTERNAL RELATIONS

COMMITTEE

AUGUST 16, 2012





# EXTERNAL RELATIONS

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