Board Meeting

August 21, 2015

Knoxville, TN

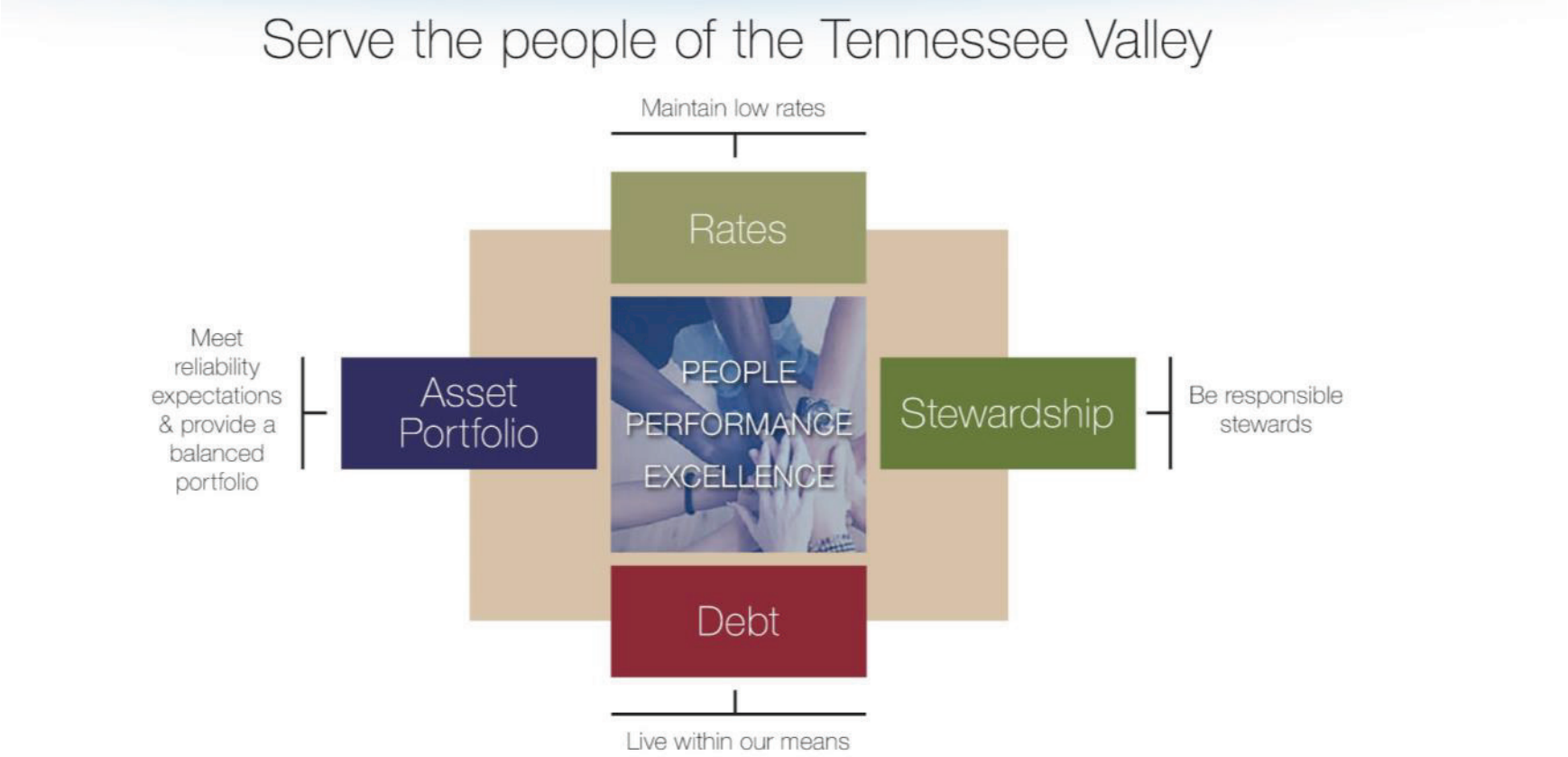
President's Report

August 21, 2015

BILL JOHNSON
President and CEO

Safety

Strategic Imperatives



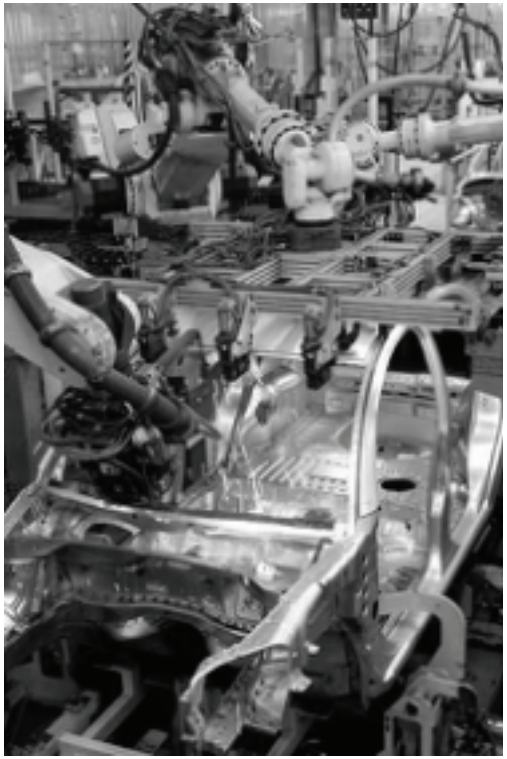
Expectations for TVA

- Better financial health now and for the long-term
- Focus on customer service and stakeholder satisfaction
- Better operational performance
- Robust planning for region's future energy needs
- Affordable energy for customers, consumers, and region's ability to compete

Significant Progress

- Reduced O&M costs by $500 million
- Funding some capital investments without debt
- Total financing obligations $907 million below plan
- Better operational performance
- Improving customer service and loyalty
- Competitive rate position

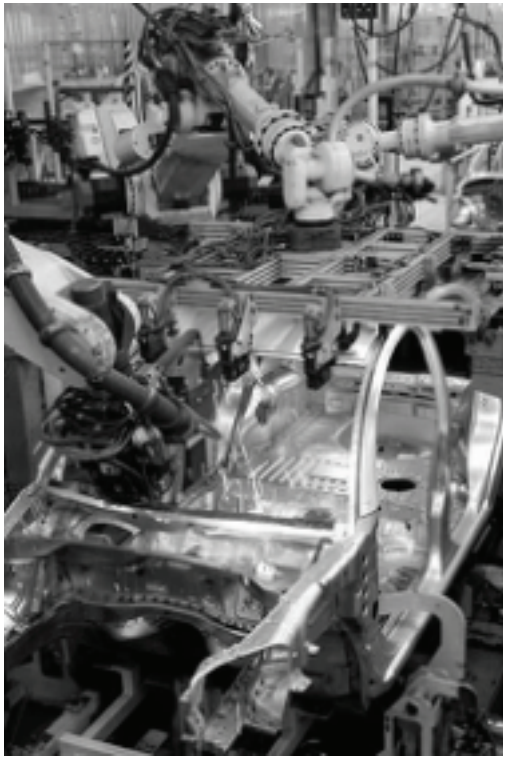
Progress In Energy



Watts Bar Unit 2

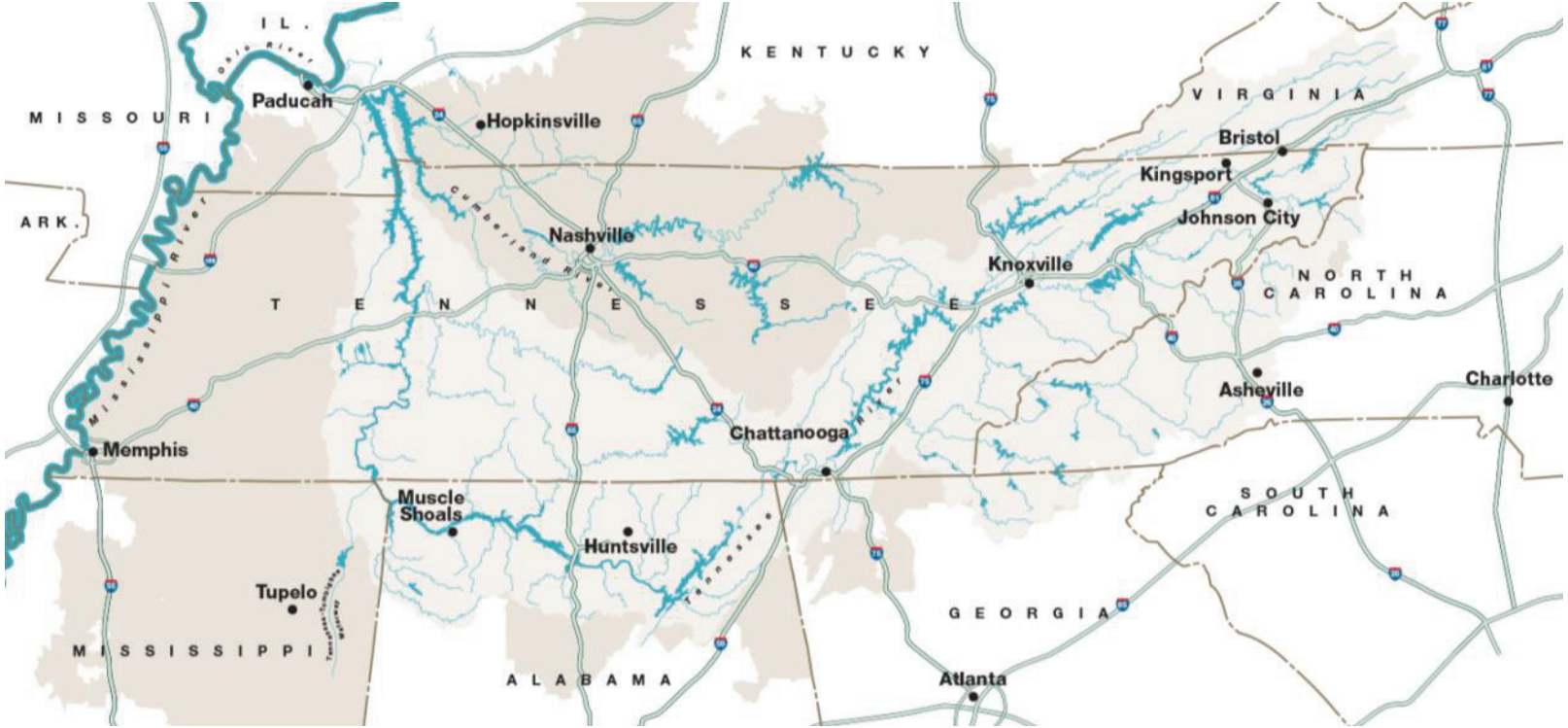
Progress In Energy

Progress In Environment



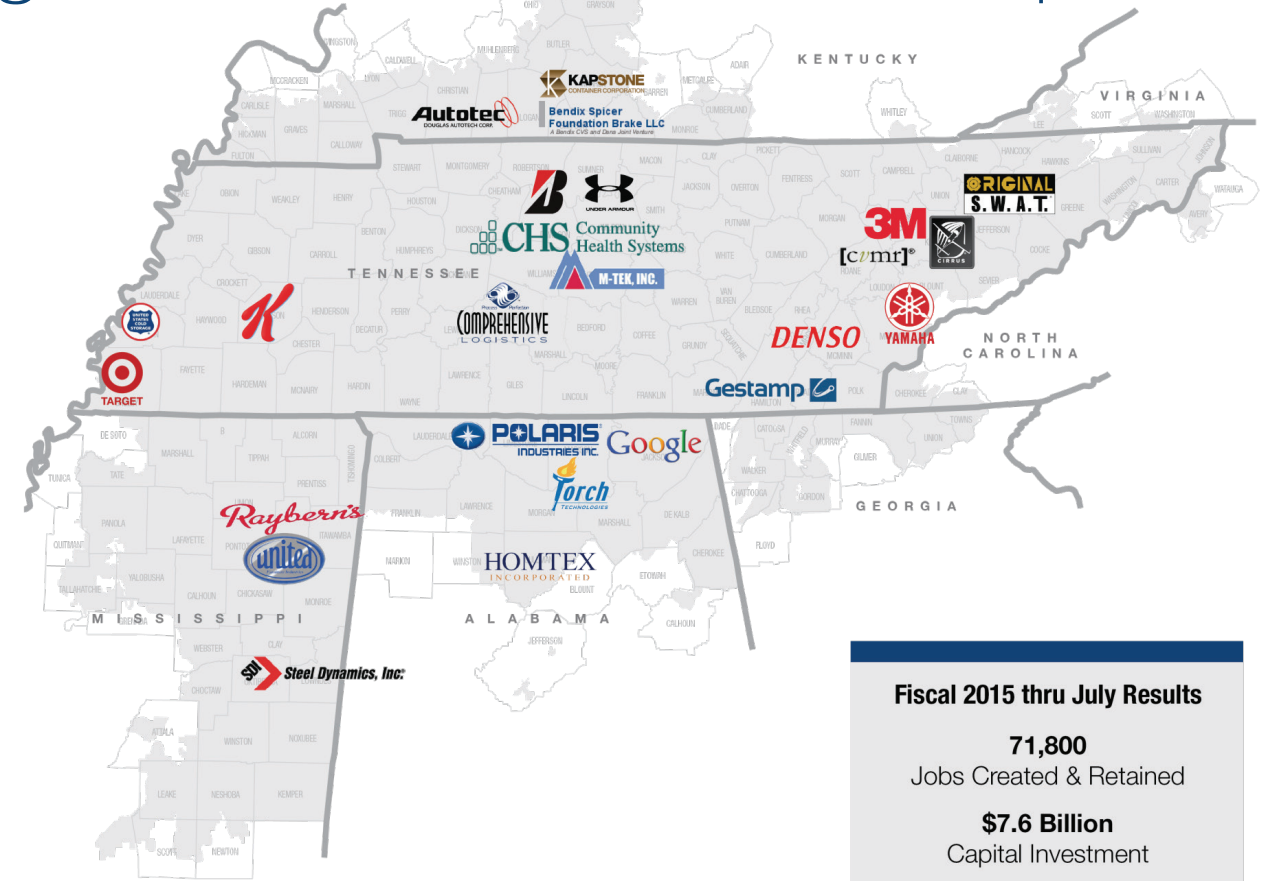
Boone Dam

River System Management



Progress In Economic Development

Progress In Economic Development



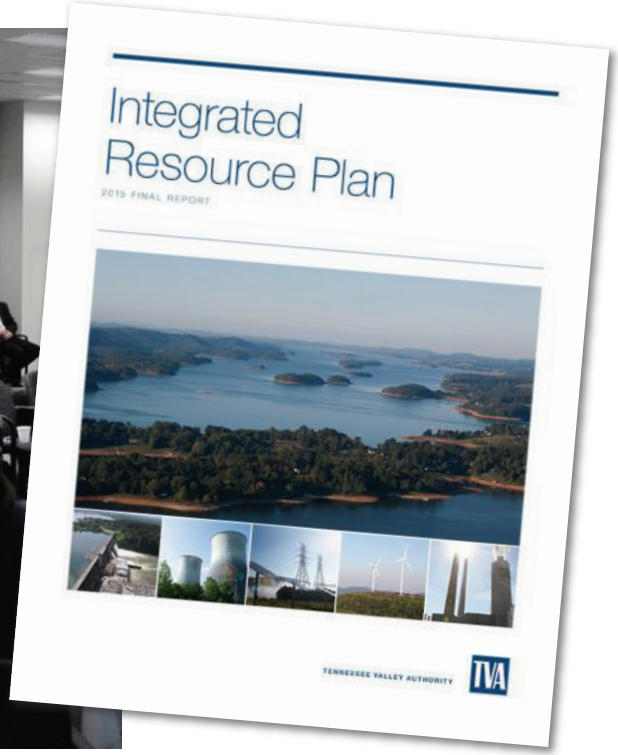
Fiscal 2015 thru July Results

71,800
Jobs Created & Retained

$7.6 Billion
Capital Investment

Energy | Environment | Economic Development

Integrated Resource Plan



Strategic Pricing Plan

Collaborative effort with customers for:

- Improved rate structure
- Better defined cost of service
- Stronger price signals
- Improved pricing products

Clean Power Plan

- Reviewing recently released plan
- 30% reduction in CO_2 emissions since 2005
- By 2020, nearly 40% below 2005 levels

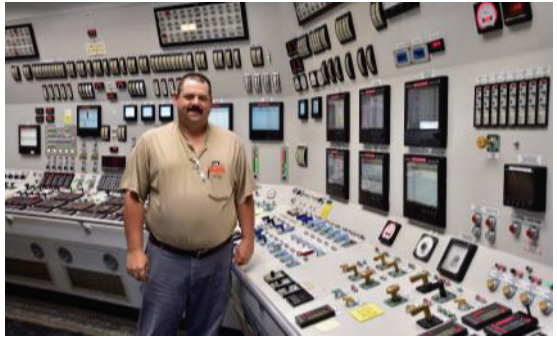
Energy | Environment | Economic Development

2016 Budget

- Manage O&M costs through increased efficiency and productivity
- Invest in the power system to ensure a safe, affordable, reliable, and cleaner power supply for the region
- Carry out environmental stewardship responsibilities
- Continue to foster quality economic growth

Energy | Environment | Economic Development

Widows Creek Fossil Plant



TVA

External Relations Committee

Integrated Resource Plan

JOE HOAGLAND

Vice President, Stakeholder Relations

For Board Consideration

That the TVA Board:

- Approve the planning direction recommended in the 2015 IRP
- Affirm merits of a diverse energy resource portfolio
- Direct TVA staff to monitor future developments such as changes in
  - energy efficiency pricing & performance
  - renewable resources pricing & performance
  - load forecast
  - commodity prices

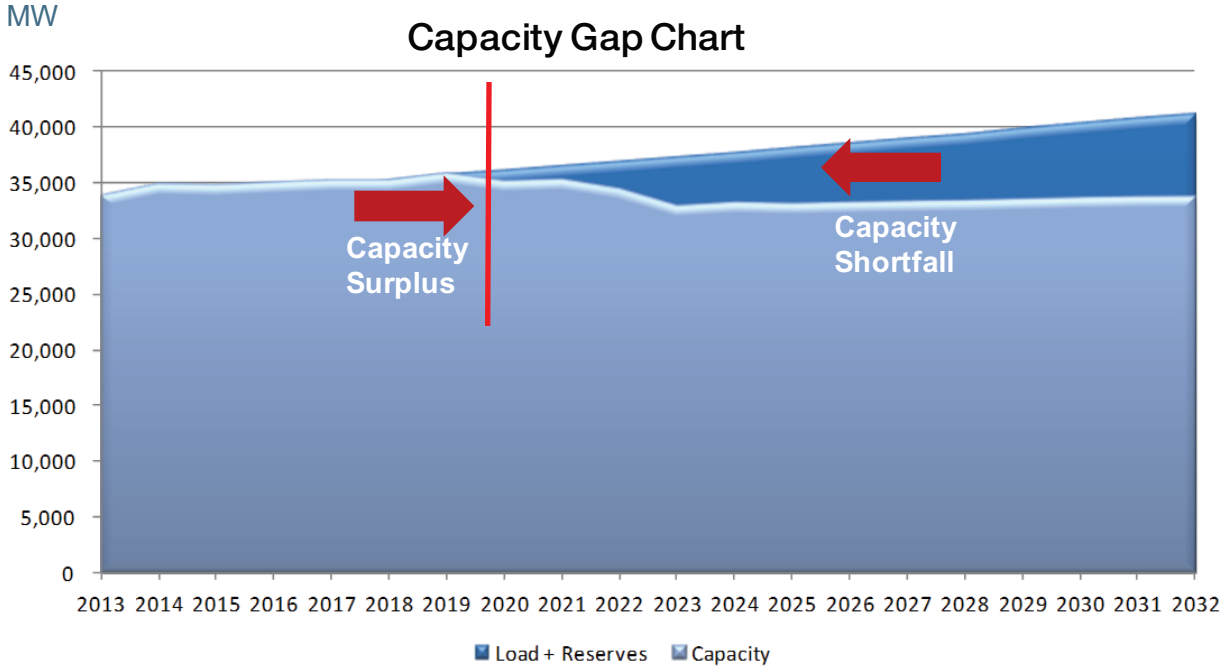
  to appropriately consider possible adjustments to the planning direction
- Direct TVA to initiate an update no later than 2020

Integrated Resource Planning is Forward Looking

THE IRP STRIVES TO ACHIEVE SIX KEY GOALS:

Low Cost	Reliable	Risk Informed
Diverse	Environmentally Responsible	Flexible

Assesses Options to Balance Supply and Demand



Provides Directional Guidance

THE IRP IS A COMPASS; NOT A GPS

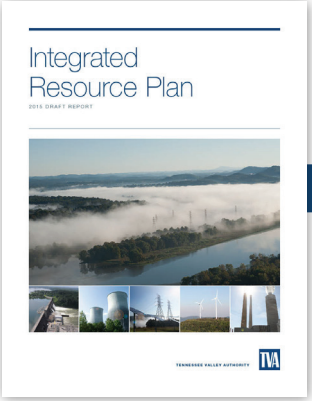
- Recommends directions and ranges
- Does not prescribe specific assets, rates, or programs

Structured Robust Analytical Process

Selected Scenarios and Strategies

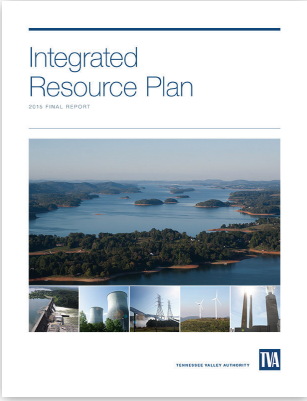
		Strategies				
		A	B	C	D	E
Scenarios	#1					
	#2					
	#3					
	#4					
	#5					
	#6					

Draft IRP



Recommendations developed & planning direction provided

Final IRP



Includes Integrated Resource Plan Innovations

- **Significant modeling achievements** (industry leadership)
- **Energy efficiency and renewable resources** selected based on least-cost planning principles
- **Stakeholder engagement** provides exceptional transparency

Key Stakeholders Engaged

Included:

- TVA's Regional Energy Resource Council
- Strong cross-section in the Working Group
  - State Agencies
  - Local Power Companies / TVPPA
  - Industrial Customers / TVIC
  - Environmental/Energy Non-governmental Organizations
  - Academia / Research
  - Economic Development / Business

Extensive Engagement

Working Group Meetings

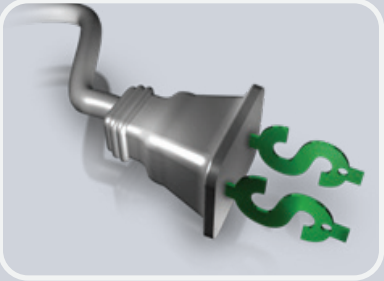
- November 5, 2013
- December 5, 2013
- January 13, 2014
- February 19, 2014
- March 27 & 28, 2014
- April 29 & 30, 2014
- May 29 & 30, 2014
- June 19 & 20, 2014
- October 7, 2014
- December 15 & 16, 2014
- January 26 & 27, 2015
- February 26, 2015
- April 9 & 10, 2015
- June 16, 2015

7 Regional Public Meetings

- 3/19 – Chattanooga
- 4/6 – Knoxville
- 4/9 – Huntsville
- 4/14 – Tupelo
- 4/15 – Memphis
- 4/21 – Nashville
- 4/22 – Bowling Green

Stakeholders helped define a robust set of sensitivity analyses to test our assumptions; input was incorporated throughout the process.

IRP Achievements



Cost of Power

Keeps electricity affordable

Reliability

Maintains availability of supply & ability to deliver

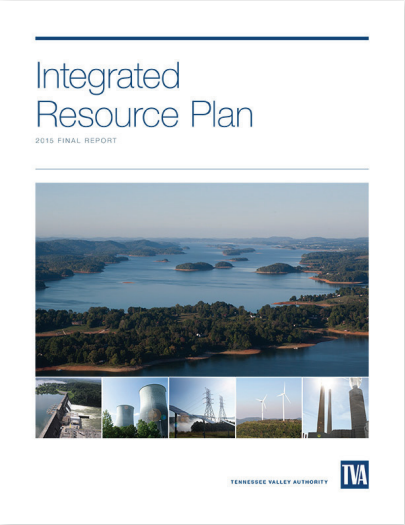
Portfolio Mix

Seeks a balanced portfolio that minimizes risk & diversifies resources

The Future of Our Energy Supply

- *More . . .*
- Energy efficiency & demand response
- Natural gas
- Renewables
- Nuclear uprates

- Less coal
- No new base load in the planning horizon after Watts Bar Unit 2 and nuclear uprates



TVA will provide reliable, affordable and sustainable power & strive for economic growth in the Valley

Recommendation

That the TVA Board:

- Approve the planning direction recommended in the 2015 IRP
- Affirm merits of a diverse energy resource portfolio
- Direct TVA staff to monitor future developments such as changes in
  - energy efficiency pricing & performance
  - renewable resources pricing & performance
  - load forecast
  - commodity prices

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RERC Members

Lance Brown
Partnership for Affordable Clean Energy

Chris Champion
State of Mississippi

Anne Davis
Southern Environmental Law Center

Wayne Davis
University of Tennessee

John Evans
State of North Carolina

Catherine Glover
Chamber of Commerce and Industry

Rodney Goodman
Habitat for Humanity

Jason Keith
Mississippi State University

Wes Kelley
Columbia (TN) Power & Water Systems

Peter J. Mattheis
Tennessee Valley Industrial Committee

Robert Martineau, Jr.
State of Tennessee

Len Peters
Commonwealth of Kentucky

Goodrich "Dus" Rogers*
Jackson County (AL) Economic Development Authority

Joe Satterfield
Blue Ridge Electric Members Cooperative (ret'd)

Jack Simmons
Tennessee Valley Public Power Association

Stephen Smith
Southern Alliance for Clean Energy

Clifford Stockton
Greater Memphis Chamber of Commerce

Lloyd Webb
Olin Chlor Alkali

Susan R. Williams
SRW & Associates

* RERC Chair

Finance, Rates and Portfolio Committee

FY 2016 Financial Plan and Budget

JOHN THOMAS

Executive Vice President
and Chief Financial Officer

Overview

Discussion Topic	Key Takeaway
FY15 Update	Higher revenue O&M and debt reductions lowered overall cost
FY16 Planning	Live within our means Balance rates and debt
Cost Drivers	Achieved $500 million O&M reduction Incremental $178 million of productivity
Rate Outlook	Recommending small increase

Fiscal Year-to-Date June 2015

Net Income: $549M better than plan and $462M better than last year

Base Revenues ($368M above plan)

- Extreme weather resulting in 8% more degree days
- Fuel expense $52M favorable due to generation performance and lower gas prices

Operating & Maintenance Expenses ($143M below plan)

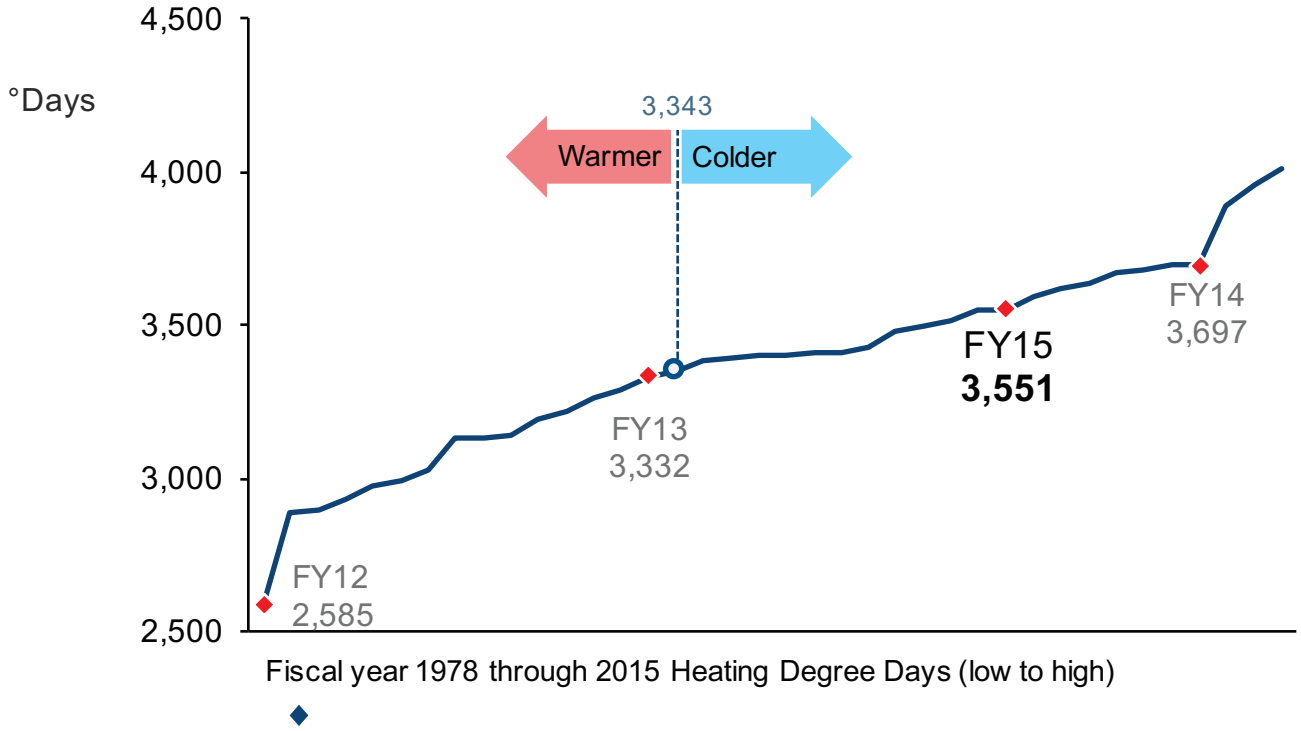
- On track to meet $500M reduction in FY15

Interest Expense ($35M below plan)

- Reduced debt – Total Financing Obligations: $907M less than plan

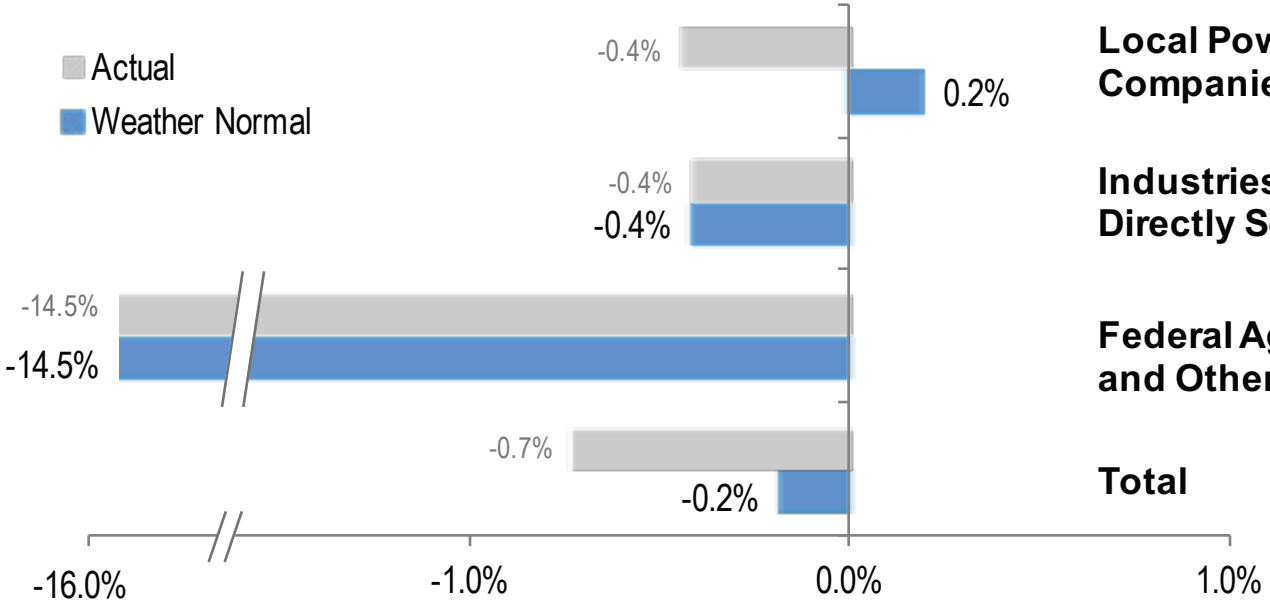
Weather Patterns

Heating Degree Days for the nine months ended June 30



Weather Impact

Energy delivered FYTD 2015 vs. 2014



	Percent of Total Sales
Local Power Companies	87%
Industries Directly Served(1)	11%
Federal Agencies and Other	2%
Total	

(1) Excludes energy for USEC

Q3 Summary Income Statement

Net Income favorability due to higher revenues and lower operating spend

	FYTD 2015			FYTD 2014	
$ million	Actual	Budget	Variance Fav/(Unfav)	Actual	'15 v '14 Fav/(Unfav)
Operating Revenue	$ 7,832	$ 7,464	$ 368	$ 7,971	$ (139)
Fuel & Purchased Power	2,480	2,532	52	2,747	267
Business Unit O&M	1,778	1,904	126	1,953	175
Other O&M, Reagents	305	322	17	527	222
Total Operation & Maintenance	2,083	2,226	143	2,480	397
Taxes, Depreciation, Other	1,798	1,749	(49)	1,715	(83)
Interest	862	897	35	882	20
Net Income (Loss)	$ 609	$ 60	$ 549	$ 147	$ 462

Q3 Summary Cash Flow Statement

$ million	FYTD 2015 Actual	FYTD 2015 Budget	FYTD 2015 Variance	FYTD 2014 Actual	'15 v '14
Cash Flow from Operating Activities	$ 2,016	$ 1,594	$ 422	$ 1,987	$ 29
Cash Flow used in Investing Activities	(2,690)	(2,919)	229	(1,961)	(729)
Cash Flow from Financing Activities	674	1,325	(651)	(1,123)	1,797
Net Change in Cash & Cash Equivalents	**-**	**-**	**-**	**$ (1,097)**	**$ 1,097**
Ending Cash & Short-Term Investments	**$ 500**	**$ 500**	**$ -**	**$ 505**	**$ (5)**
Ending Debt and Financing Obligations	**$ 26,711**	**$ 27,618**	**$ (907)**	**$ 26,278**	**$ 433**
Statutory Debt	24,427	25,334	(907)	23,784	643

Q3 Summary (v. Plan)

Higher Revenue

Lower Fuel Cost

Lower Expenses

- Operation & Maintenance
- Interest

Higher Net Income and Lower Debt

FY 16 Budget and Business Plan

Our Mission and Strategic Imperatives

Why We Are Here

How We Achieve Sustainability

TVA Mission

Energy

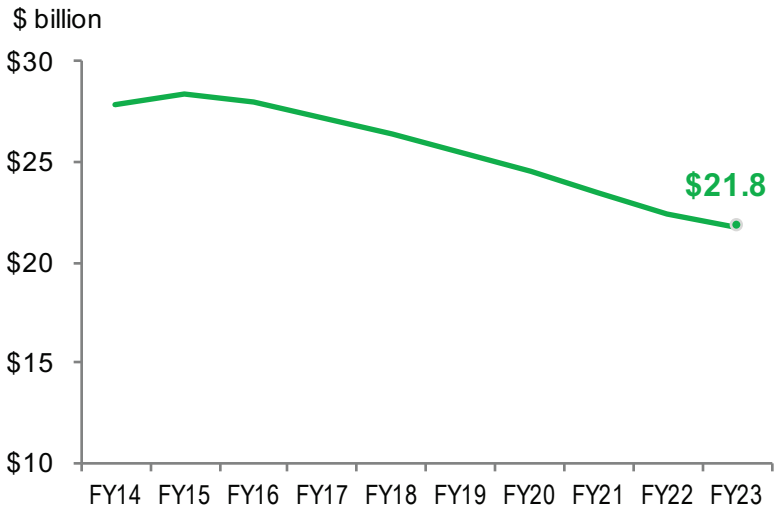
Environment

Economic Development

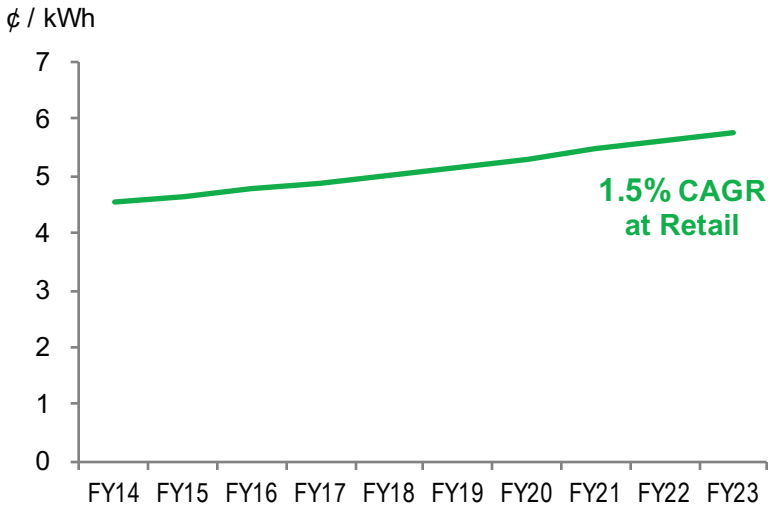
Strategic Imperatives

Rates and Debt – FY14 Board Approved Plan

Total Financing Obligations

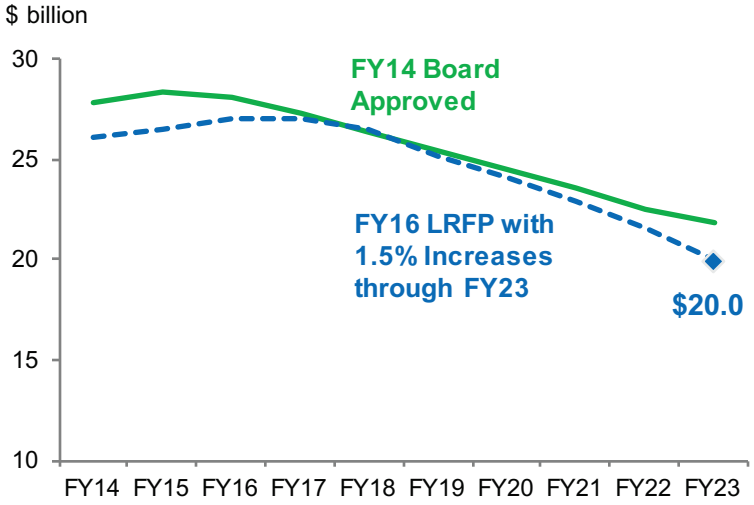


Wholesale Rate excluding Fuel

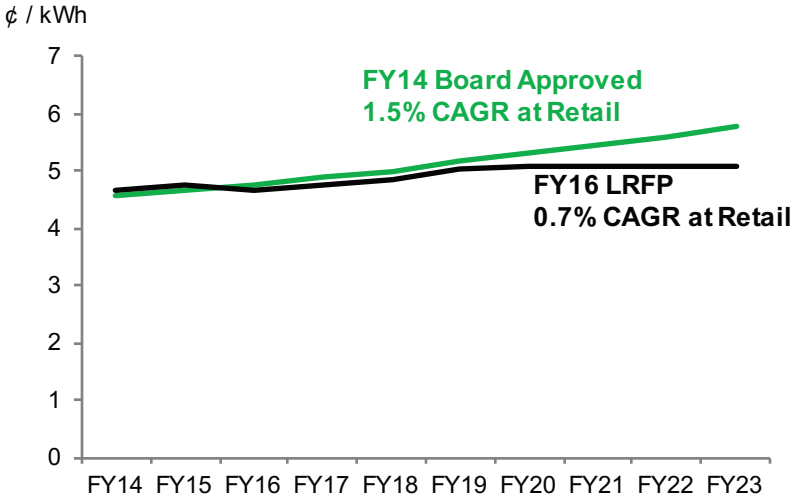


Balancing Rates and Debt

Total Financing Obligations



Wholesale Rate excluding Fuel

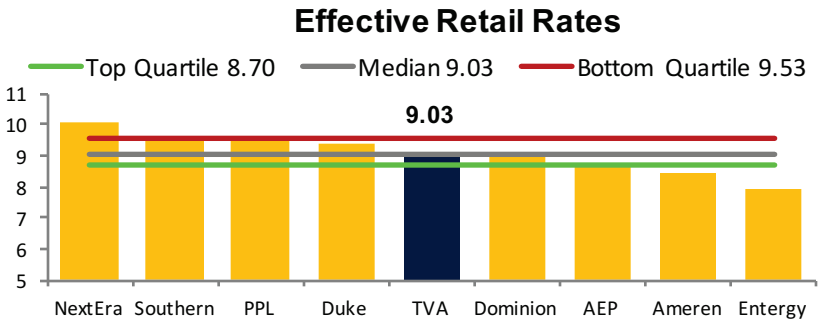


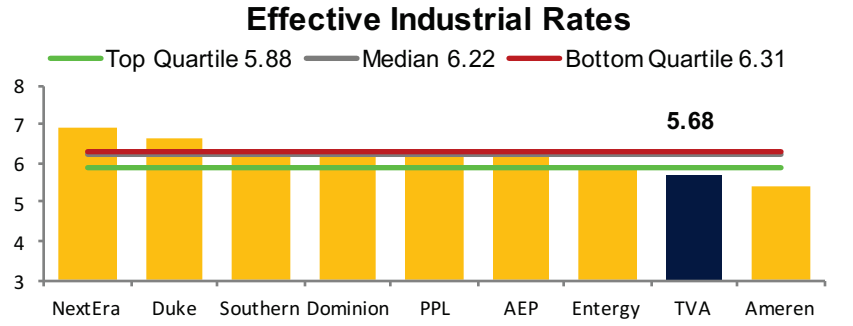
Near Term Rate Increases for New Assets

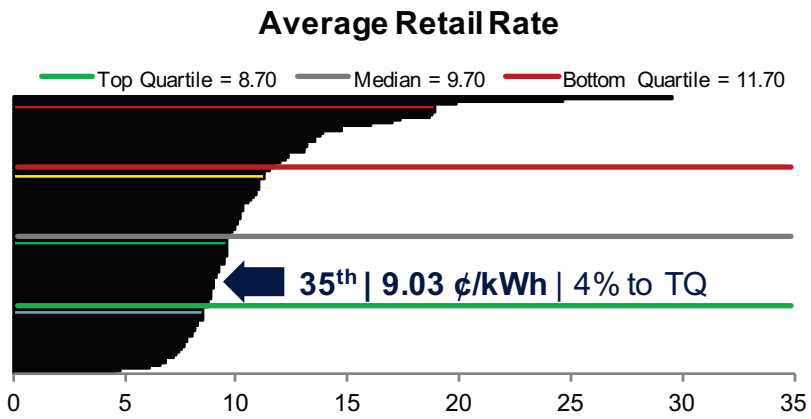
Near Term Asset Decision Annual Impacts ($ million)	Watts Bar Unit 2	Paradise CC	Allen CC	GAF/SHF Controls	Total
Depreciation / Debt Paydown	$125	$25	$20	$90	$260
Interest Expense	$200	$45	$40	$50	$335
O&M and Base Capital *	$125	-	-	-	$125
Annual In-Service Costs	**$450**	**$70**	**$60**	**$140**	**$720**
Fuel Savings	(200)	-	-	-	(200)
Net Annual Impact	**$250**	**$70**	**$60**	**$140**	**$520**

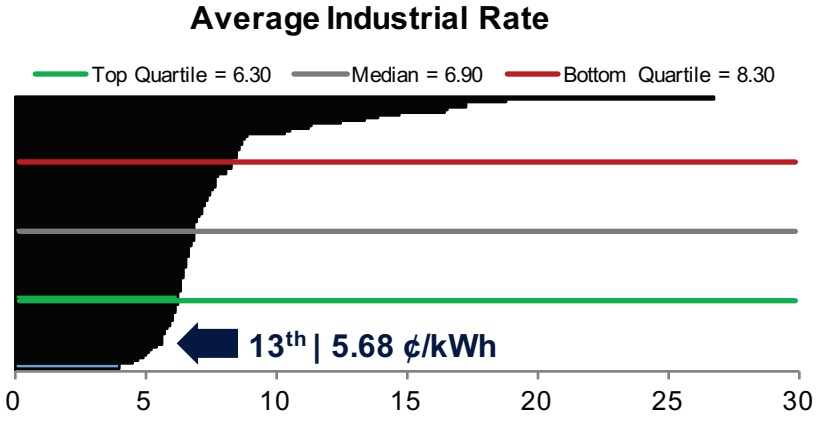
*** Negligible difference between new gas plant and retiring coal plant combined O&M and base capital**

Current Retail and Industrial Rate Positions









12-Month Rolling Average (¢/kWh) May 2014 - Apr 2015 -Source: EIA-826 & ESS

Plan Assumptions & Updates

- Load and energy growth remains modest (~1%)
- Continued focus on driving sustainable O&M reductions and productivity
- Watts Bar 2 begins commercial operations
- Widows Creek 7 idled by end of FY15
- Timing/project changes for capital spending
- Pension contribution of $275 million
- Maintain targeted cash balance of $300 million

TVA Cost Structure

Revenue Requirements	Wholesale Rate	
$10.7B	6.72¢/kWh	
$1.1	10%	Base Capital
$1.4	13%	Debt Service
$0.5	5%	Tax Equivalents & Other
$1.4	13%	Interest
$2.9	27%	O&M
$3.4	32%	Fuel & Purchased Power

FY16P

Efforts to Manage Cost

Manage capital cost, which is recovered over the life of the asset

Reduce TVA debt and use lower cost financing

Continue pursuing O&M efficiencies

Continue to optimize dispatch, run lower cost units and improve availability

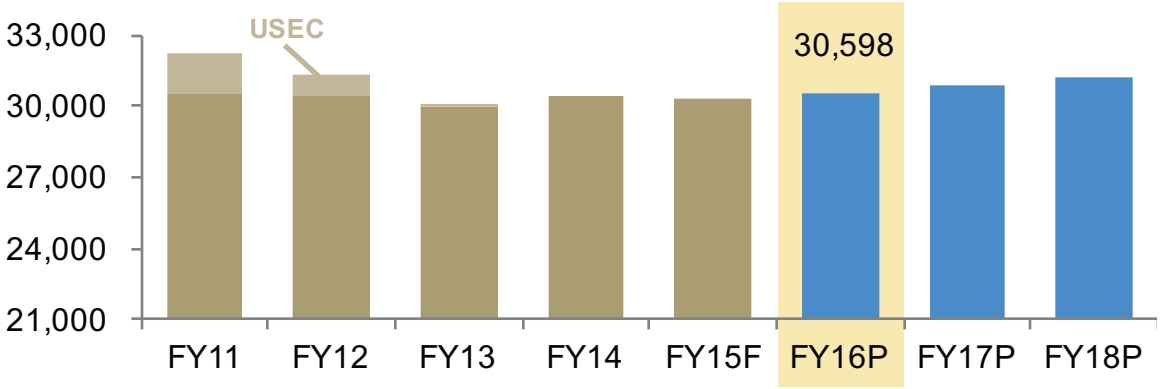
$1.9B*

$0.6	Environmental
$1.3	Capacity Expansion

*Includes AFUDC, Kingston Ash, AROs, and BLN Reg Asset

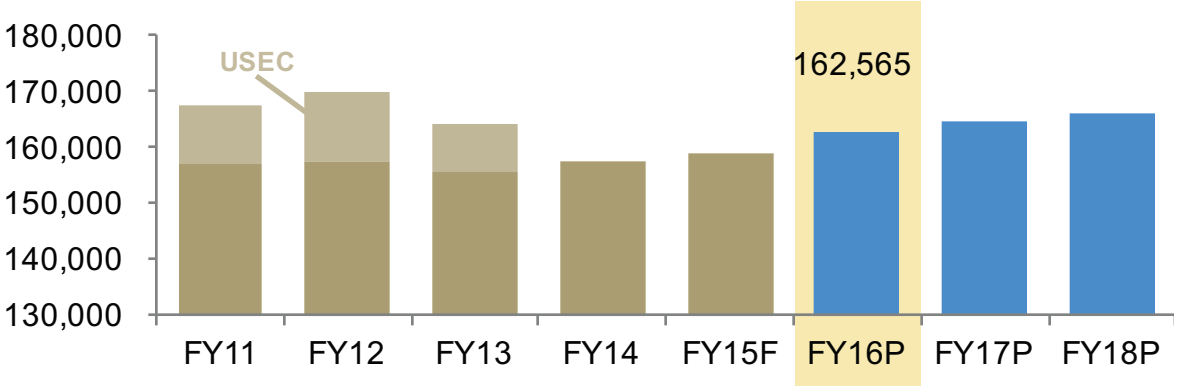
Annual Peak & Energy (Weather-Normalized)

Peak
MW



1.0% CAGR FY15-18

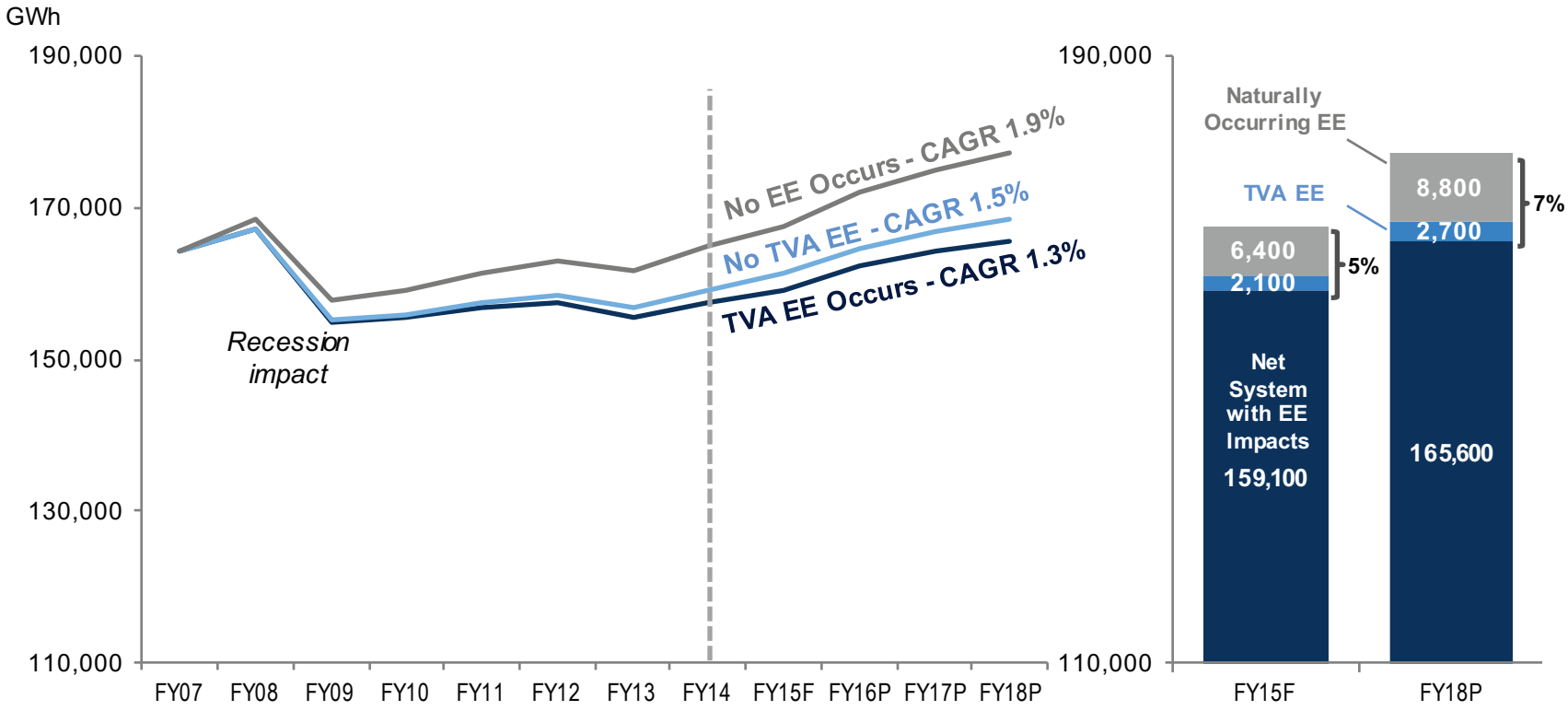
Energy
GWh



1.5% CAGR FY15-18

* Compound Annual Growth Rate

Energy Forecast and Efficiency Impacts



Energy Weather-Normalized (FY07-13 excludes USEC), EE Base Year FY07, CAGR FY15-18

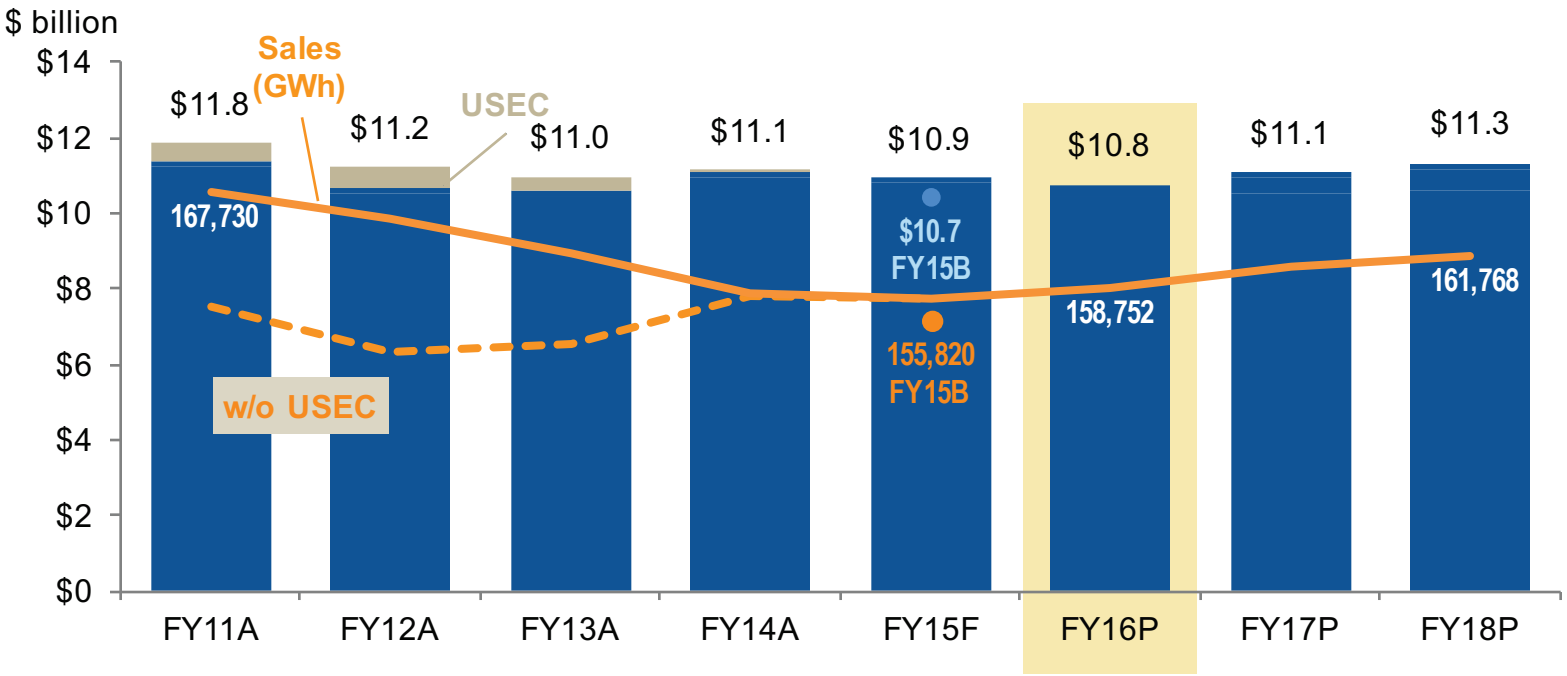
Energy Forecast through FY18

			CAGR
Residential Customers	↑	1,500 GWh	0.3%
Large Commercial & Industrial Customers	↑	2,100 GWh	0.4%
Small Commercial & Industrial Customers	↑	2,100 GWh	0.3%
Directly Served Customers	↑	2,200 GWh	0.5%
Net Change	↑	**7,100 GWh**	**1.5%**

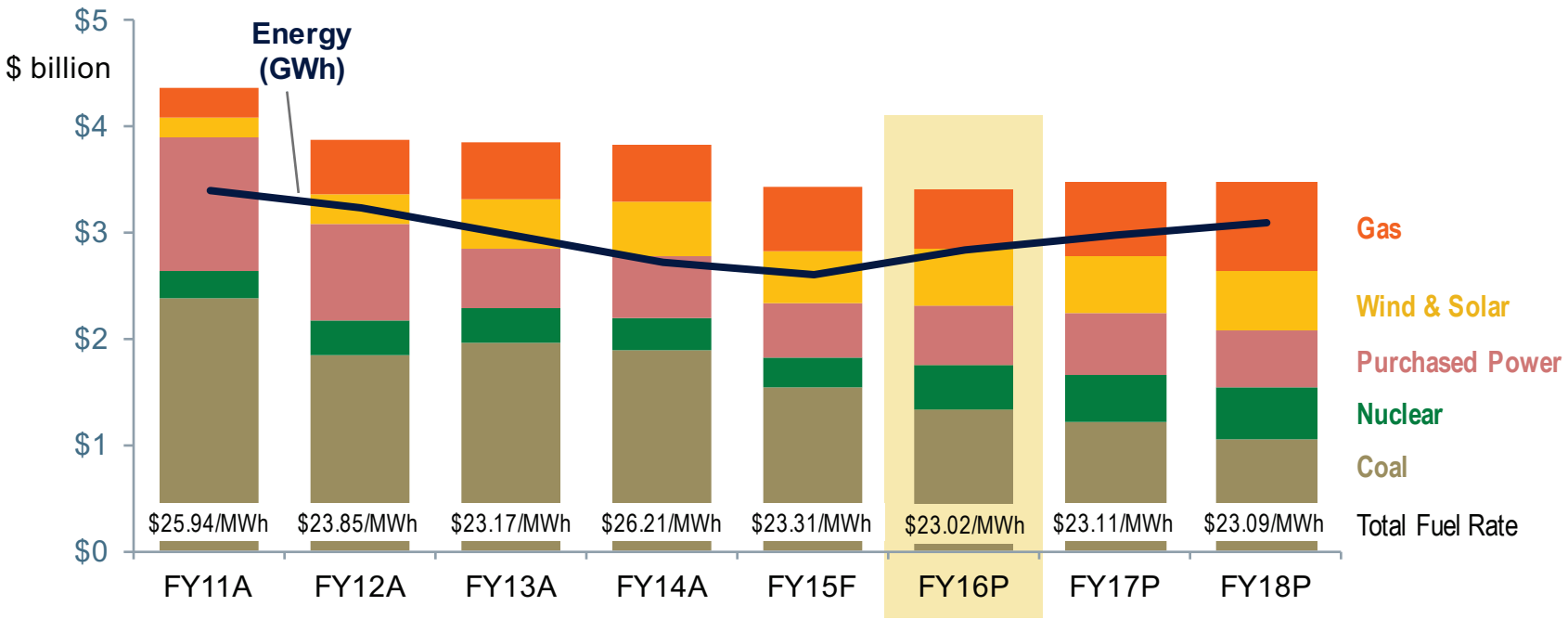
Energy growth ~ 1.5% near term (FY15-18), ~1.0% longer term (FY15-25)

Peak growth ~ 1.0% expected both near and longer term

Revenue


$ billion
$14
$12
$10
$8
$6
$4
$2
$0
Sales (GWh)
USEC
$11.8
$11.2
$11.0
$11.1
$10.9
$10.8
$11.1
$11.3
167,730
$10.7 FY15B
155,820 FY15B
158,752
161,768
w/o USEC
FY11A
FY12A
FY13A
FY14A
FY15F
FY16P
FY17P
FY18P

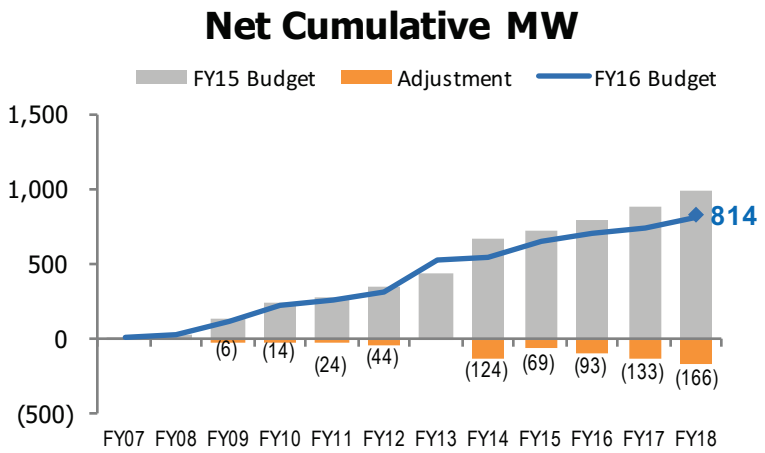
Fuel & Purchased Power

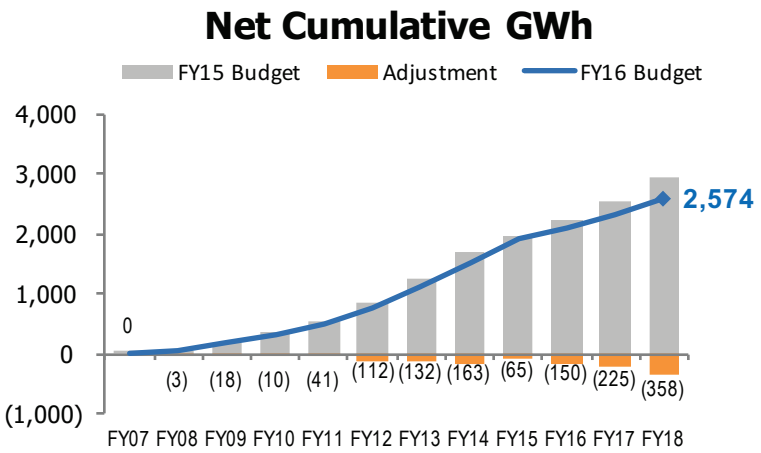


NOTE: Excludes adjustments to fuel expense related to FCA fuel revenue over/under recovery.

Energy Efficiency and Demand Response

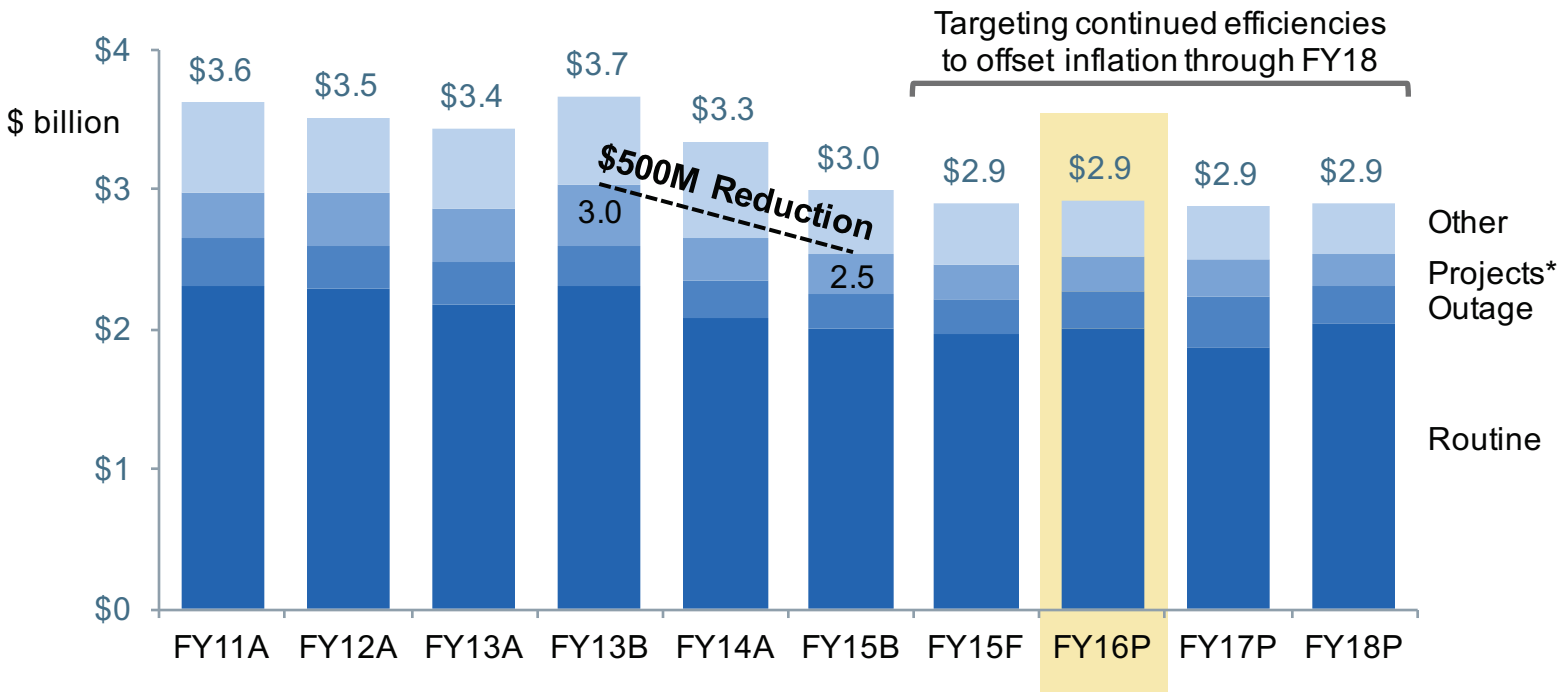
By FY18, TVA will have invested nearly $1 billion in energy efficiency and demand response programs, which are estimated to reduce FY18 capacity needs by more than 800 MW





Spend ($million)	FY15F	FY16P	FY17P	FY18P
Total EEDR Costs	$104	$110	$125	$126
Interruptible	$70	$70	$70	$70

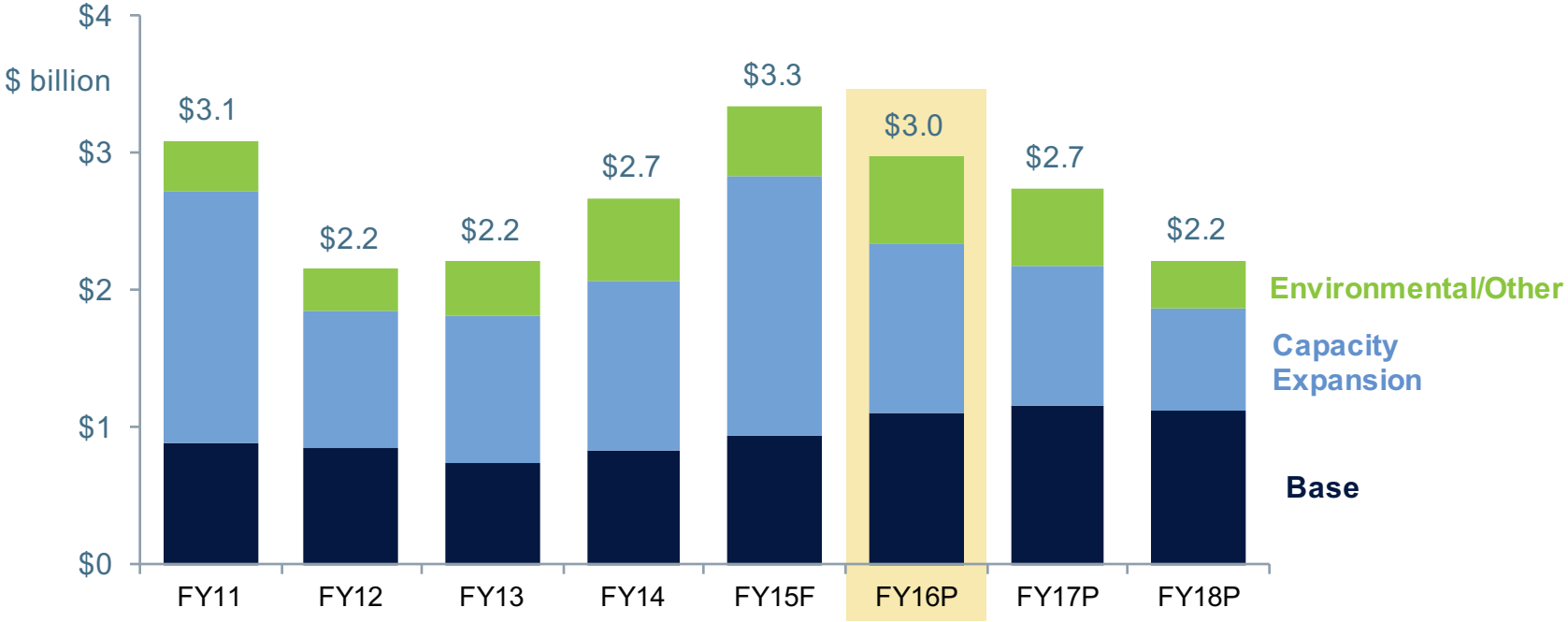
O&M Expense



* Includes EEDR program costs and Corporate Insurance

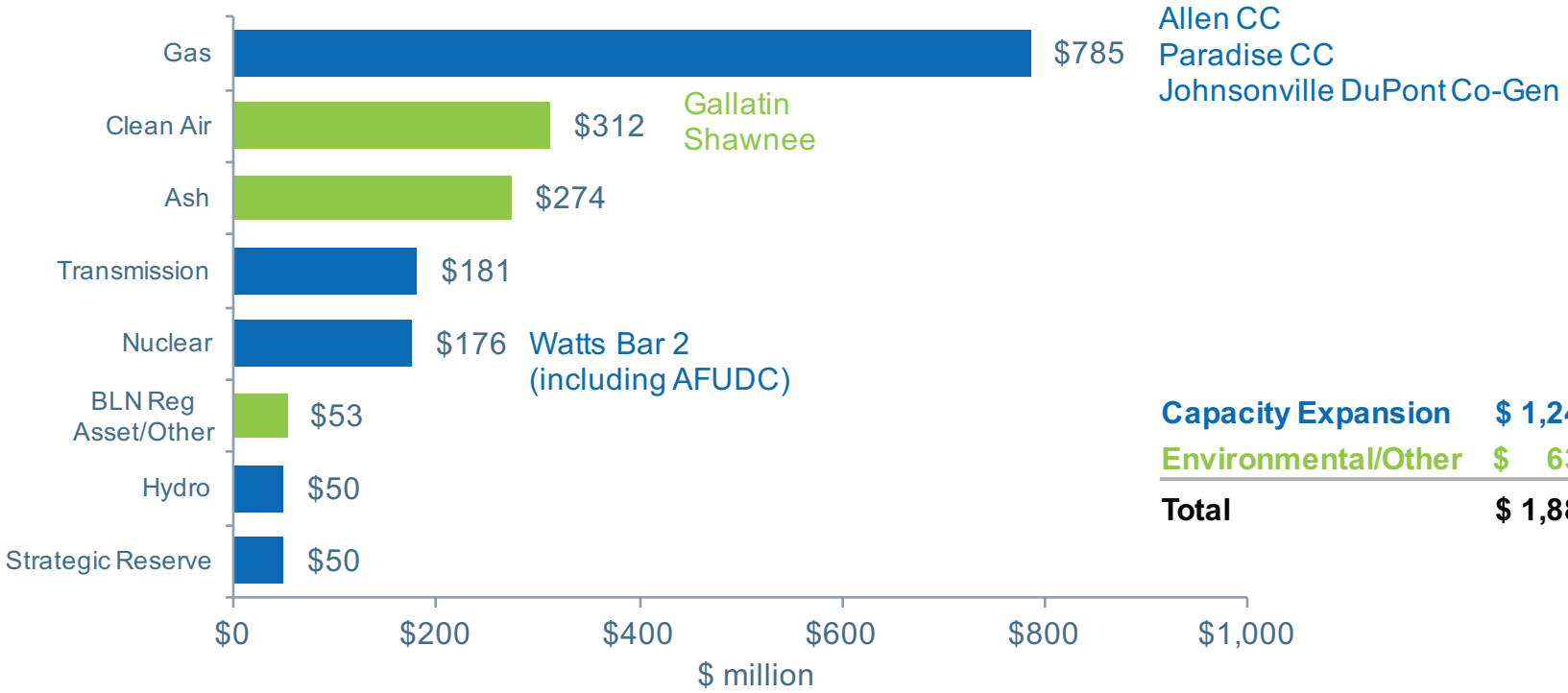
Key Drivers: FY15 – FY16 O&M Expense

Capital Expenditures



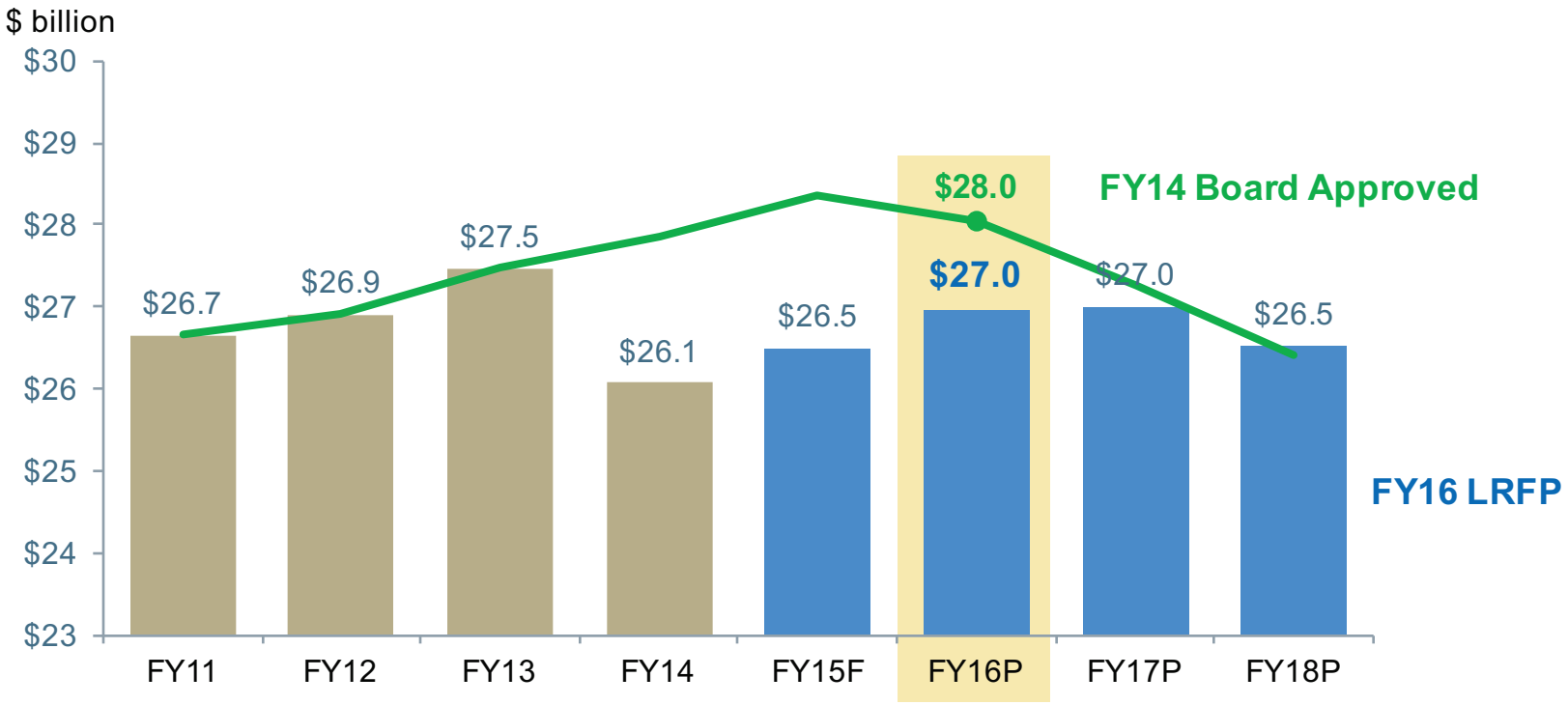
*Capital Expenditures include AFUDC, Ash Remedy ARO, Kingston Ash Cleanup, and Bellefonte Regulatory Asset Spend

FY16 Capacity Expansion and Environmental Spend



Capacity Expansion	**$ 1,242**
Environmental/Other	**$ 639**
Total	**$ 1,881**

Total Financing Obligations



Rate Outlook

Summary Income Statement

$ million	
Operating Revenue	**$ 10,753**
Fuel & Purchased Power	3,406
Operations, Maintenance	2,919
Depreciation, Amortization, Accretion	1,976
Tax Equivalents	532
Operating Expenses	**8,833**
Other Income / (Expense)	37
Net Interest Expense	1,365
Net Income	**$ 592**

Revenue Requirements

$ million		
	Fuel	$ 3,406
	O&M	2,919
	Base Capital	1,095
	Interest	1,365
	Tax Equivalents	532
	Debt Paydown	1,407
	Other	(58)
	Total TVA Revenue Requirements	**$ 10,666**
	Base Revenues	7,225
	Fuel Revenues	3,241
	Rate Action Revenues	200
	Total Electric Revenues	**$ 10,666**
	Surplus /(Shortfall)	–
	Strategic Capital	1,881
	Cash on Hand	–
	Debt Paydown	(1,407)
	Change in TFO	**$ 474**

Summary

- Includes 1.5% effective retail rate increase
- Achieves debt reduction goal
- Provides $3 billion in new capital investment
- $178 million incremental productivity

Recommendation

Approve the following:

- FY16 Budget
- Rate Adjustment of $200 million effective October 1
  - Effective retail rate increase of 1.5%
- Financial Shelf for issuance of up to $2.0 billion of long-term bonds
- Projects over $50 million
- Land Condemnations
- Regulatory Accounting

Rate Change and Products

JOHN THOMAS

Executive Vice President
and Chief Financial Officer

Purpose

Request approval of changes to:

- Rate Structures
- Pricing Products

Strategic Pricing Plan

Objectives:

- Improve fixed cost recovery
- Improve pricing signals
- Encourage technology investment

Process:

- Collaborate with customers and customer associations
- Improve pricing through more frequent, incremental changes

Scope

A TVA **Rate Change** is a change in the rate structure or the allocation of revenue requirements among customer classes

Proposed rate change scope items:

- Time-of-Use (TOU) Rate Structure
- Seasonal Demand and Energy (SD&E) Rate Structure
- Fuel Cost Adjustment (FCA)
- General Manufacturing Credit (GMC)

Pricing Products allow further pricing differentiation based on operating characteristics and flexibility

Key Changes

Narrowed on-peak period to better align with TVA's system peak

Improved alignment with cost of service:

- Creating on and off-peak **Demand** charges
- Separating **Fuel** cost for large, less weather sensitive loads

Improved **Energy** charge for large customers to be more representative of TVA marginal cost

Improved interruptible **Products** to better match TVA system planning and operations while preserving customer flexibility

Recommendation

Recommend approval of changes to:

- Rate Structures
- Pricing Products

Audit, Risk, and Regulation Committee

FY 2016
External Auditor Selection

Pre-Approval of Audit Services/Fees

Billing Adjustment Policy

SHERRY QUIRK
General Counsel

Background

- Billing errors can be the result of a variety of factors: Meter installation, meter calibration, equipment failure, meter programming, billing system issues, contract management, other human error
- When invoice errors are discovered, TVA makes a revision for the entire period of error that can be supported by TVA's records - regardless of period of time over which error occurred

Decision Factors

- Since the change from end-use wholesale rates in 2011, TVA has instituted internal controls in metering and billing to improve invoice accuracy
- These internal controls will limit the number of billing errors going forward
- TVA also reviewed its historic billing process for fairness and equity

Recommendation

Board approval to limit the period of time over which TVA would recoup or repay based on billing errors

- Set limit at 6 years from the date of discovery of the error
- Limit would be applied to both under billings and over billings
- Policy revision would cover any open or future adjustments

Local Rate Adjustment Process

People and Performance Committee

Corporate Goals

JOHN THOMAS

Executive Vice President
and Chief Financial Officer

Fiscal Year 2016 Performance Goals

Approve scorecards for FY16:

- Annual Incentive Program (Winning Performance)
  Designed to promote teamwork, create a high performance culture, and motivate and reward all eligible employees for achieving goals

- Executive Long-Term Incentive Plan (ELTIP)
  Designed to support achievement of long-term strategic goals

FY16 Winning Performance Design

- Corporate multiplier between 0 and 1.0
- Board defines key performance measures aligned to strategic imperatives
- Board / CEO qualitatively assess performance compared to target to determine final multiplier
- CEO establishes Business Unit scorecards
- Board continues to use judgment in all aspects of corporate performance

Winning Performance Scorecard Overview

Corporate Multiplier

Aligns to Financial and Stewardship Strategic Imperatives Outlined by Board

Measure	Target
Safe Workplace	0
Financial Health	
Operating Cash Flow	Budget
Net Income	Budget
Total Financing Obligations	Budget
Jobs Created / Retained	63,000
Board Level Significant Events	0

Note: Corporate Measures include only a target; CEO / Board will assess performance above or below target

Executive Long-Term Incentive Plan

FY18 ELTIP Cycle Scorecard:

Measures include:

- Wholesale Rate Excluding Fuel
- Load Not Served
- External Measures Index:
  - INPO Index
  - Media Tone
  - Stakeholder Survey
  - Customer Loyalty
  - Board Level Significant Events

ELTIP Scorecards

Measure	Weight	Threshold	Target	Stretch
Wholesale Rate Excluding Fuel (FY16 – FY18 avg.)	40%	4.91	4.82	4.72
Load Not Served (FY16 - FY18 avg.)	30%	5.0	4.2	3.7
External Measures (FY16 - FY18 avg.)	30%	81.0	89.0	96.5

FY17 wholesale rate targets based on final approved FY15 business plan

Recommendation

Winning Performance

- Approve Strategic Measures and targets in corporate multiplier

Executive Long-term Incentive Plan

- Approve ELTIP 2018 Cycle scorecard and targets

Nuclear Oversight Committee

Proposed Committee Roster

Audit, Risk, and Regulation Committee
Lynn Evans, Chair
Eric Satz
Ron Walter

External Relations Committee
Mike McWherter, Chair
Marilyn Brown
Eric Satz
Ron Walter

Finance, Rates, and Portfolio Committee
Pete Mahurin, Chair
Richard Howorth
Mike McWherter
Joe Ritch

People and Performance Committee
Richard Howorth, Chair
Lynn Evans
Gina Lodge
Pete Mahurin

Nuclear Oversight Committee
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Joe Ritch

TVA