



November 18, 2021

# Natural Gas Purchasing Authority & Winter Update

Resolution 1447



# Today's Discussion

- Winter bills update
- Compliance with Resolutions 1387 (Purchasing) and 1388 (Price Risk)
- Proposed amendment to Resolution 1387



# Rising Energy Prices in the News

## U.S. Natural Gas Prices Flying Through Summer 2021

- Forbes 8/2/2021

### Energy

Gas price surge, just one more headwind for world economy

- Reuters 9/20/2021

Europe's Energy Crisis Is Coming for the Rest of the World, Too

- Bloomberg 9/27/2021

## A Winter of Giant Gas Bills Is Coming. Are You Ready?

- The Wall Street Journal 10/14/2021

**Heating bills expected to rise up in Knoxville this winter**

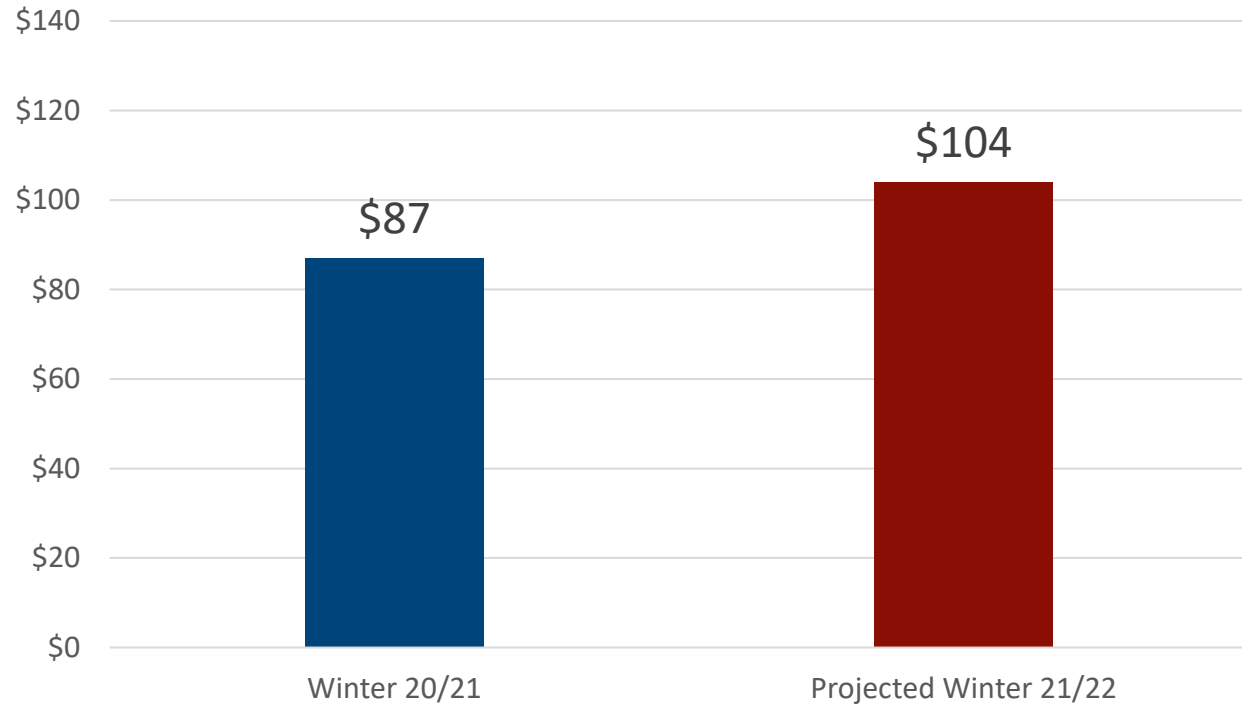
- WATE 10/25/2021

Utility boards warn of higher-than-normal natural gas, propane prices this winter

- WBIR 11/1/2021

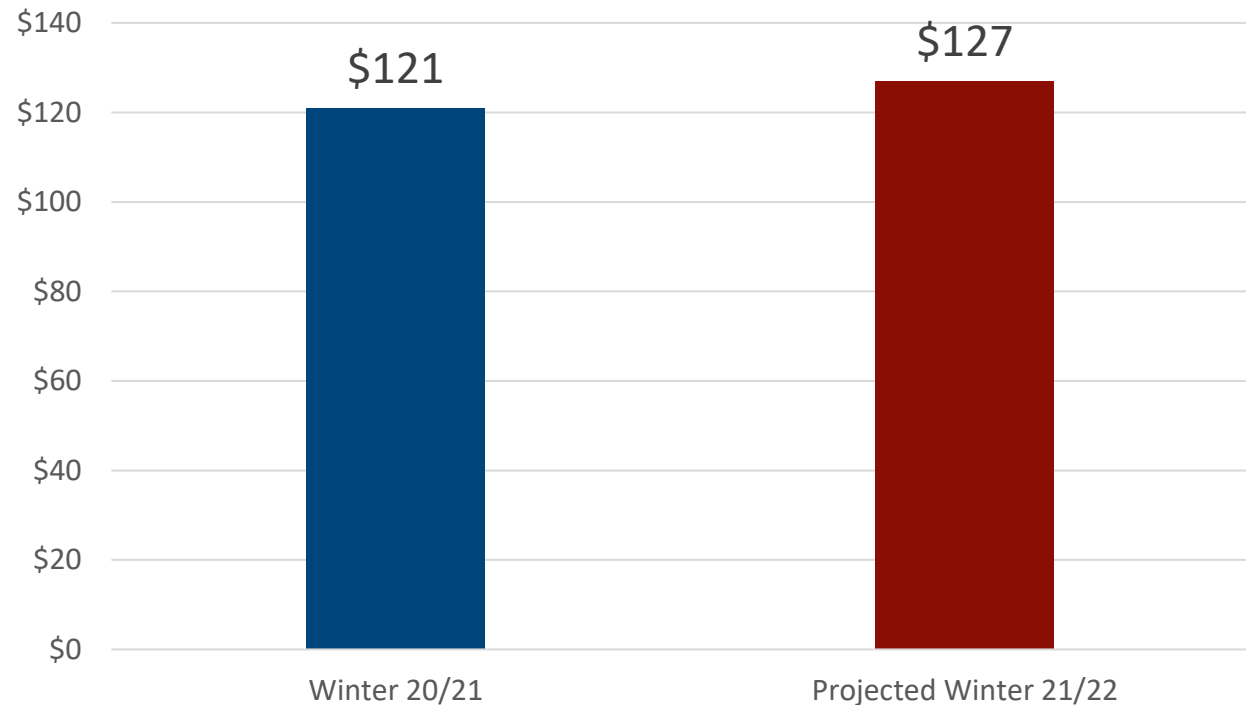
# Winter Bills Projected to be Higher Than Last Year

## Monthly Residential Gas



Based on 81 therms per month

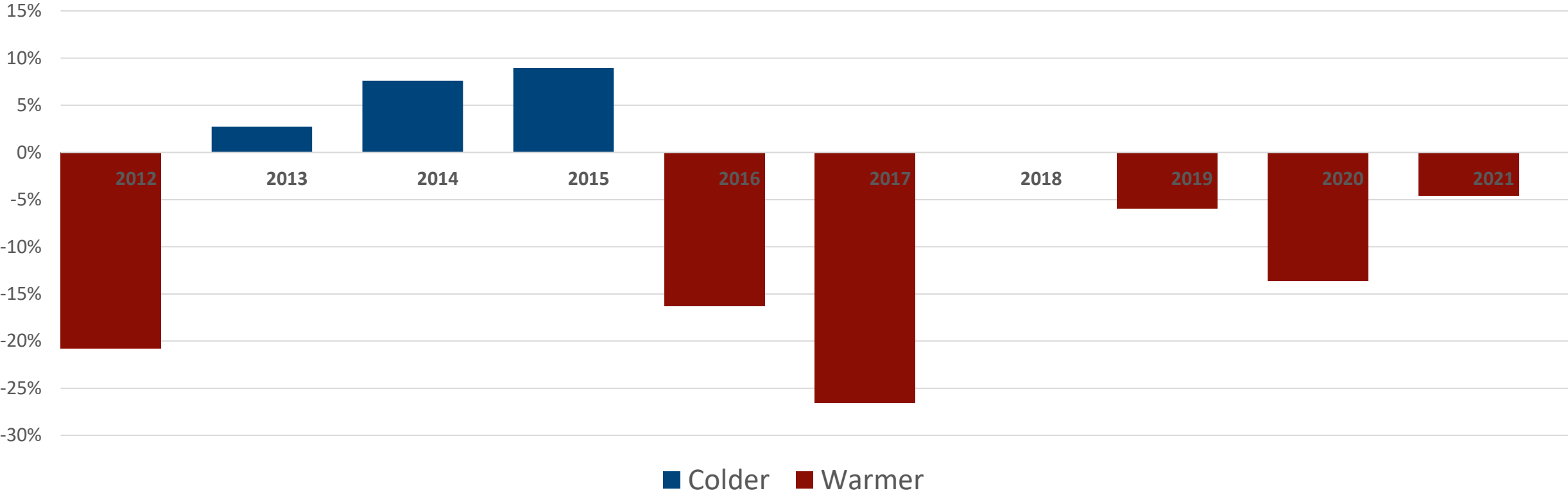
## Monthly Residential Electric



Based on 1,151 kWh per month

# Winter Weather Varies From Year to Year

Winter Weather Variation From Normal – Knoxville, Tennessee

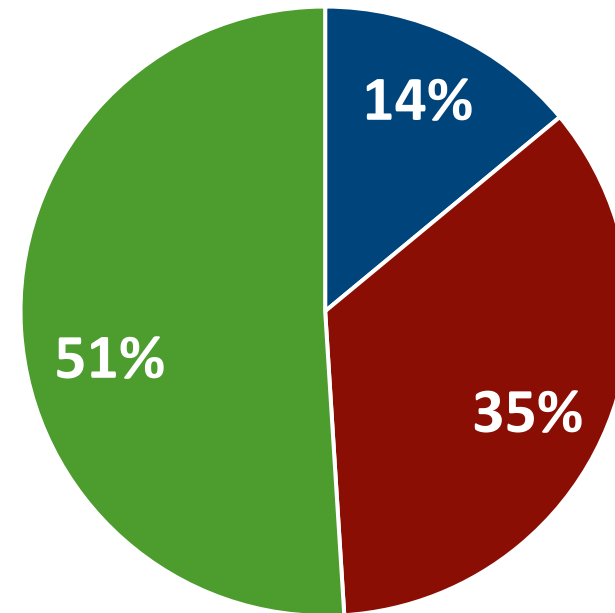


Based on 30-year averages announced in 2021

# KUB In Compliance With Resolution 1388

- Price Risk Committee approved current strategy which targets 25% hedged for near month purchases
- All transactions met requirements for opening and closing positions
- Monthly status reports to Price Risk Committee

FY 21/22 Winter Pricing



■ Fixed price ■ Storage (price certain) ■ Market price

# KUB Hedges vs. Market



# KUB In Compliance With Resolution 1387

- Board authority required for
  - Contracts in excess of six years
  - Contracts in excess of volume limits
  - Purchase and transportation: 160,000 dth/d
  - Storage: 5 million dth maximum inventory
- Purchasing authority delegated to CEO/CFO for contracts
  - Two years or less
  - Two to six years for purchase and transport up to 15,000 dth/d
  - Six years [max] storage for firm withdrawal rights up to 10,000 dth/d
- Authorizes sale of excess capacity



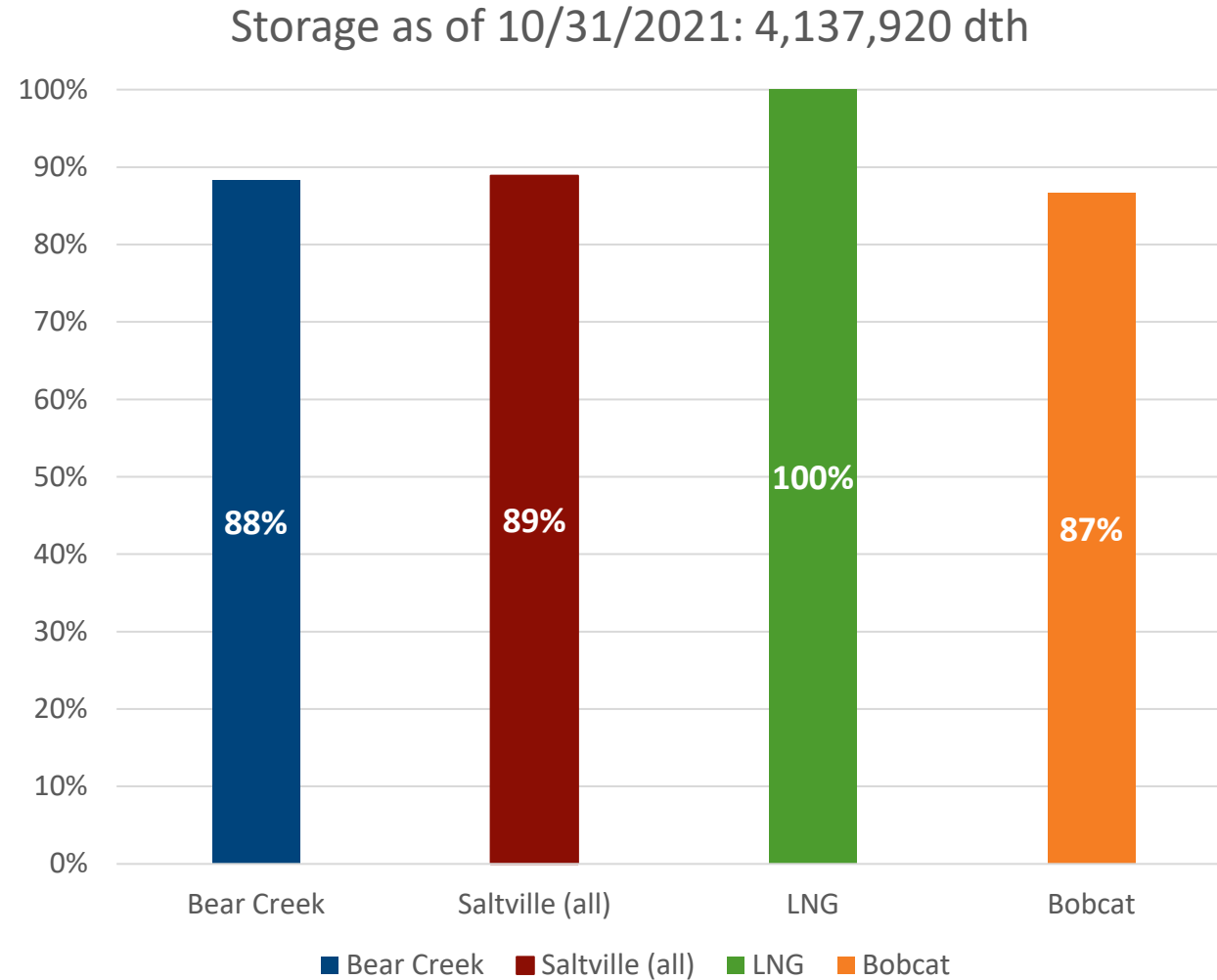
# KUB Supply Portfolio

Supplier	Supply Region	Volume	Firm/ Variable	Expiration
BP Energy	Gulf of Mexico	8,000	Variable	10/31/2022*
ConocoPhillips	Gulf of Mexico	13,000	Variable	10/31/2022*
Shell Energy	Gulf of Mexico	11,000	Variable	10/31/2022*
Nextera	Gulf of Mexico	5,000	Variable	10/31/2022
CNX Energy	Appalachia	3,000	Firm	03/31/2022
Sequent	Appalachia	2,000	Firm	03/31/2022
Morgan Stanley	Gulf of Mexico	2,800 avg	Firm (PrePay)	10/31/2051
Others as needed				

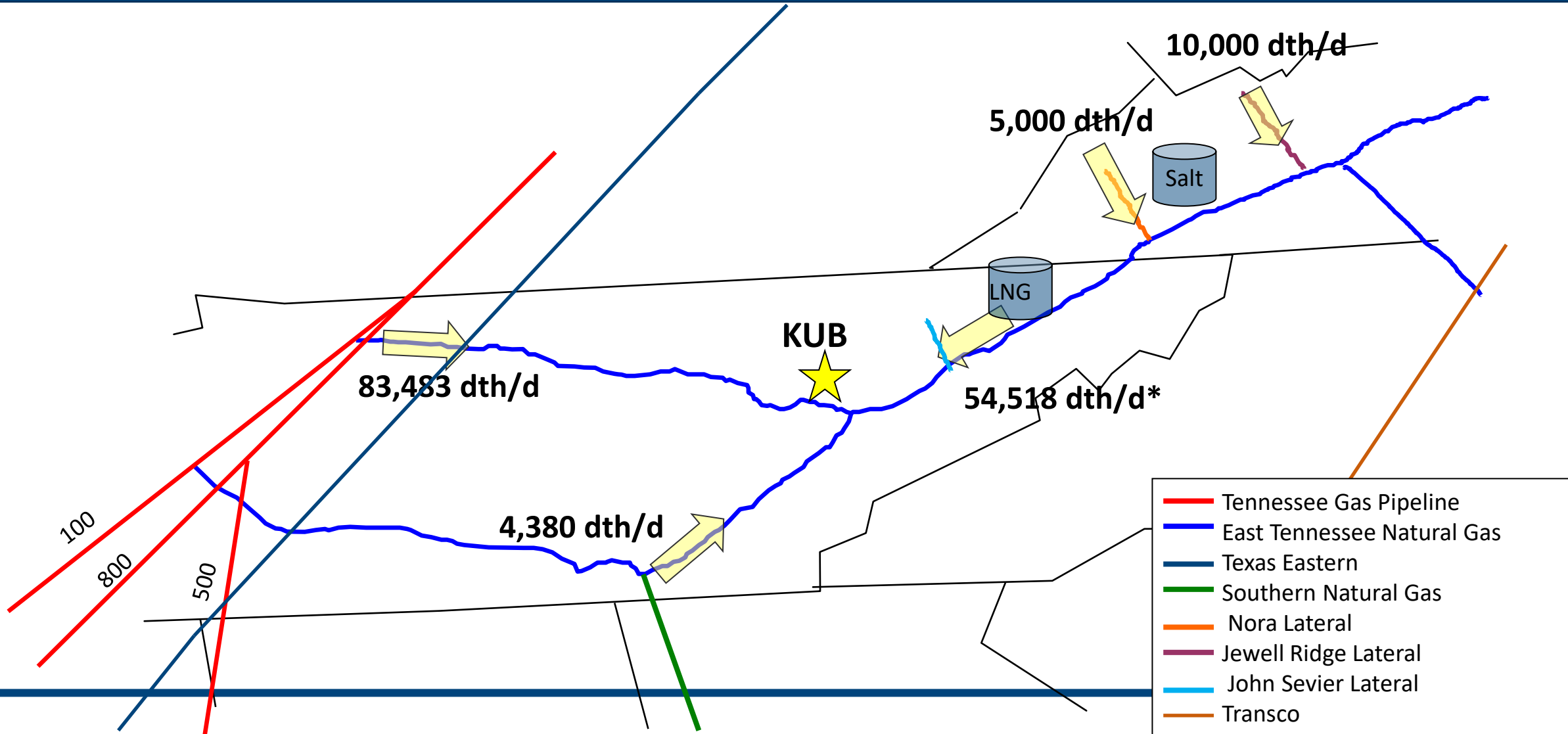
\*option to extend 1 year

# KUB Storage

Storage	Pipeline	MSQ (Space)	Expiration
Bear Creek 2014	TGP	3,325,920	10/31/2025
Saltville 264s	ETNG	200,000	03/31/2023
Saltville 265s	ETNG	100,000	03/31/2023
Saltville 420031	ETNG	100,000	03/31/2025
LNG	ETNG	412,000	10/31/2025
Bobcat 720336	Tetco	150,000	10/31/2022
		4,287,920	



# ETNG Pipeline Contracts Total 157,381



# Amendment Requested Is Specific to ETNG

- Limited supply directly on ETNG
- ETNG Pipeline is fully subscribed and heavily utilized
- Pipeline expansions are expensive and have long lead times
- Current contracts total 157,381 versus 160,000 limit
- Opportunities are few and notice period is short
- Amendment will position KUB to bid timely and more competitively
- Amendment only applies to ETNG transportation volume
- Audit & Finance Committee will be notified in advance

# Resolution 1447

- Amends KUB's Natural Gas Contracting Authority to provide a more viable opportunity to bid on ETNG Pipeline capacity



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# Purchased Power Adjustment (PPA) Amendment

## Resolution 1448 (First Reading)





# Resolution 1448

- Amends the Purchased Power Adjustment (PPA) to exclude Pandemic Recovery Credits from TVA for the period October 2021 through September 2022
- Requires two readings
- Second reading in December

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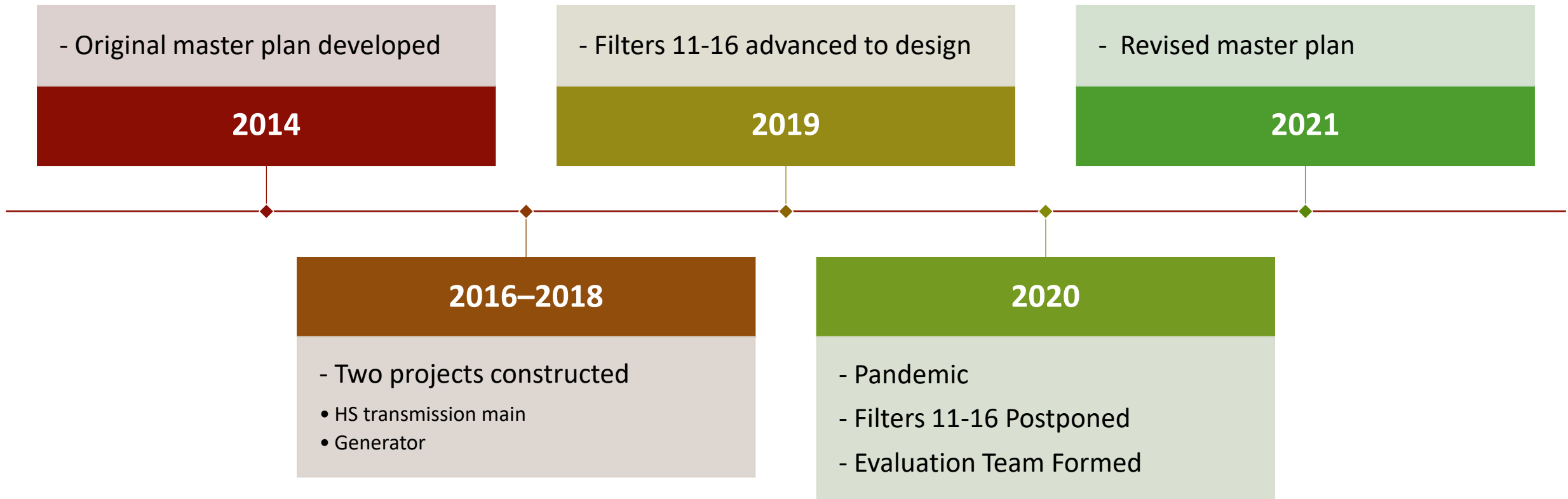
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# Water Supply Master Plan Update





# Master Plan Continues to Evolve



# Evaluation Team Objectives

- Clarify goals and challenge assumptions
- Reduce overall costs while balancing risk
- Manage filters project cost escalation
- Identify options for Phase 3 components:
  - Source water resiliency
  - Raw water distribution
  - High service PS and clearwell storage

Phase	Project
Phase 1	High Service Main
	Ph 1 EL upgrades
	Generators
Phase 2	Filters
Phase 3	Ph 2 EL upgrades
	High Service PS and Clearwell
	Raw Water Distribution
	Source Water Resiliency

Complete  
Construction  
Ready to bid  
Future

# Revised Plan Achieves Objectives Within Budget

- Source water resiliency
  - Eliminate Dual Intake Project
  - Develop a Source Water Protection Program
- Raw water distribution
  - Added intake at Riverside Drive with low service pump station
- High service pumping and clearwell storage
  - Refined capacity for high service pump station

# Source Water Protection Program Eliminates Need for Dual Intake

- Leverage resources
  - 2020 KUB Source Water Study
  - AWIA 2018 requirements
  - Emergency Response Plan
- Strengthen program
  - Education
  - Engaging regulators
  - Regular emergency exercise
  - Enhance emergency response procedures
  - Enhanced annual sampling

Components of a Source Water Protection Program



# Strategy Enables Necessary Filters Project

- Up to 30% increase in project cost
- MBW's most urgent need
  - Existing building approaching 100 years old
- Allows needed structural and mechanical repairs to proceed
- Provides resiliency to critical treatment components





# Strategy Safeguards Core Objectives

- Provides risk mitigation for source water without a capital project
  - Source Water Protection Team
- Maintains dual treatment train concept
  - Resiliency to each component of the water treatment process
- Works within the current budget framework (FY23-32)

# Key Projects for 2022

- Bid Filters Project
  - Qualify contractors in January 2022
  - Open bids in spring 2022
  - Construction starts in summer 2022
  - Three-year project
  - Apply for federal infrastructure funding when available
- Establish enhanced Source Water Protection Team

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November 18, 2021

# Association of Metropolitan Water Agencies (AMWA) Award





# Sustainable Water Utility Management Award

“Knoxville Utilities Board is the **first-time winner** of the **Sustainable Water Utility Management Award**. Knoxville Utilities Board makes the right investments in its utility systems and develops and promotes environmentally sustainable initiatives within its operations and through its programs. The utility participates in **Green Invest, the City of Knoxville Mayor’s Climate Council, and the Water Quality Forum** to continuously improve its commitment to environmental stewardship and protection of local water sources. **KUB’s sound financial structure and management ensure all sustainability initiatives are well-funded and balanced annually.**”

-AMWA.net



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WATER AGENCIES**

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