

KUB Financial Plan Workshop April 2015

Financial Plans on Track

- 10-year funding plans in place
- System updates provided during the year
 - Century II progress
 - Strategic projects (Water System Redundancy, Workforce Planning, Smart Grid)
- Funding and work plans align with Blueprint



Our **Vision**:

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We **Measure** Our Success by:

Customer Satisfaction

System Performance

Financial Performance

Safety Performance

Keys to **Success**:

Managing Our Utility System Infrastructure

Electric

Natural Gas

Water

Wastewater

Improving The Customer Experience Managing Our Finances Effectively

Meeting Or Exceeding Regulatory Standards

Investing In A Skilled, Diverse Work Force Partnering For Economic Development Being Environmentally Responsible

Financial Plan Highlights

- No change to rates adopted through FY 17
- Century II priorities continue
- New strategic projects over next 10–15 years
- New environmental projects
- Will require adjustments in future funding
- Projected cost savings of \$126M over 10 years
- FY 16 budget totals \$889M

Financial Plans Build on Strategic Discussions

August: Blueprint presentation

• September: Blueprint endorsement

Workforce Planning

• October: Water System Redundancy

November: Wastewater Century II

• December: Smart Grid

January: Natural Gas Century II

• February: Funding Plan impact of new initiatives

• March: Water/Electric Century II

Agenda

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• Susan Edwards: Workforce Initiatives

• Tracy Hayes: Enhancing Asset Value

Break

• Gabriel Bolas: Environmental and

Sustainability Initiatives

Mark Walker: Financial Plan

FY 16 Budget



Workforce Initiatives
Susan Edwards
Chief Administrative Officer

KUB Employees:Our Most Valuable Assets

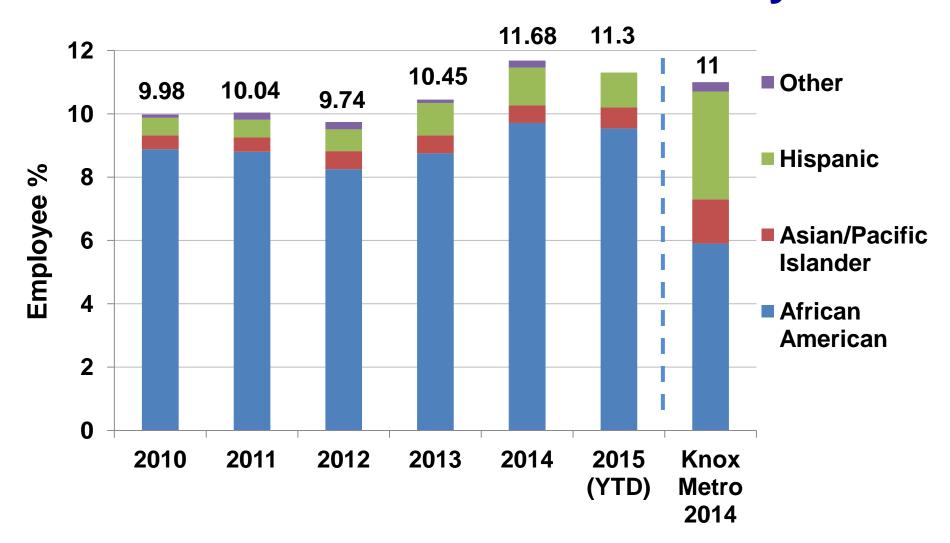
- KUB's mission requires stewardship
 - Building and maintaining utility assets
 - Safeguarding the environment
 - Being financially prudent
 - Demonstrating our shared values
- KUB values the commitment and hard work of employees



Customers Recognize Employee Professionalism



KUB Workforce Reflects Customer Diversity



Investing in Employees Is Essential

- Recruiting, selecting, retaining the right people
- Competitive compensation, performance-based recognition
- Improving safety, health, and wellness
- Ensuring ethical and appropriate employee behavior
- Investing in training and development

Planning for the Future: Employee Development

- Executive development effort
 - Facilitated by Dr. Alex Miller, Haslam College of Business
 - Professional development for VPs and management
 - Strategic planning initiative
- Leadership Development Program (LDP)
 - Launched in 2014 as a year-long pilot
 - Focused on employees below manager level

Leadership Development Continues

- Individual assessments and development plans
- Group and individual learning experiences
- Involvement from senior leadership
- Goals:
 - Enhanced skills: build a leadership "bench"
 - Improved diversity in leadership
 - Support retention
 - Sustainable program

Leadership Development Program Goals Achieved

- Enhanced skills: build a leadership "bench"
 - 11 promotions and advancements
 - 12 new assignments or additional responsibilities
 - 3 Employee Excellence Award winners
- Diversity
 - 21% minority participants
 - 28% female participants
- Leadership diversity
 - Minority leadership increased from 5.0% to 6.3%
 - Female leadership increased from 32.2% to 33.1%
- 97% retention rate
- New class in 2015



"The one thing I learned that I will always take with me is how to be a 'Servant Leader.'"

"I have enhanced existing relationships and developed new relationships as a result of the LDP. I will be conscientious to invest in these relationships in the future."

"I now feel I am more informed about what we do as a utility and where we are headed in the future."

Strategic Initiatives Support Executive Development

- Strategic Planning: KUB Blueprint design
- Water System Redundancy
- Smart Grid Deployment
- Workforce Planning

Workforce Planning Initiative: Key Considerations

- Utility core competency
- Workload variability
- Cost-effectiveness
- Specialized resources
- Customer satisfaction



- Ability to procure resources
- Safety and environmental considerations

Workforce Planning Initiative

- Adds 47 new employees
 - 3 Overhead Construction crews
 - 8 Underground Construction crews
 - 3 Engineering staff
 - 1 Mechanic
- Retains and enhances critical skills
- Provides \$11M savings FY 15–24
- Compared to early 1990s: 15% fewer employees serving 45% more customers

Current and Planned Strategic Projects

- Regulatory Oversight
- Damage Prevention
- Economic Development
- Revenue/Growth Strategy
- Environment and Sustainability
- Operational Efficiencies
- Customer Communication and Engagement

Operational Efficiencies

Mission: Identify initiatives for improving operational efficiency (and reducing costs), including opportunities for employee engagement. Initiative should also consider opportunities for reducing energy supply costs.

- First phase identified \$30M in cost reductions over 10 years
- Next phase: identify process changes to enhance long-term operational efficiency
- Team members
 - Susan EdwardsJamie Davis
 - Mark WalkerTracy Hayes
 - Gabriel Bolas– John Williams

Customer Communication and Engagement

Mission: Develop a strategic customer communication and engagement plan that provides meaningful two-way communication between KUB and its customers.

- Builds on existing successful communications strategies
- Will look for more online and mobile opportunities (including Smart Grid)
- Team members
 - John Williams
 - Leslye Hartsell
 - Dale Grubbs
 - Mark Kenner

- Stephanie McKenzie
- Cheri Taylor
- Darrin Rhines*
- Bob Colwick*
- Chris Thomas*

^{*}Leadership Development Program

Workforce Initiatives Help Fulfill Blueprint

- Investing in a skilled, diverse workforce
- Managing our finances effectively
- Valuing hard work and commitment of employees
- Improving customer experience

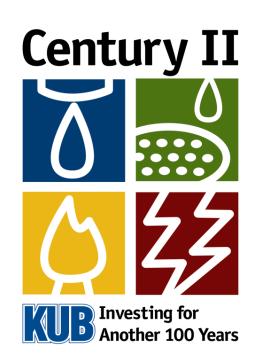




Enhancing Asset Value
Tracy Hayes
Manager of Construction

Providing Safe, Reliable Service

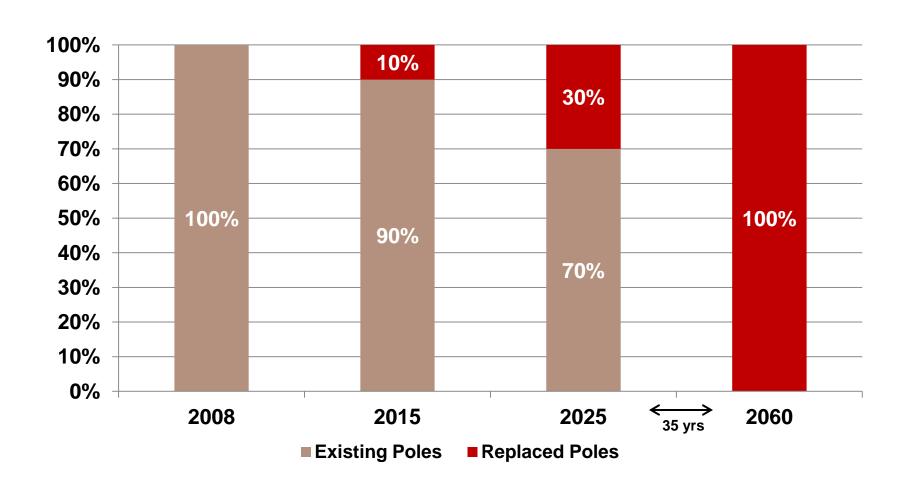
- Comprehensive analysis of all four systems
- Coordinated and planned infrastructure replacement
- Increased maintenance
- Comprehensive, long-term plan

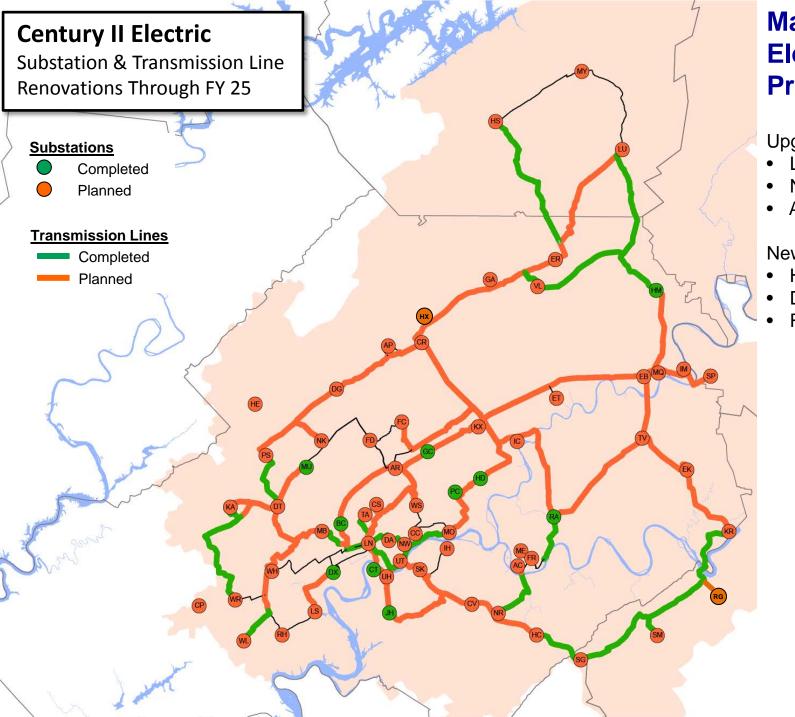


Electric System in 10 Years

- All substations
 - Modernized
 - Linked by fiber optic cable for improved communications
- 70 percent of transmission system updated
- 30 percent of poles replaced
- All direct-buried underground cable replaced

All 130,000 Electric Poles Replaced by 2060





Major Electric Projects

Upgrades:

- Lonsdale
- North Knox
- Arlington

New substations:

- Halls
- Doll Town Infeed
- Ray's Gap

Downtown Network Phase II Supports Reliability

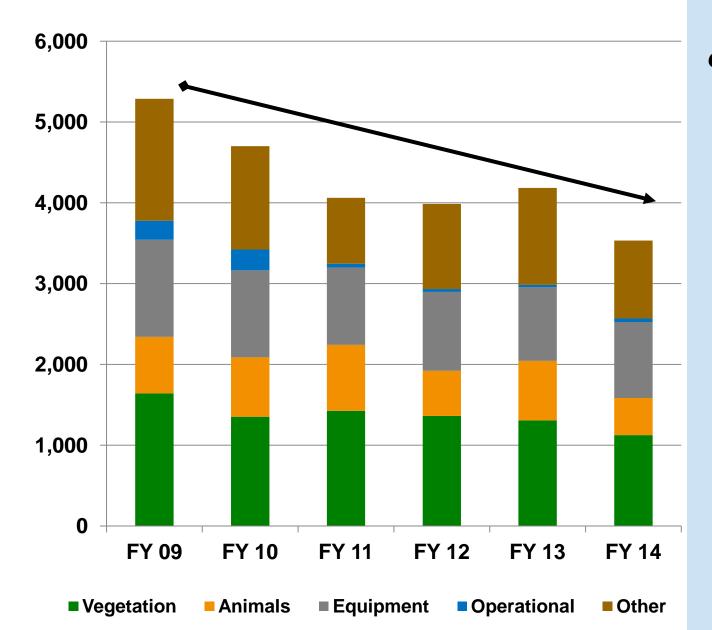


- Begins FY 2016
- \$8M over 10 years
- Design considerations
 - Electric service improvements
 - SCADA enabled equipment
- Preventive maintenance
 - Equipment change-outs
 - Cable replacements
 - Manhole rehabilitations

Smart Grid Deployment

- Begins FY 2016
- \$78.5M over next 10 years (electric only)
- Phased implementation
 - Four-year deployment for meters
 - Ten-year fiber optic expansion to substations and critical infrastructure
 - Distribution and substation automation targeted for strategic and reliability gains
- Deployment plans under development

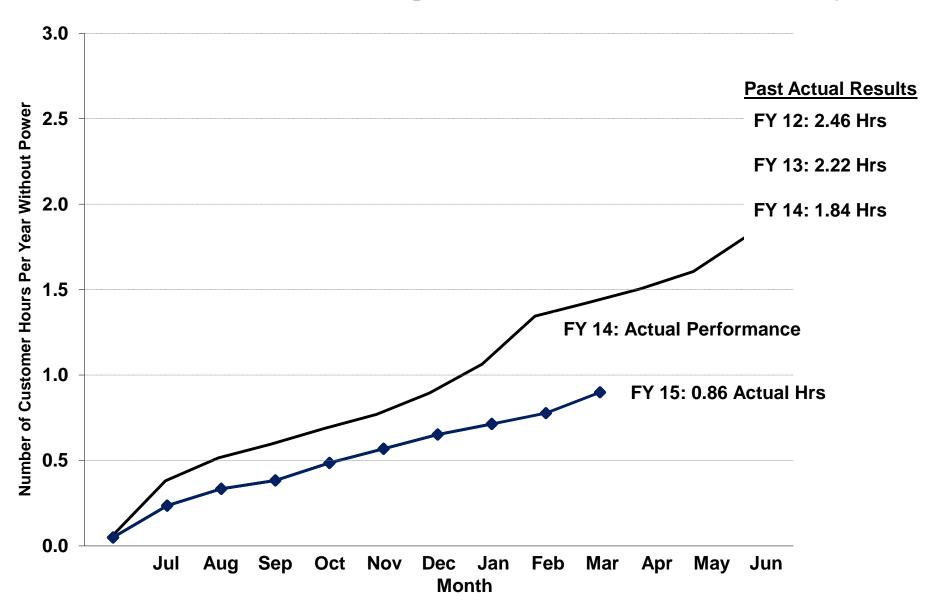
Century II Reduces Outages



"Hardening the system is paying off! Tree trimming, new poles, new hardware, smart technology. I know it's paying off because I've lived it."

Steve Proffitt,LinemanSupervisor

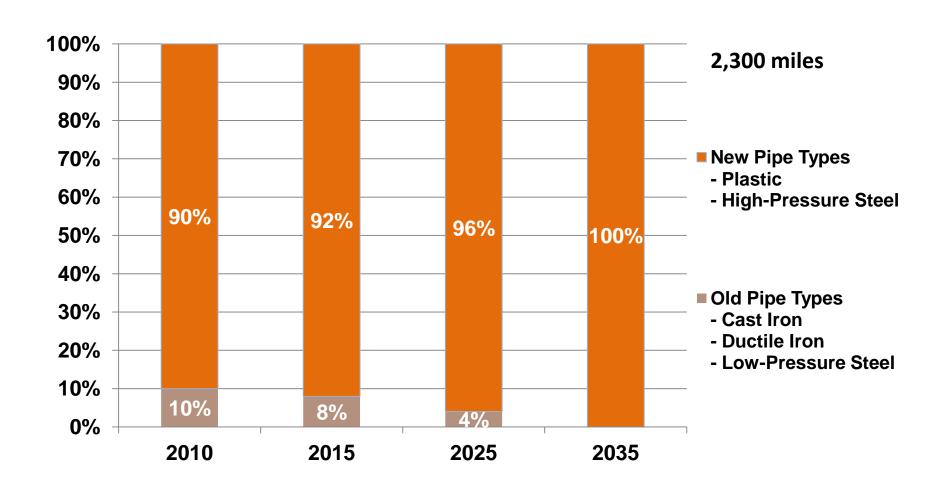
Record-Setting Electric Reliability



Gas System in 10 Years

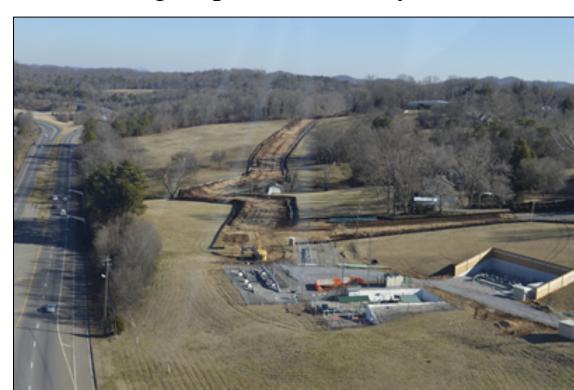
- Cast-iron replacement program complete
- Low-pressure steel main program 50 percent complete
- System composition:
 - 93 percent plastic
 - 3 percent high-pressure steel
 - 4 percent low-pressure steel

Gas Pipe Renewal



South Loop Natural Gas Project

- Phase I complete
- Phase II under construction
 - Six miles of pipeline
 - Topside Rd. Gate Station to UT golf practice facility
- Phase III
 - Two miles of pipeline
 - From UniversityCommons to UTSteam Plant



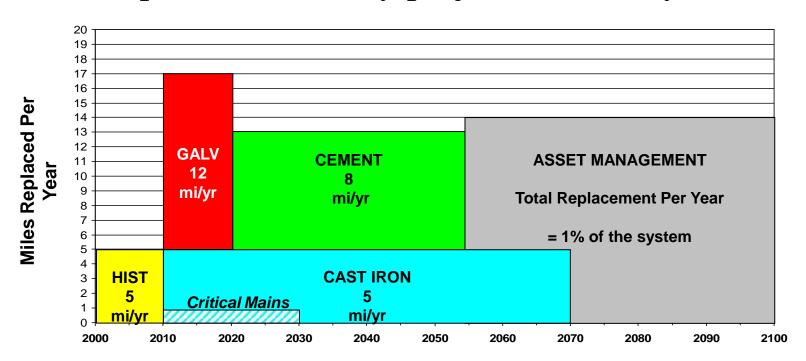
Natural Gas System: Major Projects

- South Loop completion: \$13.2M
- TDOT Alcoa Highway project relocations
 - FY 2016-2020
 - \$2.6M
- Smart Meter deployment
 - Begins FY 2016
 - \$11M over next 4 years

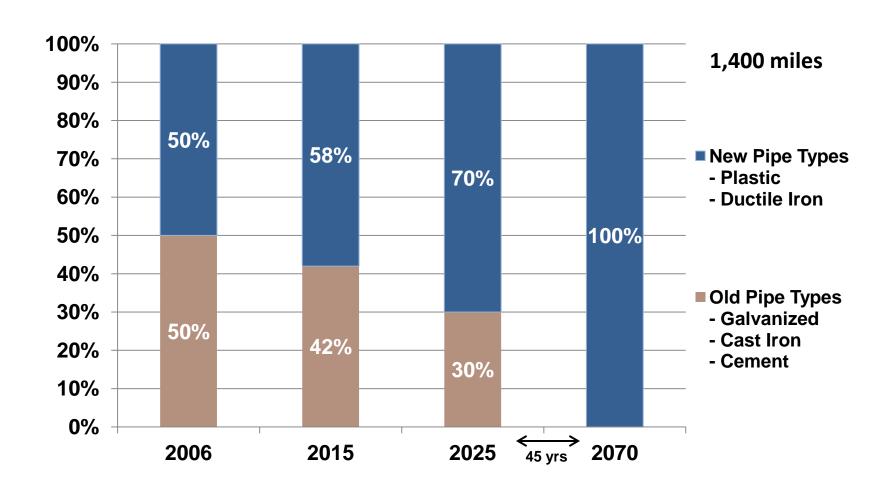


Water System in 10 Years

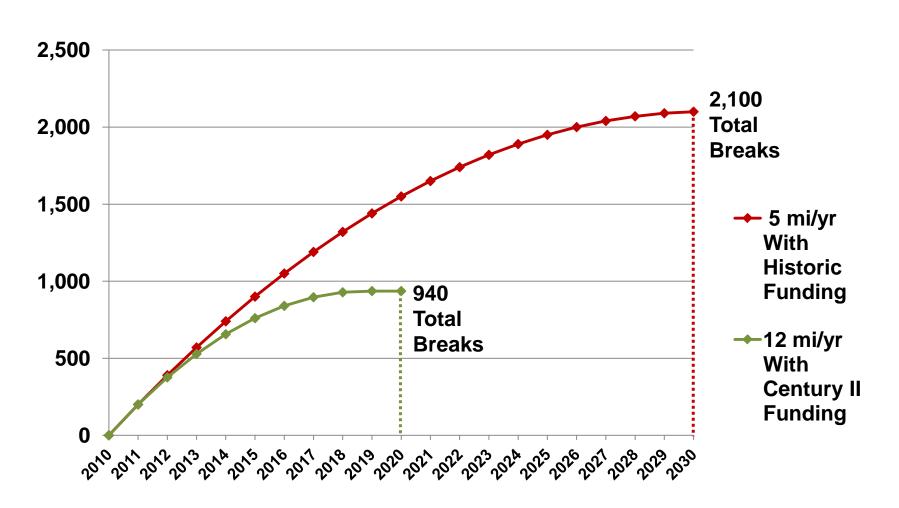
- All galvanized main eliminated
- All but 5 miles of older cast-iron critical main replaced
- 40 miles of other cast iron main replaced
- 40 miles of cement pipe replaced
- Water plant redundancy projects underway



Water Pipe Renewal



Expediting Replacement Reduces Galvanized Main Breaks by Half



Water System: Major Projects

- Disinfection system: \$5M
- Phase III, DowntownCentury II: \$5M
- Third Creek Pump Station:\$2.6M
- Water line relocations/
 Alcoa Highway: \$3M
- Other plant projects
 - Electrical upgrades: \$5M
 - Diesel generators: \$9M



Water Redundancy Projects: \$93M

Phase I 2015–2020		Phase II 2019–2024		Phase III 2023–2029	
Redundant high service main	\$3M	Dual intake	\$26M	New clearwell, backwash pump station, and high service pump station	\$30M
Four new filters/backwash, piping	\$13M	Raw water main, distribution and pumping	\$5M	New sedimentation basin	\$7M
Depot Street transmission main	\$5M	Improved interconnects	\$4M		
Total Phase I	\$21M	Total Phase II	\$35M	Total Phase III	\$37M

Century II Water Improvements

- Major upgrades can be extremely complex
- Construction and operations must coordinate
- Goal: minimize customer impact





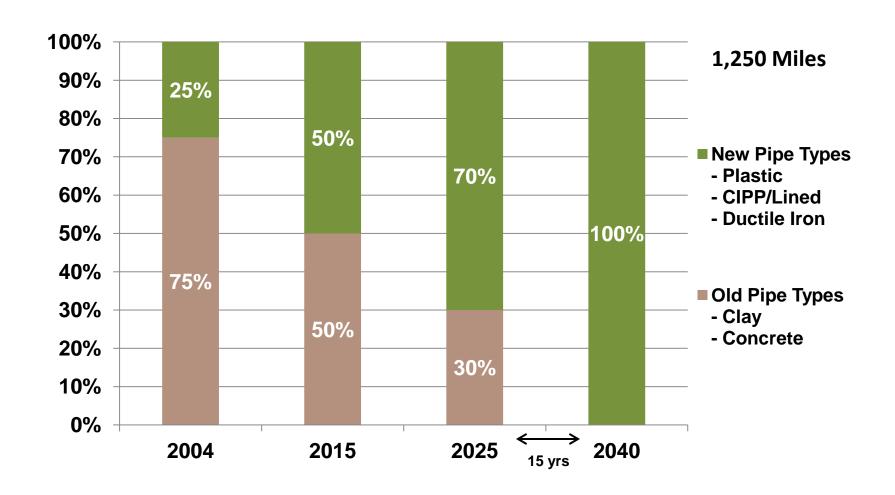


Wastewater System in 10 Years

- Consent Decree completed
 - Phase II upgrades at Fourth Creek: 2018
 - Phase II upgrades at Kuwahee: 2021
- Pipe replacement continues

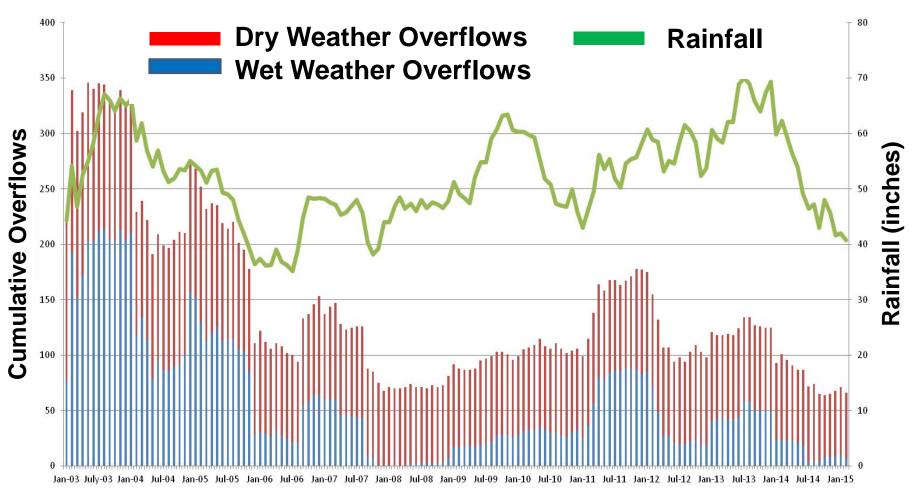


Sewer Pipe Renewal



Sewer Overflows Reduced by 75 Percent

Cumulative 12-Month Overflows vs Rainfall



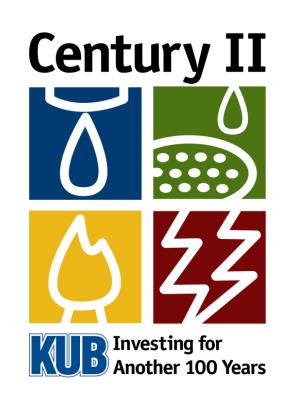
Wastewater System: Major Projects

- Kuwahee sludge heater replacements: \$8M
- Alternative disinfection systems at all plants: \$14.6M
- Phase III, Downtown Century II: \$6M
- Loves Creek generator: \$5M
- Fourth Creek electrical improvements: \$4.4M



Long-Term Investment Makes a Difference

- Improving reliability
- Ensuring safety
- Meeting regulatory standards
- Being environmentally responsible





Environmental and Sustainability Initiatives Gabriel Bolas Assistant to the COO

Legacy of Award-Winning Environmental Results

- Numerous Silver, Gold, and Platinum awards for wastewater plant operations
- National Biosolids Partnership Platinum Level
- Multiple TVA EnergyRight[®] Solutions awards recognizing strong customer participation
- Sierra Club Sustainable Energy Leader Award
- Annual Tree Line USA designation since 2001
- Top 100 Alternative Fuel Fleets
- 100 Best Fleets in North America

KUB Supports Community Environmental Efforts

- Round It Up
- City of Knoxville
 - Sustainability Task Force
 - IBM Smarter Cities Challenge
 - Georgetown University Energy Prize
- TVA
 - Extreme Energy Makeover
 - EnergyRight® Solutions
- East Tennessee Clean Fuels Coalition





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Environment and Sustainability

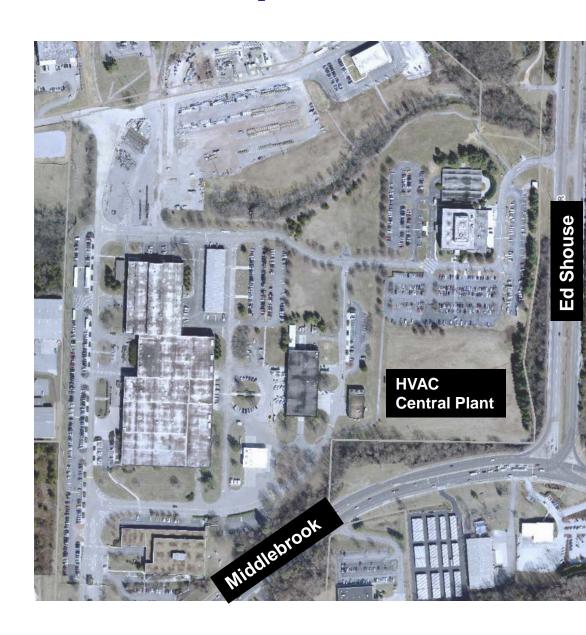
Mission: Develop corporate environmental program and key performance indicators to serve as a foundation for setting goals, establishing accountability, and ensuring continuous improvement.

- Improve internal operations
- Include partnerships with external organizations and community outreach
- Support current programs and projects
- Develop recommendations for FY 16
- Team members
 - Eddie Black
 - Gabriel Bolas
 - Debbie Ailey
 - John Gresham

- John Piotrowski*
- Liz Hannah*
- Thelas Kimble*
 - * Leadership Development Program

Hoskins Center HVAC Improvements

- Replaces 40year-old equipment
- Provides
 - Full retrofit:5 years
 - Energy control management
- Energy savings: \$400,000/year
- Cost: \$6 million



South Loop Key to Improving Environment

- Enables UT to convert steam plant from coal to natural gas
- UT will remove
 - Coal-burning units
 - Smoke stack
- Service available by Nov. 1 for new gas-fired units



Environmental Sustainability at Kuwahee

- Biogas
 - Currently used for digester heating
 - Exploring possible alternatives for excess biogas
- Broader sustainability study underway
- Recommendations in FY 16



Alternative Fuels

- KUB led the industry with Compressed Natural Gas (CNG) vehicles
- KUB expanded alternative fuel options



CNG Fueling Station

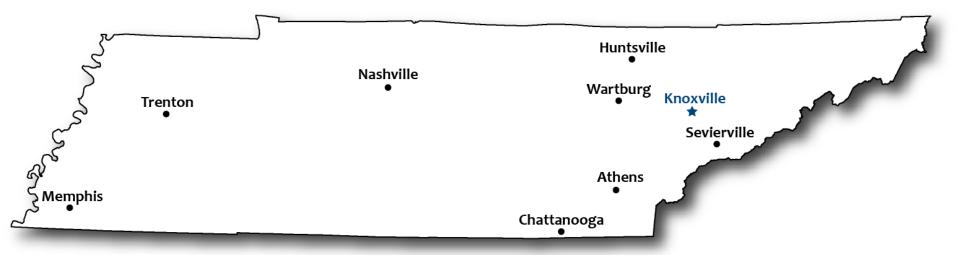
- Current fleet:
 - 49 CNGpickups
 - 2 CNG bulk trailers
- Current fueling station
 - At end of useful life
 - Will not support future growth

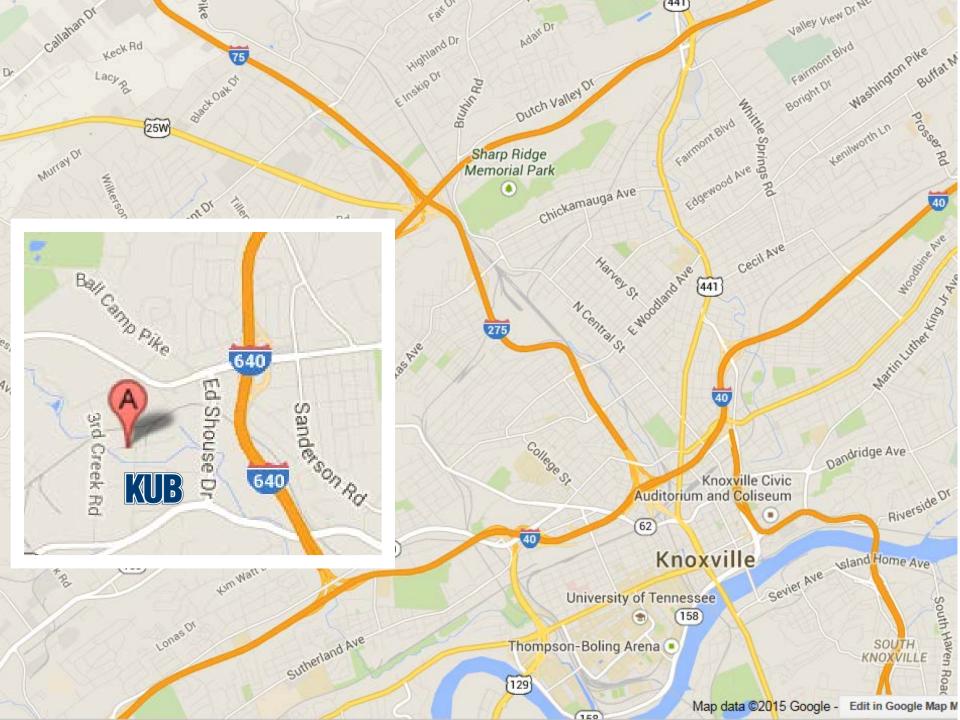
- Future fleet:
 - Doubles by 2020
 - Adds 5 CNG dump trucks



CNG Station Is Business Opportunity

- CNG market is growing
 - Utility-driven public station numbers growing
 - Potential users and sales increasing
- Commercial stations are lagging
- Public station fills gap
- Minimal additional dollars
- Provides new source of revenue





\$1.5M CNG Fueling Station Next Steps



- Permit/construction
- Outsource operator
- Marketing/outreach
- Complete: Dec. 2016
- Team Members:
 - Gabriel Bolas
 - Jocelyn McInturff
 - Leslie Emison
 - Stephanie Midgett
 - Janalyn Brown
 - Chris Wilson*
 - Salina Douglass*
 - Doug Rees*
 - * Leadership Development Program
- Win-win-win situation

Community Solar

- Expands customers' ability to invest in renewable energy
 - Purchase solar panels/shares
 - Receive credits on bill
- Economic/environmental opportunity
- Consultant study
- Recommendation in FY 16



KUB's Environmental Focus Key Part of Blueprint

- Our Mission:Be good stewards
- Our core businesses support the environment



- Customer choice
- Good for today's customers and future generations



10-Year Financial PlansMark WalkerChief Financial Officer

KUB's Financial Strategy Key Elements

- Managing costs
- Using debt in a balanced manner
- Generating cash to fund operations
- Ensuring cash reserves
- Maintaining competitive rates
- Maintaining high-quality bond ratings

10-Year Financial Plan Summary

- Rate increases previously adopted for FY 16 and FY 17
- \$177M for new strategic initiatives
- \$126M in cost savings
- Funding for new initiatives from
 - Debt
 - Incremental rate increases
 - Cost savings
- Funding approach consistent with financial parameters set by Board

New Strategic Initiatives Support Our Vision

Smart Grid Deployment \$	103M
Water System Redundancy \$	67M
Workforce Planning \$((11) M
Downtown Electric Network \$	8M
Environment/Sustainability\$	8M
District Water Metering\$	2M
10-year cost \$1	177M

Cost Savings Help Fund New Strategic Initiatives

Operating Efficiencies \$30M	
Pension/OPEB \$29M	
Contractor meter savings \$21M	
Debt service savings \$ 9M	
Wholesale gas contracts \$34M	
Other cost savings \$ 3M	
10-year savings \$126M	

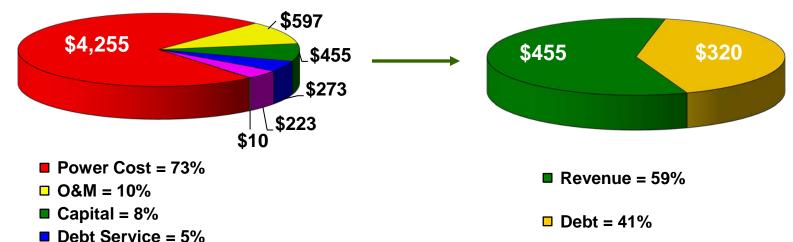
Electric Financial Plan Key Assumptions and Indicators

Annual Commercial Usage	1% decline	
Annual Customer Additions	1,100 — 1,550	
Interest Rate on New Debt	3.50% - 4.75%	
Term of New Debt	30 years	
Debt Ratio	45% or less	
Debt Coverage	3.0 or more	
Debt Ratings	AA+/Aa2	

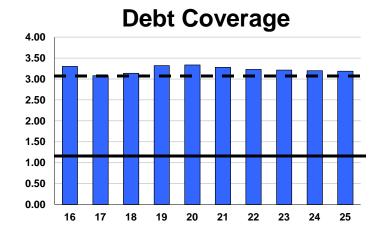
Electric Financial Plan FY 16–25

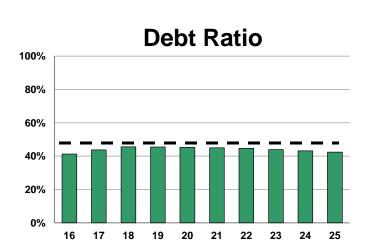
Revenue = \$5.8 Billion

Capital = \$775 Million



- Taxes & Equivalents = 4%
- □ Cash Reserves = <1%





Electric Funding Approach

Annual Residential Rate Increases*

	FY 16 – FY 17	FY 18 – FY 20	FY 21 – FY 24
Spring 2014	\$1.00	\$1.50	\$1.50
New Plan	\$1.00	\$1.50	\$1.25

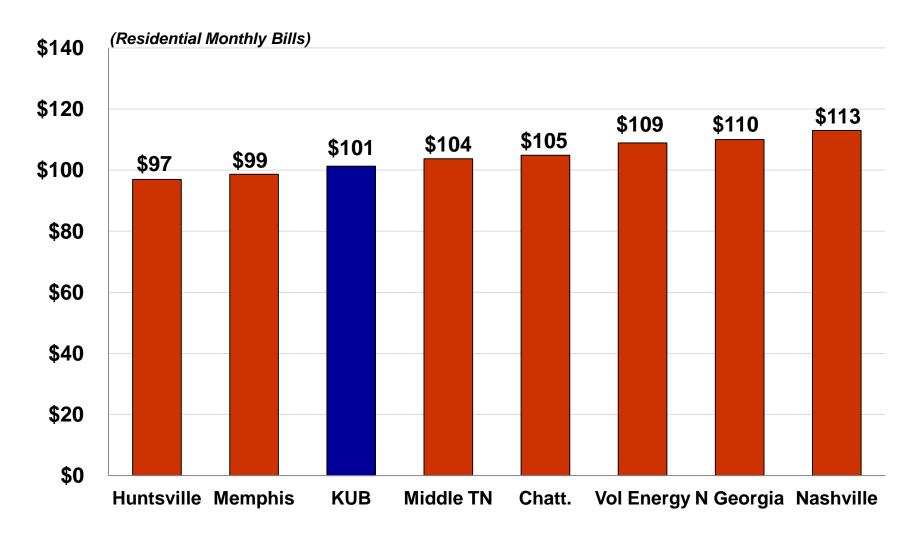
^{*} Excludes impact of TVA wholesale rate changes

Debt Issues

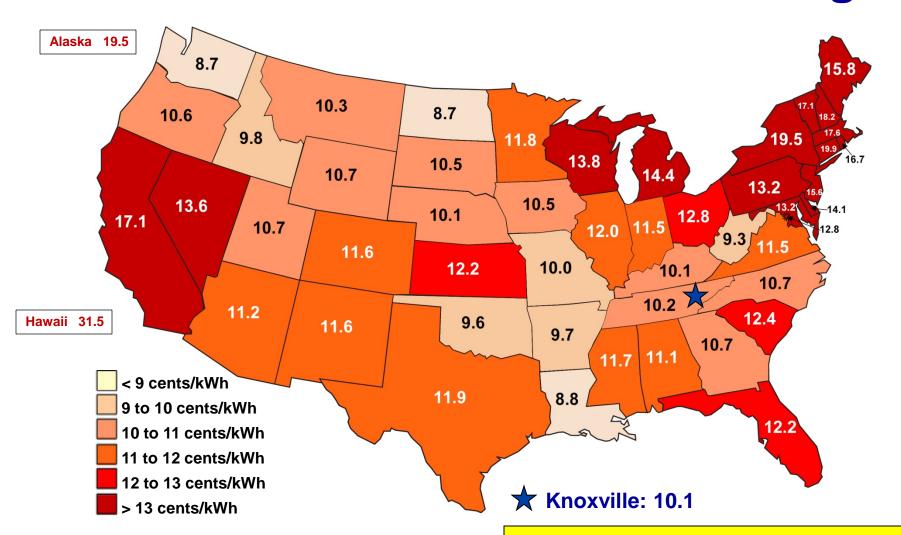
	Debt Issued FY 16 – FY 24	Average Debt Percentage	Average Debt Coverage
Spring 2014	\$232M	43.5%	3.15
New Plan	\$295M	44.3%	3.23

Target: 45% or less Target: 3.0 or greater

Electric Rates Competitive



KUB Residential Electric Bills 22 Percent Below National Average



National Average = 13.0 Cents per kWh

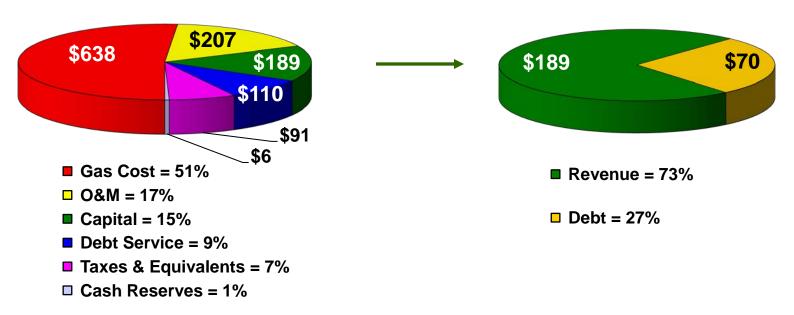
Natural Gas Financial Plan Key Assumptions and Indicators

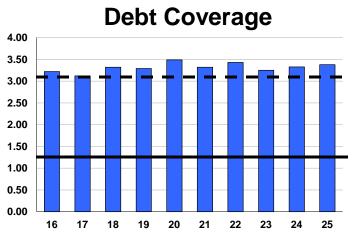
Winter Weather	5% warmer than normal
Annual Residential Usage	1% decline
Annual Customer Additions	750 – 1,300
Interest Rate on New Debt	3.50% - 4.75%
Term of New Debt	30 years
Debt Ratio	35% or less
Debt Coverage	3.0 or more
Debt Ratings	AA/Aa2

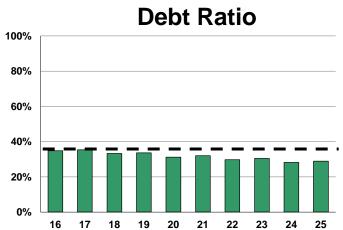
Natural Gas Financial Plan FY 16-25

Revenue = \$1.2 Billion

Capital = \$259 Million







Natural Gas Funding Approach

Annual Residential Rate Increases*

	FY 16 – FY 17	FY 18 – FY 24
Spring 2014	\$1.00	\$1.00
New Plan	\$1.00	\$1.00

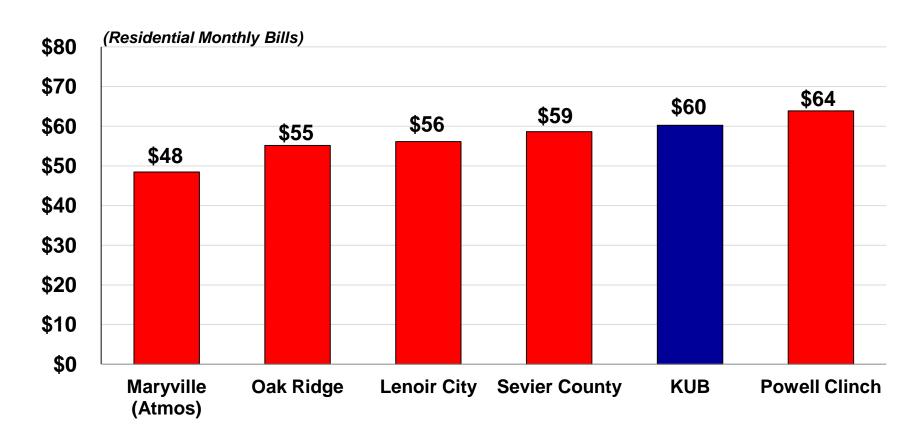
^{*} Excludes impact of wholesale natural gas rate changes

Debt Issues

	Debt Issued FY 16 – FY 24	Average Debt Percentage	Average Debt Coverage
Spring 2014	\$49M	31.9%	3.28
New Plan	\$55M	32.1%	3.32

Target: 35% or less Target: 3.0 or greater

Natural Gas Rates Support Safety and Reliability



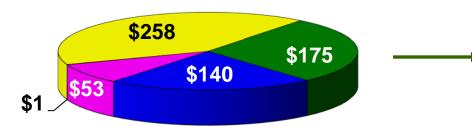
Water Financial Plan Key Assumptions and Indicators

Annual Customer Usage	1% decline
Annual Customer Additions	50 – 250
Interest Rate on New Debt	3.50% - 4.75%
Term of New Debt	30 years
Debt Ratio	50% or less
Debt Coverage	2.0 or more
Debt Ratings	AAA/Aa2

Water Financial Plan FY 16–25

Revenue = \$627 Million

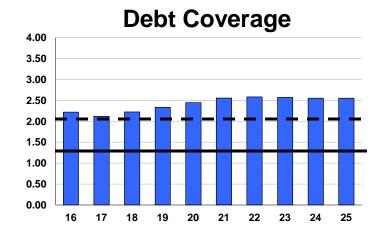
Capital = \$334 Million

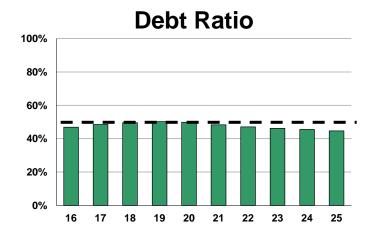




- □ O&M = 41%
- **■** Capital = 28%
- Debt Service = 22%
- Taxes & Equivalents = 9%
- □ General Fund Cash = <1%

- **■** Revenue = 52%
- □ Debt = 48%





Water Funding Approach

Annual Residential Rate Increases

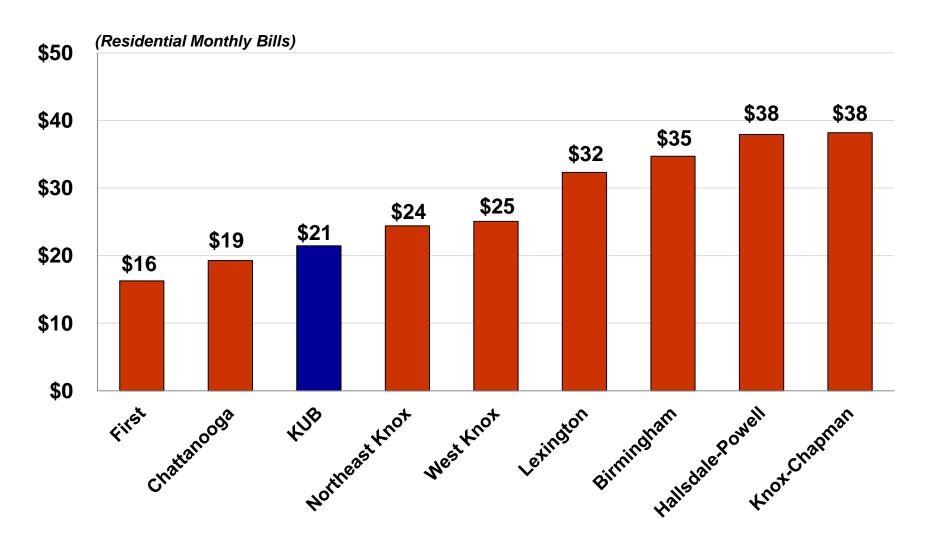
	FY 16 – FY 17	FY 18 – FY 20	FY 21 – FY 24
Spring 2014	\$1.00	\$1.00	\$1.50
New Plan	\$1.00	\$2.00	\$2.00

Debt Issues

	Debt Issued FY 16 – FY 24	Average Debt Percentage	Average Debt Coverage
Spring 2014	\$108M	45.2%	2.21
New Plan	\$144M	48.0%	2.40

Target: 50% or less Target: 2.0 or greater

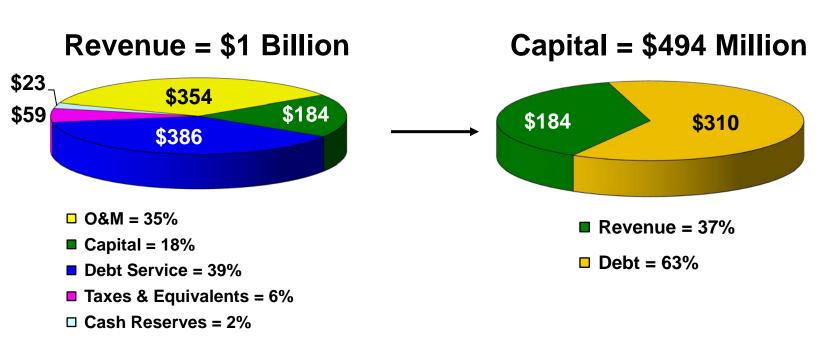
Water Rates Competitive

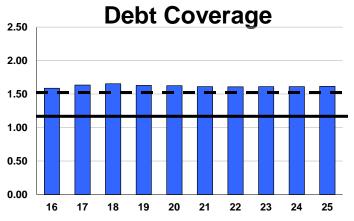


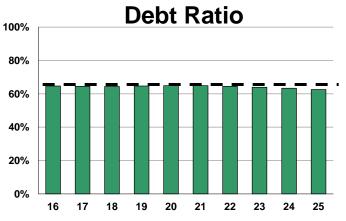
Wastewater Financial Plan Key Assumptions and Indicators

Annual Customer Usage	1% decline
Annual Customer Additions	150 – 300
Interest Rate on New Debt	3.75% - 5.0%
Term of New Debt	35 years
Debt Ratio	65% or less
Debt Coverage	1.50 or more
Debt Ratings	AA+/Aa2

Wastewater Financial Plan FY 16–25







Wastewater Funding Approach

Annual Residential Rate Increases

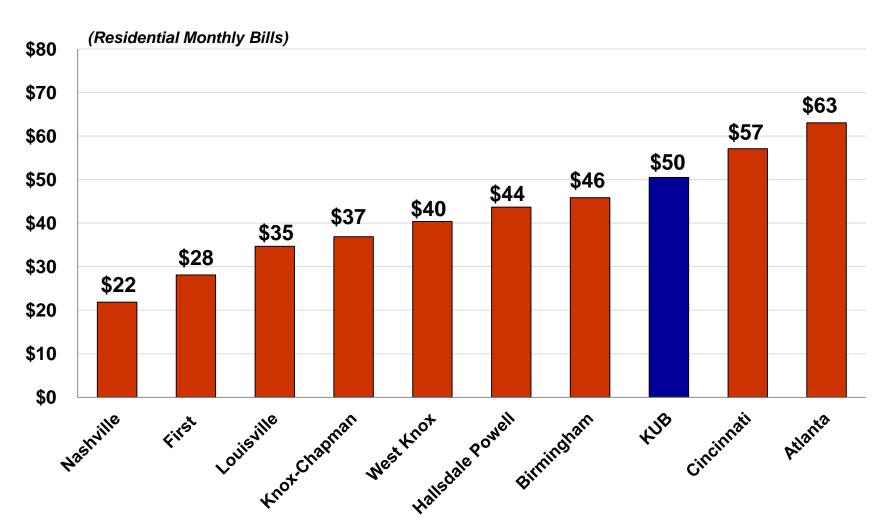
	FY 16 – FY 17	FY 18 – FY 24
Spring 2014	\$3.00	\$3.00
New Plan	\$3.00	\$3.00

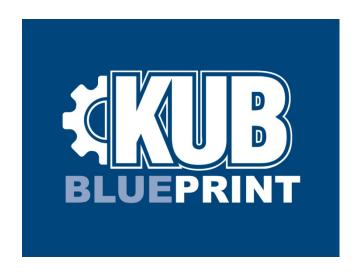
Debt Issues

	Debt Issued FY 16 – FY 24	Average Debt Percentage	Average Debt Coverage
Spring 2014	\$315M	63.6%	1.59
New Plan	\$285M	64.4%	1.62

Target: 65% or less Target: 1.50 or greater

Wastewater Rates Reflect Impact of Consent Decree





Proposed FY 16 Budget

Proposed FY 16 Budget: \$889M

	Electric	Gas	Water	WWater	Total
Energy Cost	\$419.3	\$60.6	\$	\$	\$479.9
O&M	\$55.6	\$19.0	\$23.3	\$31.7	\$129.6
Capital	\$73.7	\$33.2	\$30.3	\$41.8	\$179.0
Debt Service	\$18.3	\$9.6	\$9.6	\$30.4	\$67.9
Taxes and Equivalents	\$16.5	\$7.6	\$3.8	\$4.5	\$32.4
	\$583.3	\$130.0	\$67.0	\$108.4	\$888.8

Proposed Budget Stable

	FY 16 Proposed	FY 15 Forecast	Increase (Decrease)	
Energy Cost	\$479.9	\$491.8	-\$11.9	FY 15 winter colder than normal
O&M	\$129.6	\$129.1	\$0.5	
Capital	\$179.0	\$171.2	\$7.8	Smart meters
Debt Service	\$67.9	\$65.0	\$2.9	\$85M in new bonds
Taxes & Equivalents	\$32.4	\$30.1	\$2.3	Increased capital investment
	\$888.8	\$887.2	\$1.6	

FY 16 Budget Key Components

- \$10.3M: Smart Grid
- \$13.2M: South Loop
- \$8.5M: Electric transmission line
 - improvements
- \$1.5M: Lonsdale Substation
- \$1.4M: Arlington Substation
- \$2.9M: Gas steel main replacements
- \$2.7M: MBW Disinfection
- \$1.9M: Fourth Creek Plant improvements

Funding Proposed FY 16 Budget

Proposed Budget = \$889 Million



- **■** Revenue = 88%
- Bonds = 10%
- □ General Fund Cash = 2%

May Board Meeting

- FY 2016 budget appropriations
- FY 2016 commitment appropriations
- \$10M Natural Gas Line of Credit
- Public Fire Protection Rate for FY 2016 and 2017 (first reading)