



September 18, 2025

Authorization of Flexibility Power Purchase Agreement – SR Carroll Solar

Resolution 1512

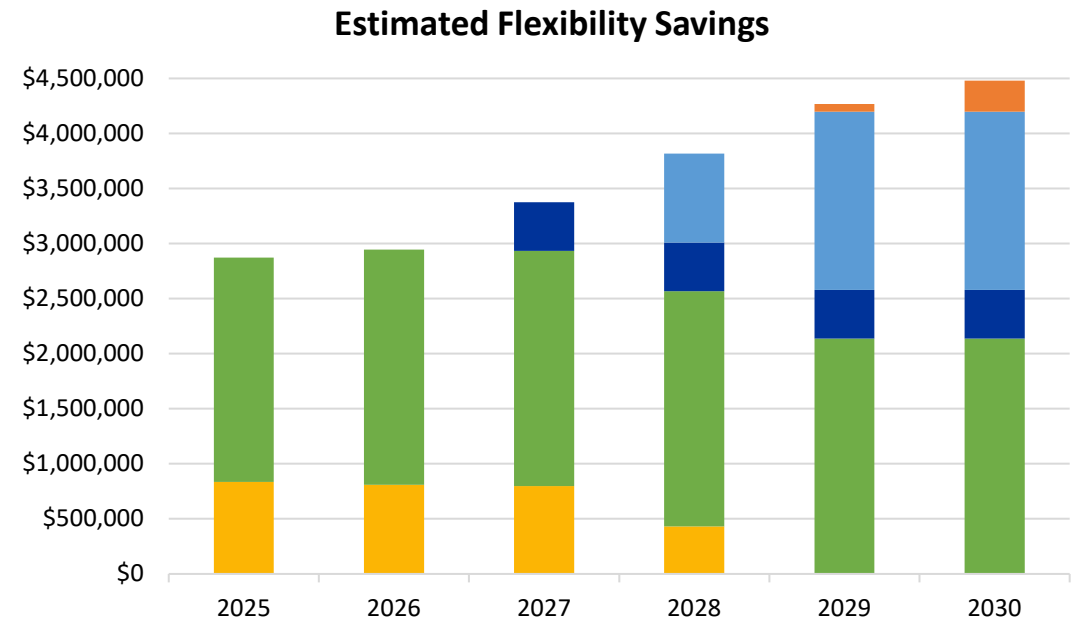
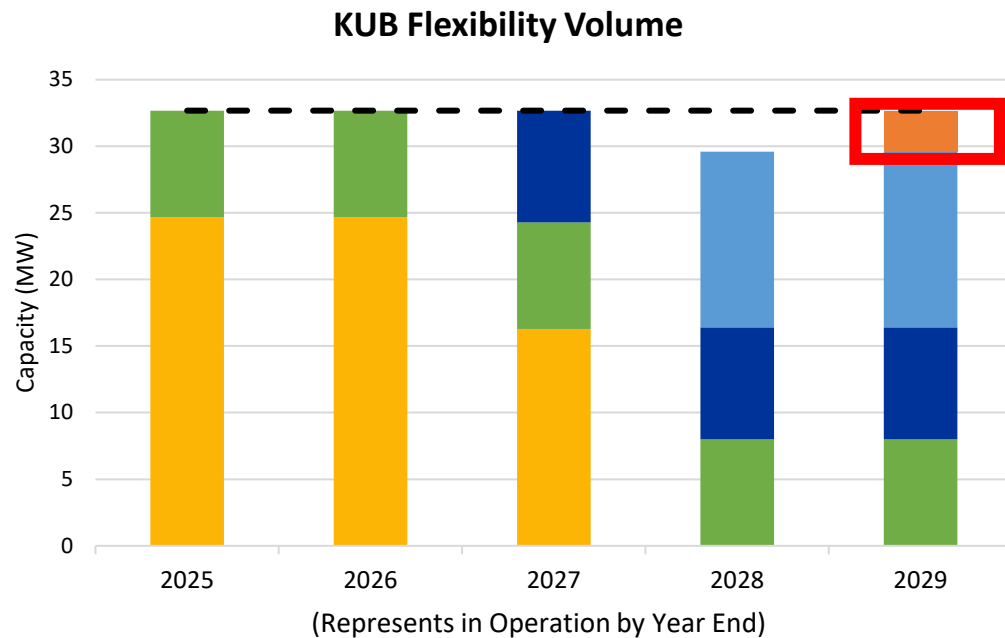


Generation Flexibility Project Preview*

Project	Estimated Capacity	Expected KUB Board Review	Estimated Operation Date
Biomass Project (Three-year short-term)	Non-solar: 32 MW → 15 MW (tiered)	Approved	December 2024
Golden Triangle Green Invest Conversion	Solar: 20 MW	Approved	January 2025
Durhamville LPC Aggregated Project	Solar: 33 MW	Approved	Summer 2028
Cemex Local Solar Partnership	Solar: 21 MW	Approved	Summer 2027
Carroll County	Solar: 7 MW	September 2025	Fall 2029
Remaining	Solar: <1 MW	TBD	TBD

*All projections are preliminary estimates and subject to change pending final agreements.

Generation Flexibility Project Preview*



■ Biomass ■ Golden Triangle ■ Cemex (local) ■ Durhamville ■ Carroll

*All projections are preliminary estimates and subject to change pending final agreements.

Flexibility Contract Approach

Outside of KUB Service Territory:

Power Purchase Agreement (PPA) → Developer sells to KUB

Flexibility Option Power Purchase Agreement (FOPPA) → KUB sells to TVA

The PPA and FOPPA work together to create net savings to KUB, even while KUB is billed by TVA “as usual” for electricity consumed by customers on our local system.

Development Window Contract:

Letter Agreement → Assurances for design and development prior to PPA execution

Silicon Ranch – Carroll County: 7 Megawatt (MW) Solar

- Offer to buy in to a small portion of remaining shares at 140 MW site
- Silicon Ranch will develop, own, and operate the project in Carroll County, TN with expected completion in Fall 2029
- Interconnected to TVA Transmission System – 19 local power company offtakers
- Fixed price for 20 years
- Net annual KUB savings = Est. \$280,000
- Leveraging Letter Agreement to account for development timeframe with PPA execution in 2027

Resolution 1512

- Authorizes execution of a Letter of Intent with SR Carroll supporting development of a 7 MW solar project
- Authorizes future execution of a 20-year PPA to purchase produced electricity and renewable energy credits from SR Carroll
- Authorizes future execution of FOPPA to sell electricity to TVA
- Permits President & CEO to make minor revisions to the PPA and FOPPA in the best interest of KUB and its customers
- Takes effect upon passage by the Board

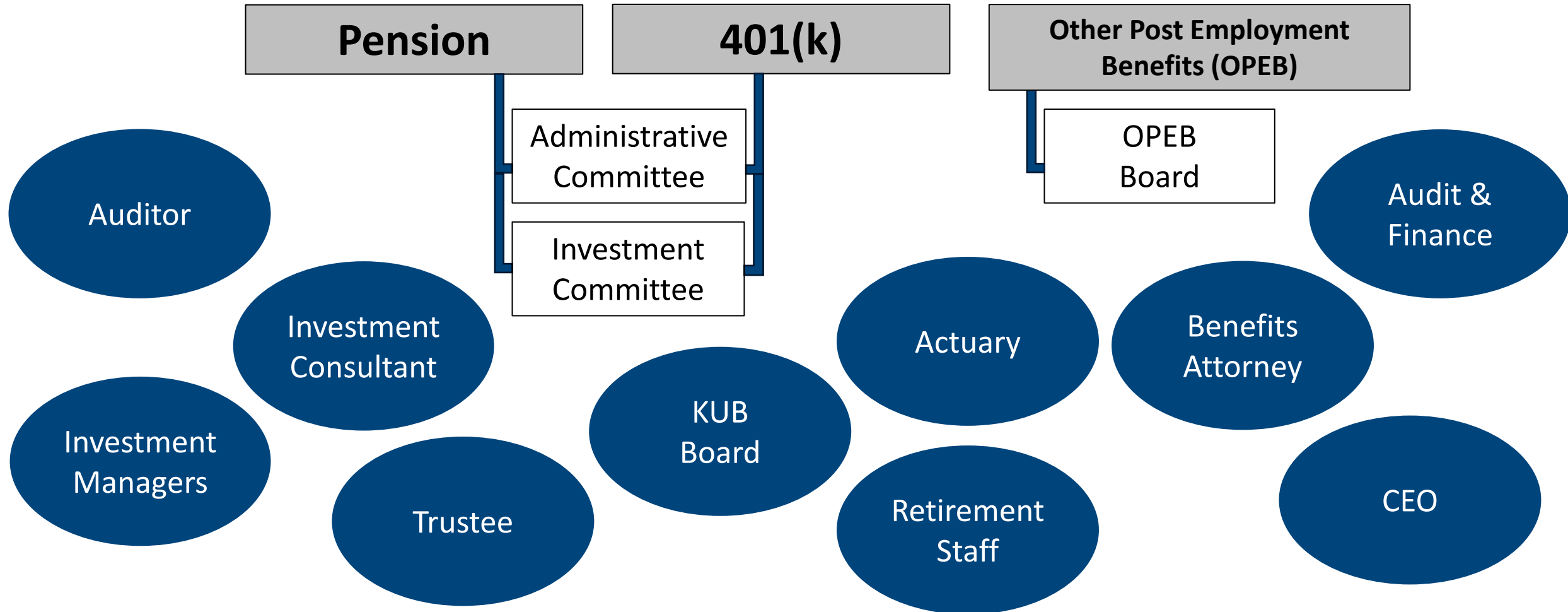


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Retirement System Overview



Retirement System Overview



Board Responsibilities

- Board resolution delegates certain responsibilities to President & CEO, Administrative Committee, Investment Committee, OPEB Board, and Retirement System staff
- Board Responsibilities:
 - Approve amendments to plans
 - Adopt/terminate plans
 - Approve amendments to investment policies

KUB Pension

- Established by Board of Commissioners on July 1, 1999, in accordance with the City Charter
- Defined Benefit Plan funded by KUB to provide retirement benefits to eligible KUB employees
- Based on years of service and salary
- Choice of lump sum or annuity benefit
- Effective January 1, 2011, the plan was closed to new hires, who are provided an enhanced 401(k) retirement benefit in lieu of a pension

Pension Investment Strategy

- Invested with several different investment managers and diversified in:
 - Large, mid, and small cap
 - Domestic and international stocks
 - Government and corporate bonds
 - Real estate
 - Short-term government funds
- Total return on pension assets as of 6/30/25 was 12.4% and 7.9% over the last 5 years (net of fees)
- The goal is to achieve an average return of 7.00% over the long term

401(k) Plan Benefit

	Hired before January 1, 2011	Hired after 2010
History	Established by Board on 12/1/1984, in accordance with City Charter	Plan amended in 2010; post-2010 hires receive non-elective 401(k) contribution in lieu of pension
Employee Contributions	Pre-tax, Roth, or after-tax	
KUB Match	50% on employee deferrals (3% max)	
KUB Non-Elective	N/A	3-6% based on service
Vesting – Employee Contributions	100% vested	
Vesting – Employer Contributions	3-year vesting	6-year graded vesting

401(k) Investment Strategy

- Employee directed individual accounts
- Diversified, broad range of mutual funds, including active and passive options
- Twenty-two investment choices, plus access to a brokerage window
- New hires default to Target Date Funds at 6%
- 94% participation

Other Post Employment Benefits (OPEB) Trust

	Retiree Medical	Health Reimbursement Arrangement (HRA)
History	Board approved the Trust effective October 18, 2007; Health Plan closed to new hires July 1, 1999	CEO approved addition of HRA to the plan effective January 1, 2022
Eligibility	Service date prior to 7/1/99 and meeting Rule of 80	Service date 7/1/99 or after and meeting Rule of 80
Benefit	Group health insurance benefit	\$50,000 HRA benefit
Participant Contributions	Monthly premiums and out of pocket	None
Funding	Annual required contribution determined by actuary	

OPEB Investment Strategy

- The trust is invested in a short-term government securities fund and a diverse, passively managed balanced fund
- The total return on OPEB assets as of 6/30/25 was 12.0% and 8.5% over the last 5 years (net of fees)
- The goal is to achieve an average return of 7.00% over the long term

Actuarial & Financial Overview

Plan	Funding Method	Current Funded Status	6/30/25 Assets
Pension	Actuarial pre-funding	103.9%	\$280,210,000
401(k)	Employee + Employer	N/A (DC Plan)	\$203,920,000
OPEB	Actuarial pre-funding	96.3%	\$55,360,000



September 18, 2025

Summer Bill Impacts



Above-Average Temperatures Dominated Much of Summer, As Predicted

Summer predictions: What kind of weather to expect in Knoxville, East Tennessee



Allison Kiehl

Knoxville News Sentinel

May 20, 2025, 5:06 a.m. ET

Both the National Weather Service Climate Prediction Center and the Old Farmer's Almanac forecast above-average temperatures in the East Tennessee region in June, July and August.

WEATHER

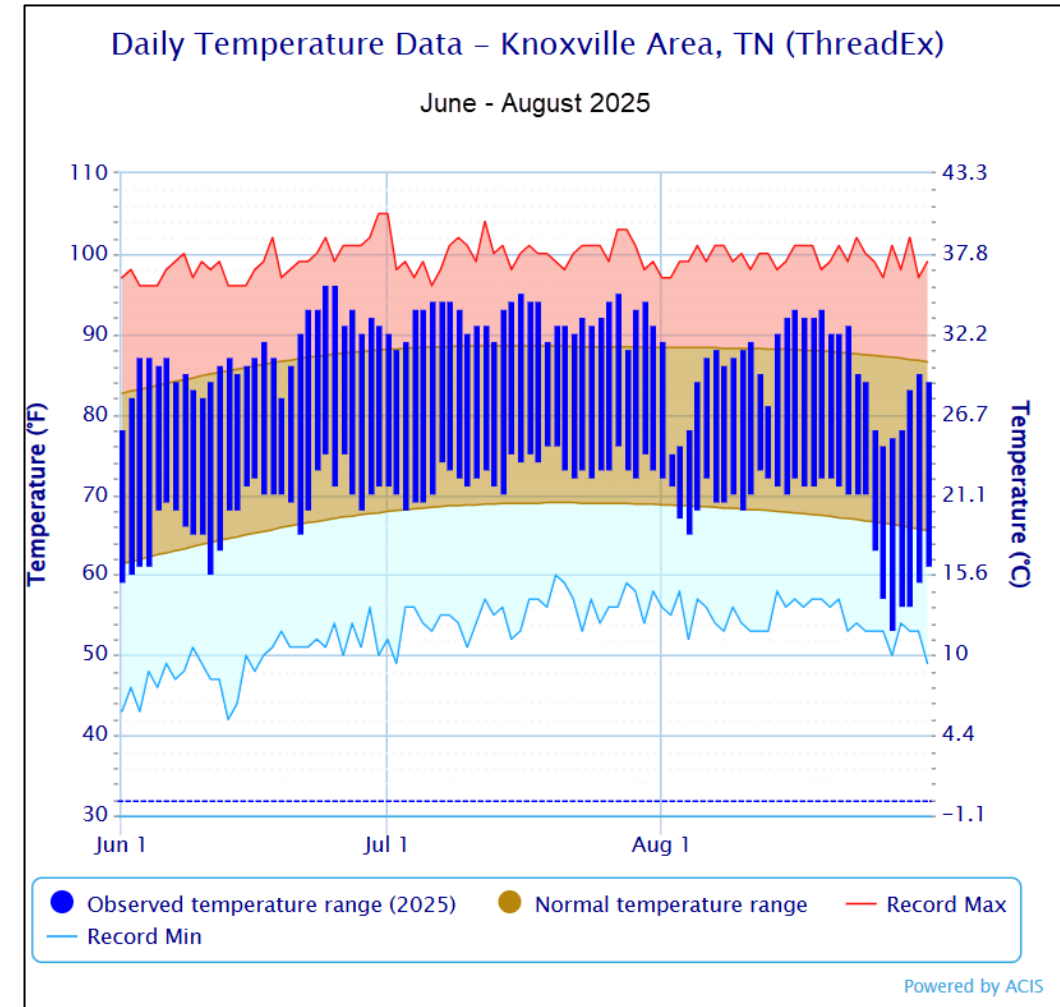
'Not your grandmother's heat wave.' Why Tennessee summer heat feels more extreme in 2025



Joyce Orlando

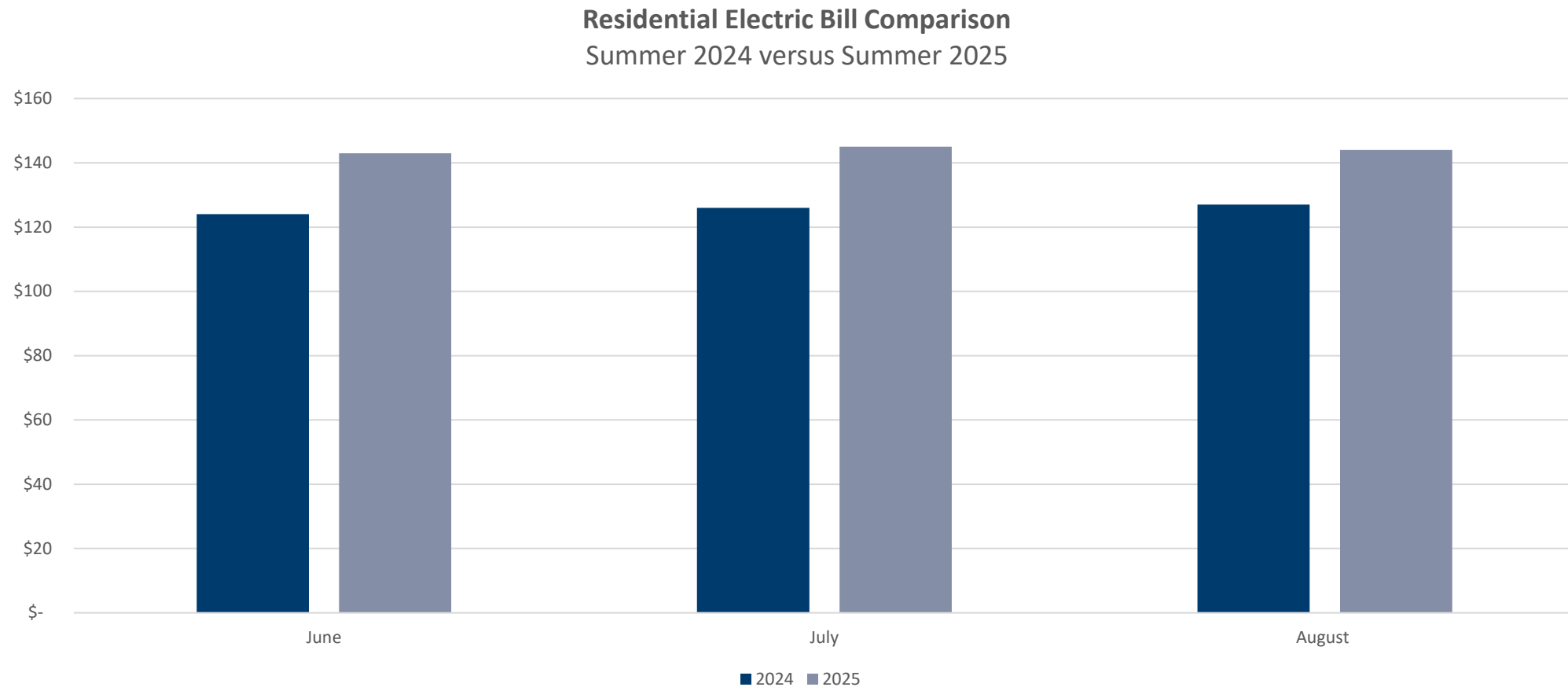
USA TODAY NETWORK

July 28, 2025, 3:57 p.m. CT



Source: National Weather Service – N.O.A.A.

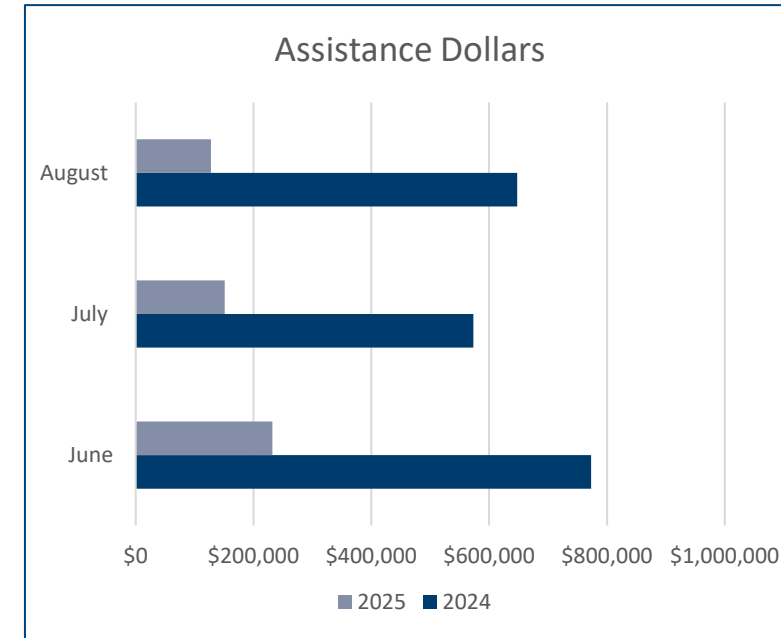
Average Residential Bills 15% Higher This Summer Than Last



Based on 1,000 kWh consumption

Assistance Funding Down 74% – Helping Customers Navigate the Gap

- Offering due date extensions and flexible payment arrangements
- Sharing energy and water savings tips through social media, bill messages, and workshops
- Encouraging customers to use the Levelized Billing Program to smooth out seasonal billing fluctuations
- Partnering with Project Help to fill funding gaps where possible
- Guiding customers to long-term solutions like home weatherization



Mica Tate, Customer Service Supervisor, guiding customers and team members through the busy summer high-bill season.


Guiding Customers to Tips, Tools, and Programs

KUB Knoxville Utilities Board
June 26 · 🌐

Minimize seasonal usage spikes with Levelized Billing!

This program takes a rolling 12-month average of your monthly usage and bills you a more consistent amount every month.

Sign up for Levelized Billing at kub.org/levelized.



LEVELIZE YOUR BILL

● Levelized Billing ● Average Temp ● Regular Billing

Learn More
www.kub.org/levelized

KUB

KUB Knoxville Utilities Board
August 18 at 9:22 AM · 🌐

Beat the heat and save money on your utility bills!

Through our partnership with [TVA EnergyRight](#), KUB offers free interactive workshops packed with practical tips to save energy, water, and money. See firsthand how small changes can make a big impact.

Request a free workshop for your community group at www.kub.org/workshops.




KUB

KUB Knoxville Utilities Board
August 15 at 11:39 AM · 🌐

Income-eligible KUB customers could qualify for free home energy improvements that can save hundreds of dollars on utility bills!

Through TVA Home Uplift with funding provided by KUB, qualifying customers receive an average of \$12,000 worth of home improvements. Upgrades may include new or repaired HVAC units, insulation, appliances, water heaters, and more.

See if you qualify and apply today at kub.org/weatherization.



YOU COULD BE ELIGIBLE FOR FREE WEATHERIZATION AND EFFICIENCY IMPROVEMENTS

Learn More
kub.org/weatherization

KUB

Intentional Education and Outreach

Increasing Customer Participation and Savings

- 2024 home weatherization efforts delivered nearly 10% year-over-year bill savings for almost 130 customers
- Levelized Billing enrollment up 4% – 1,500 more customers gaining predictable monthly bills
- 350+ adults and youth learned energy and water savings strategies through summer workshops



Winter Readiness: Equipping Customers with Knowledge and Ongoing Support

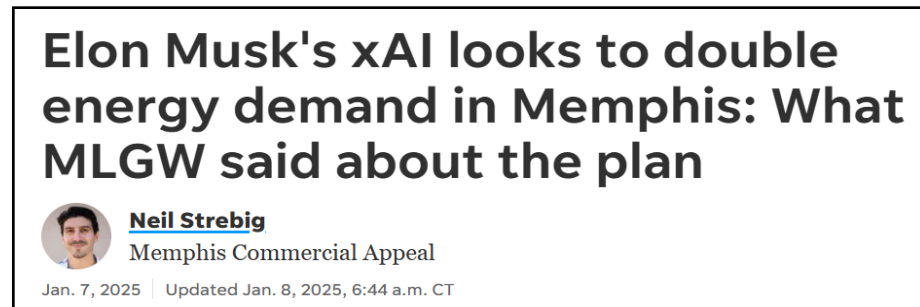
- Informing customers about the impact of supplier energy costs on bills
- Increasing outreach as winter heating season approaches
 - KUB-scheduled energy and water workshops across the community
 - Targeted communication to customers receiving prior assistance
 - Highlighting Levelized Billing Program as most effective solution
- Partnering with assistance agencies to support customers as funding returns to pre-pandemic levels and faces delays from program adjustments

Data Center Load Growth & Impacts



Data Centers are Driving Rapid Electricity Demand Growth Across the Country

- Large data centers have significant power needs
- TVA is reviewing prospective requests for over 11,000 MW of power – comparable to 6.5 million homes
- Nationally, demand is growing faster than the electric grid can quickly accommodate
- Data centers increasingly part of national security, economic competitiveness agenda



Local Landscape: KUB's Data Customers

- KUB's largest electric customer is a data center
- Combined data center load is approx. 70-80MW across several customers
- Data centers in KUB's territory serve varied purposes:
 - IT server farms (traditional)
 - Crypto and block chain (new)
 - AI (emerging)
- While data centers can pose challenges, they also offer positive opportunities to KUB and our local economy

KUB's Data Center Customers have been “Good Grid Citizens”

- Data centers paid for upfront distribution infrastructure upgrades
 - Limited stranded cost risk to broader customer base
- High, consistent usage by data centers has significantly increased KUB's margin revenue
 - This revenue has helped reduce impact of local rate increases
- Local cryptocurrency customers are demand response partners – and often overperform relative to contract requirements
 - Demand response exceeded 70 MW during recent extreme events – 5% of KUB's peak load
 - Data center flexibility helped stabilize grid and avoid expensive market purchases

Rapid Demand Growth Can Raise Wholesale Energy Costs

In traditional energy system planning:

- Utilities assume customers use maximum power at all times
- Utilities expand system (generation & transmission) to accommodate peak demand
 - Cost recovery for that expanded supply is added to rates and paid by all customers
- With a traditional approach, rapid growth could trigger significant grid upgrades to accommodate peak load requirements, at the expense of all customers
 - Customers could face stranded costs if data centers fail to come / stay online

New Utility Partnerships and Rate Innovations Can Protect Customers

- Massive data centers don't fit well with traditional energy planning
- To support opportunity while protecting customers, utilities and data centers are creating new approaches to rates, regulations, and operations
- With a proper framework, data centers could be "good grid citizens," just like they are for KUB
 - Designated payments for grid upgrades help avoid risk to other customers
 - Greater utilization of existing assets can help reduce rate pressure
 - Reliable demand response participation can turn a liability into an asset to manage grid reliability

Data Companies are Already Innovating

- Onsite generation
 - Achieves speed-to-market by bypassing traditional utility build
- Designated power agreements
 - Data centers pay premium for new power generation
- Load flexibility
 - Technology and operational commitments to reduce load at peak times

Data Centers Bypassing the Grid to Obtain the Power They Need

As AI drives unprecedented data center growth, operators bypass traditional power grids, turning to on-site generation to meet urgent energy demands.



Drew Robb
May 1, 2025

Google Backs Advanced Nuclear at TVA's Clinch River as ORNL Pushes Quantum Frontiers

Google is partnering with Kairos Power and TVA to bring advanced nuclear power to its hyperscale data centers, while Oak Ridge National Lab debuts a room-temperature diamond-based quantum cluster, signaling a new era where AI, next-gen energy, and high-performance computing converge.

[David Chernicoff](#), [Matt Vincent](#) • Sept. 5, 2025 • 8 min read

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Google partners with I&M and TVA to expand use of demand response at its AI data centers

Aim to lessen wait times for data centers seeking a grid connection

August 04, 2025 By: [Zachary Skidmore](#) [Have your say](#)

Key Takeaways

- KUB's large data customers are "good grid citizens" and have been financially beneficial to all KUB customers
- Rapid growth of data centers does pose a challenge to TVA's grid
- To mitigate infrastructure challenges and protect affordability for non-data customers, utilities will need new approaches to:
 - Cost allocation
 - Load management / flexibility
 - Customer innovation & partnership
- Innovation is underway in the Tennessee Valley to accommodate the benefits of data centers while reducing risks to the grid and energy affordability

