



## 2021 Environmental Report





KUB exists to serve our customers, and supporting sustainable advancements in all facets of our operations is one of the best ways we do that.

Whether it's our investment in solar energy across our service territory, reducing vehicle emissions through grid modernization and distribution automation, new options for customers to support renewable energy, or low-income weatherization initiatives, we continue to implement new ways to act as environmental stewards while maintaining reliable and affordable utility services.

I am proud to be part of East Tennessee's push for a more sustainable future through the City of Knoxville Mayor's Climate Council and even more proud to work with and serve community members who join in the effort.

*Gabe Bolas, KUB President and CEO*



## Community Solar

KUB is bringing Knoxville its first Community Solar array.

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## Governor's Environmental Stewardship Award

KUB received a Pursuit of Excellence award for its commitment to environmental stewardship.

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## Operational Sustainability

KUB facilities continue to receive sustainable upgrades.

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## Low-Income Home Weatherization

KUB and its partners have weatherized 1,800 homes. Additionally, KUB launched a new water efficiency program.

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## Biosolids

KUB keeps solid waste from its wastewater treatment process out of landfills through its biosolids program.

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## Electric Vehicles

KUB works with local partners to foster EV adoption.

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## Employee Efforts

KUB employees develop and implement various environmental programs and initiatives throughout the organization.

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## Customer Programs

KUB offers customers a variety of green services and programs.



Green Connect  
Green Switch Match  
EV Charger Rebate Program  
CNG Fueling Station  
Home Efficiency Workshops  
Usage Management Programs

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## Green Invest

Solar-generated electricity will supply 20% of KUB's load by the end of 2024.

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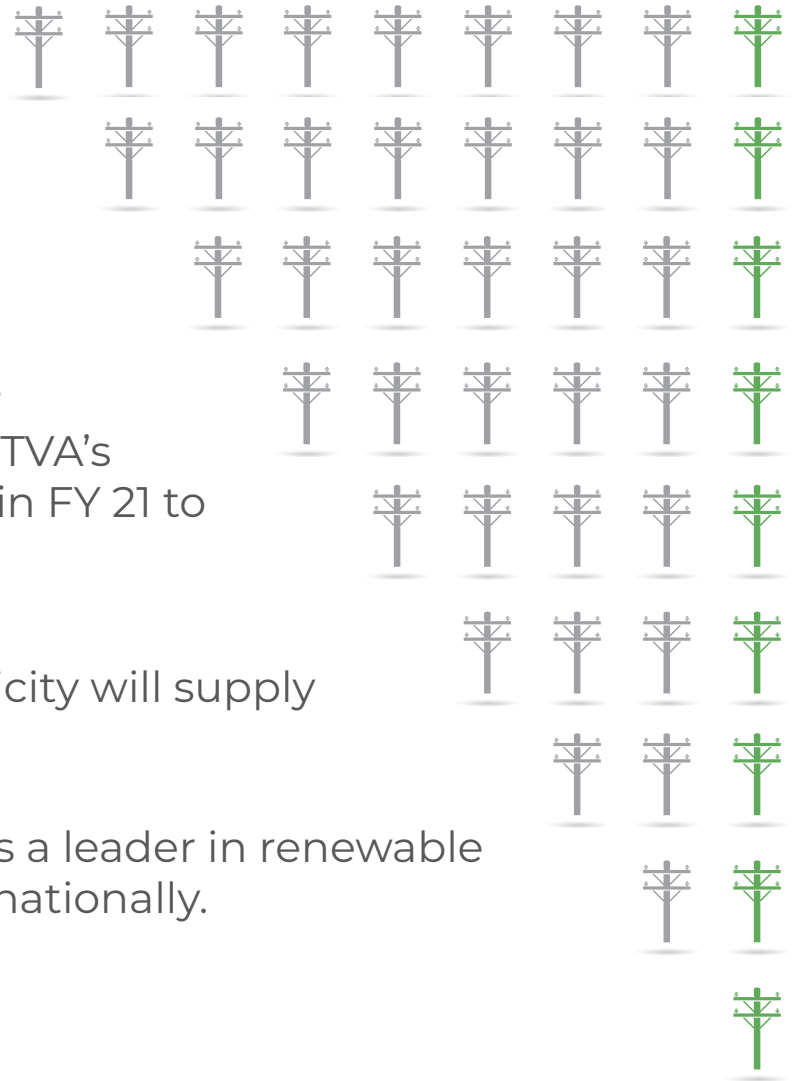
Green Invest

A large-scale solar farm with rows of photovoltaic panels stretching into the distance. The scene is bathed in the warm, golden light of a low sun, creating a strong lens flare effect. A dense line of green trees forms the background under a clear sky.

# 502 MEGAWATTS

THE BIGGEST SOLAR  
INVESTMENT IN THE VALLEY





KUB increased its solar commitment through TVA's Green Invest Program in FY 21 to 502 megawatts.

Solar-generated electricity will supply **20% of KUB's load** by the end of 2024, positioning Knoxville as a leader in renewable energy regionally and nationally.

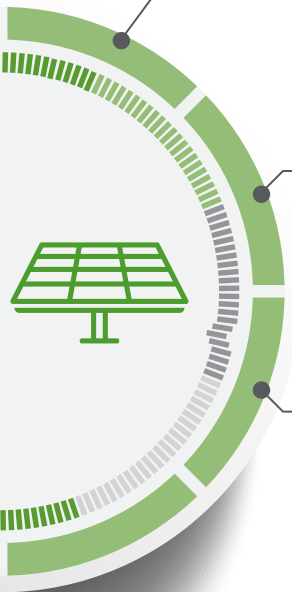
That's enough solar energy to power  
**83,000 homes each year**

# Community Solar

## KNOXVILLE'S FIRST COMMUNITY SOLAR PROJECT







**\$1.5M**

KUB has committed \$1.5M to building Knoxville's first community solar project, a partnership with TVA and the City of Knoxville.

**1MW**

The City of Knoxville has committed to housing the 1-megawatt array on 3 acres of land at its Public Works facility.

**2022**

This year, KUB partnered with TVA and the City of Knoxville to complete the environmental review and begin construction preparation. The Community Solar Program is scheduled to go online in 2022.



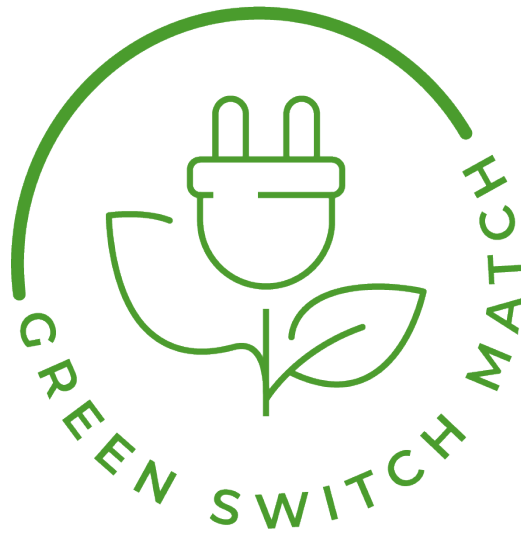
## Green Connect

KUB participates in Green Connect in support of small-scale solar installations throughout its service territory.

Customers receive technical assistance, access to a quality contractor network, and inspection services.

KUB customers have over 160 solar installations interconnected to KUB's grid, with a total capacity of 7.7 megawatts.





Green Switch Match launched in FY 20 and allows customers to purchase renewable energy in quantities matching their monthly electric consumption for 1 cent per kWh used.

The average customer pays \$11 to participate in Green Switch Match. More than 140 customers enrolled in the first eight months after the program launched. Enroll in Green Switch Match [here](#).

**100% renewable energy**

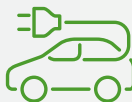




## Electric Vehicles

KUB is a proponent of the adoption of electric vehicles (EVs) throughout its service territory. As a founding member of Drive Electric Tennessee and a member of East Tennessee Clean Fuels, KUB staff serve on policy and infrastructure working groups to support the use of electric vehicles.

KUB was the first of TVA's local power companies to adopt its new EV charger wholesale rate, which reduces demand charges for separately metered EV stations. This builds upon KUB's infrastructural support for the City of Knoxville, the University of Tennessee, and other customers as they work to incorporate EVs into their fleets and campuses.



FIRST TO ADOPT TVA'S  
EV CHARGER WHOLESALE RATE



## KUB is the first and only

one of TVA's local power companies to offer a customer rebate as an EV-use incentive. KUB offers a **rebate of up to \$400**

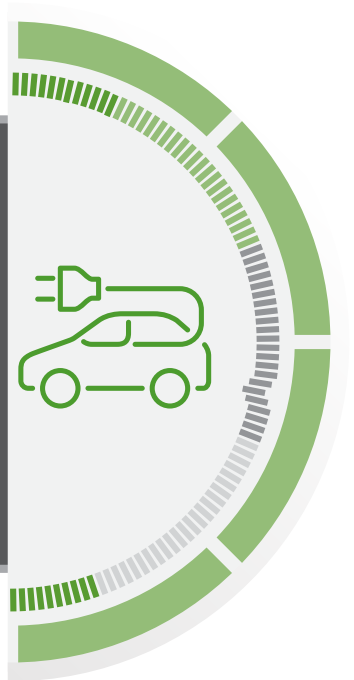
for customers who install a new level 2 EV charger in their home. Customers can apply for a rebate [here](#).

Rebates Awarded  
Since Summer 2019

174

Amount  
Contributed

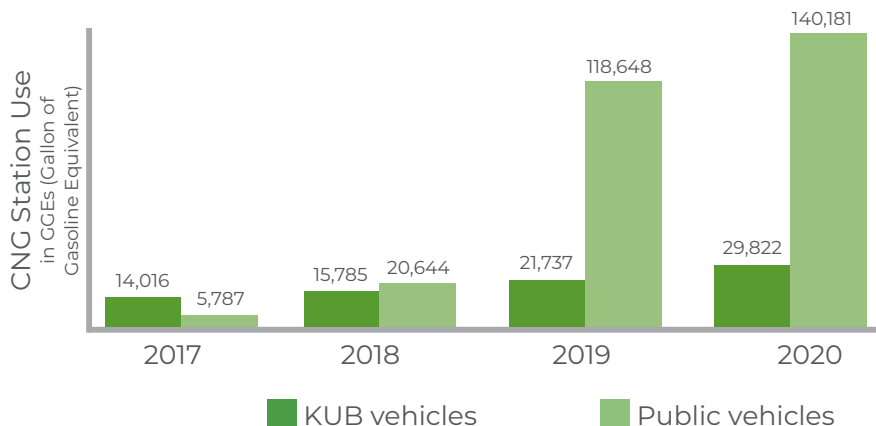
\$68K





## CNG Fueling Station

KUB opened **Knoxville's first public compressed natural gas (CNG)** fueling station in 2017 to support the use of cleaner-burning fuels among its alternative fuel fleet, as well as local and regional fleets. CNG can reduce CO2 emissions by up to 30% compared to gasoline.







# Home Weatherization



**1,800 HOUSEHOLDS**  
SERVED WITH WEATHERIZATION UPGRADES

WITH  
**\$25 MILLION**

More than 1,800 low-income families have received home weatherization improvements, a root cause solution for those with high energy consumption, since KUB started its Round It Up program in 2015. Round It Up allows customers to round their bill to the next dollar to support weatherization.

In addition to customer contributions, KUB has committed \$1M annually to weatherization. Home energy upgrades are also funded through the Knoxville Extreme Energy Makeover (2015-2017), TVA Home Uplift, and grants including the new TDEC weatherization funds. In total, more than \$24.6 million has been invested in weatherization for KUB customers since 2015. Apply for weatherization assistance or enroll in Round It Up [here](#).



**1,800**  
homes

More than 1,800 homes have been weatherized across KUB's service territory.

**\$15-20**  
monthly

Households who receive weatherization save an average of \$15-20 on their utility bills each month.

**\$24.6**  
million

More than \$24.6 million has been invested in weatherization for KUB customers since 2015.



A home weatherization recipient received a home efficiency evaluation from TVA EnergyRight.







## Water Savers

KUB introduced the Water Savers efficiency program in FY 21 to provide water and energy efficiency improvements for low-income customers with an annual commitment of \$500,000.

Access to customer homes is limited due to the COVID-19 pandemic, but KUB has expanded the program to serve additional customers by including emergency water line repair in the services provided through Water Savers.









# Efficiency Workshops



KUB offers Energy & Water Savings Workshops free to customers in partnership with TVA EnergyRight. Attendees leave with a free energy conservation kit, which includes tools they need to start making energy-saving changes at home.

Workshops were offered virtually throughout most of FY 21 and expanded to include TVA Kids' EnergyRight Monsters Workshops. KUB presented 13 workshops in FY 21. In total, approximately 800 community members have benefitted from a workshop. Find savings tips or request a workshop [here](#).



# Customer Usage Management

KUB introduced Time of Use rates in FY 21 to encourage customers to use more energy during off-peak hours with a lower rate. Lowering on-peak usage means less demand on the system and more flexibility for clean energy sources. KUB offers customers an online [tool](#) that shows how much they would pay under Time of Use rates.

Additionally, KUB and TVA offer customers the chance to participate in the residential Smart Thermostat Pilot Program. Through the program, electric customers get a free, installed ecobee smart thermostat in return for participation in a demand response program to reduce electric system peaks. More than 400 smart thermostats have been installed across KUB's service territory as part of the pilot program. Sign up for the program [here](#).









# Employee Efforts



KUB's Environmental Employee Engagement Team includes department representatives from across the organization. The team identifies and promotes sustainability opportunities for KUB employees.



## Stream Clean-Ups

For decades, employees have organized local stream clean-ups through Ijams Nature Center's River Rescue and Knox County's Adopt-A-Stream.



## Swap-n-Shop

Employees maintain and utilize a supply of recycled office materials for reuse.



## Textile Recycling

Employees implemented a textile recycling program that donates old KUB-logoed apparel for recycling.



## Environmental Awareness

Team members work to ensure employees across the organization and community members are informed about KUB's environmental initiatives.





Employees prepare used KUB clothing to be donated and recycled.



# Operational Sustainability







KUB works to ensure sustainability improvements at its multiple facilities through its operational sustainability strategic initiative team.



KUB is implementing several efficiency improvements across its facilities.

Multi-year LED lighting replacement: 100% complete at water/wastewater remote sites & electric substations. 50% complete at water/wastewater plants.

Smart thermostats & building automation at the Miller's Building

HVAC retrofits at various buildings



KUB's Hoskins Operations Center features two solar arrays:

A 50-kilowatt array at the Mintha Roach Corporate Services building

A 57-kilowatt array at the LEED-certified Engineering Building



KUB works to reduce CO2 emissions in its fleet, which includes vehicles that run on electricity, CNG, and ethanol.

Gold Partner, Board Member, & Green Fleet in the TN Clean Fuels Coalition

No. 77 on the 2021 100 Best Fleets in America



KUB maintains a Materials Reuse Program, which allows customers to request items that KUB no longer needs. This includes wood utility poles, pallets, plastic buckets, empty wire reels, and shipping materials.

The program allows for beneficial reuse of the materials and keeps them out of a landfill



# Biosolids

For over 30 years, KUB has produced biosolids, a nutrient-rich, high-quality product of the wastewater treatment process. KUB biosolids are a Tennessee Department of Agriculture-certified fertilizer applied to local farms for free.

KUB's Biosolids Beneficial Reuse Program has been Platinum certified through the National Biosolids Partnership (NBP) since 2011. In 2020, 16 farms received 24,476 wet tons of biosolids, keeping the material from landfills and saving the farmers fertilizer costs.



THE ONLY NBP-CERTIFIED PROGRAM IN TN &  
ONE OF 20 PLATINUM LEVEL PROGRAMS IN THE U.S.



The Tennessee Solar Energy Industries Association (TenneSEIA) presented a 2020 Solar Champion Award to KUB for leadership in support of solar energy deployment in the Tennessee Valley.



KUB's new Engineering Building received LEED certification for environmental considerations in its construction. KUB's Miller's Building is Energy Star certified for energy efficiency.



**SMART  
ENERGY  
PROVIDER**

American Public Power Association

KUB earned 2020 Smart Energy Provider designation from the American Public Power Association for commitment to energy efficiency, distributed generation, and environmental initiatives that support low-cost, quality, safe, and reliable electric service.



## 2021 Governor's Environmental Stewardship Award

KUB received a Pursuit of Excellence award as part of the 2021 Governor's Environmental Stewardship Awards. Excellence awards recognize past winners who continue in their environmental efforts.

KUB was recognized for its commitment to low-income weatherization, advancement in solar, Green Switch Match, electric vehicle support, and more - all highlighted throughout this report.

## Fleet Recognition



KUB was recognized for its alternative fuel fleet in FY 21 by Heavy Duty Trucking, Tennessee Green Fleets, and the 100 Best Fleets of the Americas.

KUB received a Tennessee Sustainable Transportation Award for its support of electric vehicle adoption.



KUB received the TVA EnergyRight Community Champion Award for exemplifying the best of leadership, character, volunteerism, and public advocacy; embodying the spirit of EnergyRight programs; and going above and beyond the standard call of duty.





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