TOGETHER WE CAN 2020 ANNUAL REPORT

"Together we can."

This sentiment swept through KUB campuses and the communities we serve throughout the COVID-19 pandemic.

As East Tennessee and others around the world faced the challenges 2020 brought with it, KUB employees worked together to ensure KUB customers continued to receive reliable utility services in the midst of uncertainty we'd never seen before.

Throughout this report, you'll learn more about what those employees more than 1,000 of your friends and neighbors - accomplished this year.

Now more than ever, I am proud of those accomplishments, and I am proud to serve our customers.

glace Bales

Gabe Bolas, KUB President & CEO



Pictured: Bolas, left, walks with Knoxville Mayor Indya Kincannon at the newly opened Kuwahee Greenway.

OUR COMMUNITY

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Pictured: KUB employees participated in the Phyllis Wheatley YWCA's 25th Diversity Day and Race Against Racism on Jan. 18, 2020.

COMMUNITY RELATIONS BY THE NUMBERS



area non-profits.

Year 20 (FY 20).

for **seven months** during the COVID-19 pandemic.



TOGETHER APART: THE KUB WORKPLACE

To ensure KUB customers continued to receive reliable utility services, while maintaining a safe and healthy workforce, KUB worked quickly to develop a plan of action to promote social distancing and proper hygiene measures on campuses across Knoxville.

For many employees, that meant transitioning to a remote workspace. For others, it meant operating on a new schedule. But for everyone, it meant new methods of communication. KUB's Information Services department worked to ensure more than 1,000 employees had the tools and resources available to stay informed and effectively complete their jobs.

Employees received pandemic response updates regularly and shared photos of their new workspaces and coworkers.

Learn more about changes made to protect employees and customers in each utility system's section of this report.







TOGETHER APART: KUB CUSTOMER ASSISTANCE

Suspension of Service Disconnections

KUB was quick to respond to the financial impact COVID-19 had on customers by suspending disconnections for nonpayment in March 2020 and waiving late fees for customers with bill payment concerns.

Increased Customer Communication

KUB worked to increase customer awareness of counselor availability, payment plans, and utility bill assistance partner agencies' resources through creation of two pandemic response web pages, social media, local news messaging, and customer mailings.

Updated Long-Term Rates Forecast

KUB's Fiscal Year 2021 (FY 21) budget was updated to include no rate increases. The original plan for a rate increase in all four systems was updated in fall 2019 removing increases for electric and gas customers. Water and wastewater planned increases were removed as the financial impact of COVID-19 became clear.





KUB'S PANDEMIC RESPONSE PLAN

At KUB, we are committed to providing safe and reliable services for our community. In this time of uncertainty, that commitment remains as strong as ever. Nost my job recently due to the outbreak and this just means the world to me. Bless you all and thank you from the bottom of my heart." – Maggie

"Thank you from me & my family! We have been worried!"

- Jennifer

"With many businesses drastically reducing hours, it means less money for their employees. This is very helpful to those families who would struggle to pay their bills due to the current situation. Thank you for being sensitive to their needs."

- Heather

Continued Commitment to Low-Income Assistance

Increased Focus on Weatherization

More than 440 homes have been weatherized through the Round It Up program, with support from TVA's Home Uplift and the City of Knoxville.

Through Round It Up, customers may round their bills up to the next dollar, sending their change to help those in need of weatherization, providing a solution to a root cause of higher energy consumption. **More than \$3.4M** has been donated by KUB customers.

In FY 20, KUB announced an additional **\$1M annually** to fund weatherization, as well as a new toilet replacement program to assist low-income customers.

These efforts not only provide an environmental benefit, but also provide financial relief for those in need, especially important throughout the COVID-19 pandemic.





Pictured: KUB President & CEO Gabe Bolas, left, and Dwain Covington, owner of Round It Up's 400th weatherized home.



ENERGY & WATER SAVING WORKSHOPS

KUB introduces virtual workshops for community members

KUB, in partnership with TVA EnergyRight, provides **Energy** and Water Saving Workshops free to community groups and organizations. In FY 20, KUB began partnering with area organizations to provide virtual workshops in the midst of the COVID-19 pandemic for participants to watch remotely.

Workshops include interactive displays to illustrate how small changes can lower energy and water use, as well as monthly cost. Participants also receive conservation kits to start making simple changes in their homes.

Throughout FY 20, KUB presented **22 workshops to more than 560 community members**, bringing the total number of workshop attendees to more than 720. The Socially Equal Energy Efficiency Development (SEEED) organization partnered with KUB to train SEEED's Career Readiness Program participants to present KUB workshops to their communities.







PERFORMANCE RECOGNITION

KUB received the Sue Kelly Community Service Award from the American Public Power Association for its commitment to community service. This award "recognizes a communityowned utility for 'good neighbor' activities that demonstrate the commitment of the utility and its employees to enhancing the quality of life of the community it serves."



INCLUSION AT KUB

2015 NEXT: Preserving Lagacy Award: Ranse Kosler 2019 Diversity Champion: Knowsille Utilities Board, Gabe Bolas, CED



2013 Diversity Pieseer In Education: Reservice Colleg Dr. Keith Lindwey 2019 Diversity Trailblazer: Theatis Robinson Jr.

Pictured: KUB was recognized as a Diversity Champion, as detailed in the following pages.

INCLUSION DIVERSITY & ENGAGEMENT

KUB has worked hard to make diversity and inclusion part of our corporate culture, through internal conversations and productive dialogue, as well as through interactions with customers in the communities we serve.

In FY 20, KUB began an internal communication series centered around inclusion. We have also continued to emphasize the importance of embracing all different elements of our communities through the efforts of the Diversity Steering Committee, a cross-departmental group committed to identifying opportunities for education and open discussion. We are also committed to promoting self-evaluation so that we can all enhance our understanding of others' experiences, stay aware of their unique needs, and continue providing safe, reliable services to all our customers.

KUB's commitment to inclusivity isn't just reflected through a "one-and-done" training session or outreach program; it's an ongoing conversation that has continued in FY 20 and will remain central in all operations.

"At KUB, we believe in diversity and inclusion and expect all of our employees to value and treat every person with respect."



Pictured right: June 5, 2020 post on social media following the death of George Floyd in Minneapolis, Minnesota



M Knoxville Utilities Board June 5 - Q

As we have all seen in the news over the last week, our nation is hurting. The death of George Floyd, and others before him, has led to peaceful protests and violence in cities across the nation. No community is immune from the hurt and pain that is now being expressed so publicly. This difficult time for our community is made worse by the economic circumstances so many of our customers find themselves in through no fault of their own. At KUB, we believe in diversity and inclusion and expect all of our employees to value and treat every person with respect. We will continue to work to make sure we offer any help we can to customers and employees as we work through the challenges ahead.



PERFORMANCE RECOGNITION

KUB was recognized as a 2019 Diversity Champion at the Inaugural Inclusive Knoxville Luncheon and Awards event in November. The event was organized by NowDiversity.org National Organization for Workforce Diversity and took place at the University of Tennessee campus in Knoxville.





Pictured: One of six ducklings rescued from an effluent tank at KUB's Fourth Creek Treatment Plant.



ENVIRONMENTAL STEWARDSHIP BY THE NUMBERS



the **Round It Up** program.



COMMITMENT TO RENEWABLE ENERGY

Green Invest

KUB entered into a first-of-its-kind Green Invest agreement with TVA to secure 212 megawatts (MW) of new-to-the-grid solar power on behalf of KUB customers. This new solar investment of \$825,000 per year will generate an anticipated 465 million kilowatt-hours (kWh) of solar output per year, an amount equal to 8 percent of KUB's annual electric load, or the equivalent of powering approximately 35,000 average homes.

Community Solar

KUB is in the planning stages of Knoxville's first community solar project in partnership with the City of Knoxville and TVA. It is proposed to be sited on City of Knoxville property at an estimated size of 700 kilowatts (kW).

Customer Generation

KUB continues to support customers who prefer to generate their own solar power by partnering with TVA to offer community distributed generation programs, including Dispersed Power Production and Green Switch. Through these programs, more than 6,100 kW of customer-owned renewable energy capacity is interconnected to KUB's grid.







ELECTRIC VEHICLE CHARGER REBATE PROGRAM

eSCORE™ SMART THERMOSTAT PILOT

TOILET REPLACEMENT PROGRAM

VIRTUAL ENERGY & WATER SAVING WORKSHOPS

Residential customers who purchase Level 2 electric vehicle (EV) chargers can receive rebates of up to \$400. Customers have saved more than \$35,000 through the program since it began.

Qualified residential electric customers receive free, installed ecobee smart thermostats in return for their participation in a demand response program to reduce electric system peaks.

Low-income customers receive more efficient toilets and installation of other low-cost water and energy saving measures, in partnership with TVA. Customers can save up to \$300 annually on bills.

KUB's Energy and Water Saving Workshops are available virtually through local social service agencies. Virtual home energy evaluations are also available in partnership with TVA.





Operational Sustainability

KUB is committed to maintaining environmentally sustainable operations across all utilities.

KUB received two Orchid Awards from Keep Knoxville Beautiful, including one for the new Engineering Building (pictured left), recognizing its sustainable features. KUB continues investing in efficiency upgrades across its facilities.

KUB also maintains an alternative-fuels fleet, which was again named in 2020's 100 Best Fleets and includes compressed natural gas (CNG), electric, and hybridelectric powered vehicles.

KUB's Biosolids Beneficial Reuse Program is also Platinum Certified by the National Biosolids Partnership.



PERFORMANCE RECOGNITION

KUB earned the Smart Energy Provider (SEP) designation from the American Public Power Association for demonstrating commitment to and proficiency in energy efficiency, distributed generation, and environmental initiatives that support a goal of providing low-cost, quality, safe, and reliable electric service.

Again this year, KUB customers helped to improve energy efficiency in our area resulting in KUB achieving Top Performer status in the following programs: Green Power Switch; Home Uplift; Score Energy Efficiency; eScore Self Audit; and Home Energy Workshops.







Pictured: KUB's Michael Allison, right, and contractor Utility Partners of America's Jim Sterling pose with the final AMI electric meter installed



METER MODERNIZATION PROJECT COMPLETION



Pictured: KUB's Michael Allison, front, takes a selfie with Mrs. Davis, who lives where the last AMI meters were installed.

KUB's nearly four-year meter modernization project was completed in April with the installation of the final gas (top), electric (middle), and water meters (bottom). The \$76 million project was finished more than two months ahead of schedule and nearly \$6 million under budget.

An average of 1,657 meters were deployed each week throughout the project, with the record week reaching 3,192 meters installed.

Advanced meters allow for remote meter readings, remote connections and disconnections, early water leak alerts, and decreased power outage times. They also allow KUB to provide customers detailed usage information and options like Time of Use rates.







ELECTRIC SYSTEM

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ELECTRIC SYSTEM BY THE NUMBERS





When people have an outage at home, we aren't just affecting their home anymore. We're affecting their workplace, their kids' school. Providing that reliable service now is as important as it's ever been."

> Steve Proffitt Manager, Overhead Construction



Outage Response

During FY 20, KUB crews were able to nagivate challenges presented by the COVID-19 pandemic without slowing outage restoration times. Crews responded and restored power to all customers per outage event in FY 20 within approximately three and a half hours, on average.

Prioritized Safety

KUB's Overhead Construction department had zero serious preventable injuries in FY 20. Delivery of safety messaging shifted from in-person staff meetings to more frequent text messaging throughout the pandemic in an effort to keep safety a primary focus in all situations.

Vegetation Management

\$10M was budgeted in FY 20 for KUB's Vegetation Management program, which works to improve reliability by maintaining trees and shrubbery around electric lines according to the Arbor Day Foundation's guidelines. Vegetation Management prunes around approximately 1,000 miles of line each year.











POLE REPLACEMENT

1,900 poles were replaced in FY 20 as part of KUB's ongoing Century II infrastructure replacement program. More than **21,000 poles** have been replaced since 2012.

TRANSMISSION LINE REPLACEMENT

15 miles of transmission line were replaced in FY 20 as part of KUB's 10-year high voltage transmission system rebuild, which will improve reliability and upgrade communication infrastructure through fiber optic lines linking all substations.

SUBSTATION MODERNIZATION

KUB's substation modernization efforts are **68 percent complete**. Modernization efforts include installation of longer-lasting technology and animal resistant equipment to improve electric reliability.

DISTRIBUTION AUTOMATION

17 fault location, isolation, & service restoration (FLISR) devices were installed in FY 20, enhancing KUB's ability to automatically isolate outages and reduce customer impact. This is the fourth year of a 10-year installation of 300 devices. In FY 20, more than **1,739,000 customer minutes of interruption** were saved because of FLISR technology.





PERFORMANCE RECOGNITION

KUB achieved Diamond Level status as part of the American Public Power Association's Reliable Public Power Program (RP3). Diamond Level is the highest possible in the RP3 program, which recognizes utilities that demonstrate high proficiency in reliability, safety, work force development, and system improvement.



GAS SYSTEM



GAS SYSTEM BY THE NUMBERS



157,381

peak capacity (dth)

43% of sales

\$55.88/month **\$1.84**/day

Aa2 Moody's bond

AA S&P's bond rating

rating

. . . .



Throughout the COVID-19 pandemic, KUB ensured its customers continued to receive natural gas service through a variety of safety methods including utilization of staggered shifts, remote workspaces, and limiting customer interaction.

In response to a rise in gas line damages that result in the need to enter customer homes for repair during the pandemic, KUB developed a Damage Prevention Task Force. The task force conducted field visits and made phone calls to excavators proactively to promote safe digging around gas lines.



KUB GAS SYSTEM NEARS 2,500 MILES OF DISTRIBUTION LINE

KUB's Connect to Comfort gas system expansion efforts continued in FY 20, with 41 miles of new distribution pipeline bringing the total to 2,498 miles of line.

The Choto Road expansion project began in FY 20 with a \$1.3 million budget and 8 miles of service line to install. The Raccoon Valley expansion added more than 4 miles of service line to the gas system in FY 20.

To continue to grow its natural gas system and to provide an added benefit, KUB's Natural Gas Appliance Rebate program is available to customers. Through the program, customers receive an appliance rebate when they convert existing electric or propane appliances to qualifying natural gas appliances.

In FY 20, 144 appliance rebates were provided to customers through the program bringing the total number of rebates provided to 394.







GAS MAIN REPLACEMENT

More than 8 miles of steel gas main were replaced with polyethylene pipe, which has lower maintenance cost, in FY 20 as part of KUB's Century II infrastructure maintenance and replacement program.

SYSTEM RESILIENCY IMPROVEMENTS

KUB installed **more than 4 miles** of distribution pipeline to provide resiliency to strategic locations within the gas distribution system. This provides customers an added level of reliability.



GAS VALVE MAINTENANCE

KUB introduced an in-house gas valve crew in FY 20 to ensure proper maintenance and location awareness of KUB's 21,000 gas valves on a five-year cycle with critical valves inspected annually. This crew inspected **more than 4,500 valves** in its first cycle and **more than 4,800** in its second cycle.







PERFORMANCE RECOGNITION

The American Public Gas Association named KUB to its System Operational Achievement Recognition (SOAR) Program, which honors forward thinking natural gas distribution utilities that constantly strive to improve operating capabilities, overcome challenges, and adapt to a changing environment. KUB achieved a score of 96 out of 100 points and was recognized at the Silver Level in its first submission.





WATER SYSTEM BY THE NUMBERS



SERVICE AREA



188 square mile service area

1,410 miles of service mains

FACILITIES & CAPACITY



treatment plant
storage facilities

25 booster pump stations

62.9 million gallons rated capacity

36.9 million gallons reservoir capacity



TREATMENT

12.7 billion gallons treated water

34.8 million gallons/ day average flow



FINANCIALS

\$14.3 million change in net position

\$204.9 million outstanding debt

50.3% debt ratio

Aal Moody's bond rating

AAA S&P's bond rating



CUSTOMERS

80,961 customers

44,880 gallons annual use by typical residential customer

\$27.95/month

\$0.92/day




SOFTWARE SOLUTIONS FOR IMPROVING EFFICIENCY

While utility providers have adopted more virtual solutions to limit operational disruption during the COVID-19 pandemic, new software has streamlined cross-departmental communication and response in the KUB water system, providing innovative problem-solving applications that reach far beyond what the pandemic has required.

Use of communication channels set up by project and team has promoted cross-departmental discussion and collaboration, and a new online form has streamlined status reporting and tracking from field crews to engineering groups. Photos, notes, and mapping are all integrated into online systems so that any problems are identified and solved quickly. Adoption of these technological tools continues to evolve KUB's system to more efficiently provide reliable and high-quality water service.









Water Find and Fix Dashboard

The new Find and Fix dashboard Information System (GIS) to provide both field users and engineers real-time assessors in the field can also connect with crews equipped to make repairs as necessary.

to streamline communication with engineers, with all information synching during the pandemic as road traffic has limiting customer service interruptions.

Sevmou



GALVANIZED PIPE REPLACED

As part of KUB's ongoing Century II infrastructure maintenance and replacement program, **over 8 miles** of galvanized pipe were replaced in the water system during FY 20.

CAST IRON/CEMENT PIPE REPLACED

As part of Century II projects, **nearly 6 miles** of cast iron and cement pipe were replaced in the water system during FY 20.



PERFORMANCE RECOGNITION

KUB received two National Association of Clean Water Agencies' (NACWA) National Environmental Achievement Awards in 2020. These awards recognized KUB's "outstanding contributions to environmental protection and the clean water community." KUB received an award in the Public Information and Education - Video category for the video **The Importance of Clean Water**.



For the second time, KUB received NACWA Water Resources Utility of the Future Today recognition, which honors water resource recovery facilities for community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients. KUB was chosen as a model for utilities of all sizes to achieve more efficient operations, enhanced productivity, and long-term sustainability.





WASTEWATER SYSTEM

WASTEWATER SYSTEM BY THE NUMBERS







RELIABLE WASTEWATER TREATMENT, SYSTEM MAINTENANCE

While the COVID-19 pandemic has shined a light on frontline heroes, KUB employees, both in the field and behind the scenes, kept working to provide essential services like wastewater treatment and infrastructure maintenance.

By creating safe work areas where social distancing and appropriate precautions could be maintained, plant operators and underground construction crews ensured that while KUB customers faced a world of the unknown, they never had to question whether their wastewater service would be impacted.

Pictured left: KUB Underground Construction employee Chris Swaggerty posed with his family during the Knoxville-Knox County "Safer At Home" order to depict their experience with his job as an "essential worker," as defined by local, state, and national governance.

PLANTS OPERATIONAL CHANGES

FIELD CREW OPERATIONAL CHANGES

COMMITMENT TO EMPLOYEE AND CUSTOMER SAFETY Operators at KUB's wastewater treatment plants were able to maintain social distance during the COVID-19 pandemic by working in an increased number of control rooms, limiting their face-to-face interaction with others. By ensuring the health and safety of plant operators, wastewater treatment has been uninterrupted by the pandemic.

At the onset of the pandemic, underground construction crews renewed their focus on operational protection of KUB's infrastructure, evaluating and preparing the system for potential outage impact. During this time, essential and critical work like emergency response, key construction projects, and system improvement tasks continued. During the "Safer at Home" order in KUB's service area, crews worked on staggered shifts or from different buildings, separating water/wastewater system groups from gas system groups.

At all times, both before and during the pandemic, KUB is committed to protecting the safety and well-being of its customers and employees. As with all other utility systems, wastewater employees both in the field and at treatment plants are equipped to protect the health of customers and coworkers.









PIPE REHABILITATION AND REPLACEMENT

As part of KUB's ongoing Century II infrastructure maintenance and replacement program, **over 24 miles** of pipe were rehabilitated or replaced in the wastewater system during FY 20.

PLANT INVESTMENT

As part of the Century II program, KUB invested **\$5.8 million** in wastewater plant maintenance and improvements during FY 20. **\$14.12 million** was also invested in upgrades to the Kuwahee Wastewater Treatment Plant as part of the final project under KUB's Consent Decree, which is valued at **\$655 million** in total.



PERFORMANCE RECOGNITION

KUB received two National Association of Clean Water Agencies' (NACWA) National Environmental Achievement Awards in 2020. These awards recognized KUB's "outstanding contributions to environmental protection and the clean water community." KUB received an award in the Workforce Development category for the plant Operator Qualification program.



Each year since 2011, KUB has been Platinum certified by the **National Biosolids Partnership**, which recognizes the biosolids beneficial reuse program for consistently producing a highquality biosolids product and promoting resource recovery while achieving and maintaining public and regulatory trust and acceptance.





2020 WAS A YEAR OF NEW CHALLENGES FOR EAST TENNESSEE. KUB'S COMMITMENT TO SERVE NEVER CHANGED.

"KUB's FY 20 included a range of unprecedented events, including a global pandemic and economic crisis. Through it all, we never lost sight of our commitment to providing safe and reliable utility services.

As we continue into FY 21, we know that our work has not ended. We know that now, perhaps more than ever, our friends and neighbors depend on essential utility services, and we continue to explore and implement new and innovative ways to ensure every customer's needs are met.

That's why this year, and every year, KUB resolves to serve our community, prioritize customers, and ensure that no hurdle is too large to keep us from getting the job done. Without our employees' hard work, we cannot achieve operational success. Without engaging our community, we cannot learn from our customers and continue finding ways to better serve them.

Together, we can. Together, we will."

— The KUB Family





Connect and learn more.

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