
# RESILIENT FOUNDATIONS

***Building Tomorrow Through Strategic Preparedness Today***

BRYAN TEXAS UTILITIES

BTU

THE DIFFERENCE IS **YOU**

**2023 ANNUAL REPORT**

# 2023 BOARD OF DIRECTORS

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# A LETTER FROM THE GENERAL MANAGER

GARY MILLER

Resiliency was the buzzword in the electric industry for 2023. The focus on resilience, particularly in Texas and ERCOT, has sparked extensive discussions regarding the robustness of the electric grid. While much of this discussion still centers around the events of Winter Storm Uri in 2021, wind and solar energy also factor into the discussion. The diminishing availability of electric generation that can be dispatched to provide energy when the sun isn't shining and the wind isn't blowing is a concern. When discussing BTU's preparation each year for upcoming system improvements, our efforts are centered on resiliency, and have been for many years.

During Winter Storm Uri, BTU fared very well in that all of our systems, including all generation assets, remained online during the entirety of the event. Additionally, BTU's portfolio of energy supply includes a balanced mix of production from solar, wind and natural gas facilities. Maintaining a proper mix of solar, wind and natural gas resources enhances BTU's ability to provide the best economic outcome for our customers.

When designing capital projects for BTU's transmission and distribution system, ensuring the continuity of service for our customers in case of a failure is a top priority. BTU's engineering team consistently incorporates redundancy into the system's design. This means that in the event of a component failure, power can be rerouted so that all or most customers can remain online while repairs are made. This design philosophy, coupled with execution during construction, is the major factor as to why BTU's outage rate is among the industry's best. Our customer outage rates (both frequency and duration), are far below the state and national averages.

Although our generation assets performed exceptionally well in 2021, we are continually adding additional layers of protection against potential severe weather. In the succeeding two years, we have successfully insulated many areas of our power plants that had previously not been identified as potential problem areas. We are confident that the reliability and resiliency of our generating units have increased significantly as a result of these efforts.

The following pages demonstrate our commitment to be there when our customers need us. We are proud to serve the City of Bryan and the surrounding community. We are also extremely proud that we have been able to provide exceptional service at electric rates that are some of the most economical in the state. Our commitment to our customers is that we will continue to design reliable and resilient solutions while providing exceptional customer service at very competitive rates across all of our customer classes.

# RESILIENT FOUNDATIONS

## Building Tomorrow Through Strategic Preparedness Today

One word has been repeated in the energy industry for years; resilience. But it is not just a buzzword for BTU, it is the very essence that propels us into the future.

Storms, both literal and figurative, are a common challenge for utilities in Texas and across the nation. At BTU, we are not just weathering storms; we're embracing them. Resilience is stitched into our core, shaping how we face challenges head-on, learn, and emerge stronger. Our proactive approach emphasizes adaptability and relies on continual improvement.

In recent years and especially in 2023, we have faced challenges including weather, cyber threats, and market shifts. Resilience is not just about survival; it's a gateway to the future. From grid upgrades to fiscal responsibility and long-term planning practices, our preparedness efforts serve as the bedrock for a reliable energy future.

**re·sil·ience**

**/rəˈzilēəns/**

**noun**

**1.**

**The capacity to withstand or to recover quickly from difficulties; toughness.**

**See also: flexibility, durability, strength, adaptability**

# ADMINISTRATION BUILDING CONSTRUCTION

2 stories, 39,242 square feet

Board room with seating for 50+

25 ft x 84 ft skylight

**4 acre site**
located adjacent to the Bryan Regional Athletic Complex

43ft maximum height

2 drive through lanes


Self-serve kiosk

Planning for the current and future needs of the citizens of Bryan and the Brazos Valley is a focus for BTU. In the past 20 years, the number of meters served by BTU has risen by 60 percent. A new facility will enable BTU to continue supporting the thriving community in the Brazos Valley. The new BTU Administration Building is located at 2611 N. Earl Rudder Parkway in north Bryan off Texas Highway 6. It is scheduled for completion in the first quarter of 2025.

3 outdoor spaces for communal gatherings

4 Electric Vehicle charging parking spaces

On-site generator for 96 hours backup power

# WEST LOOP COMPLETION

Recognizing the potential for growth and the need for redundancy on the west side of the BTU system, our engineering department began planning the addition of a 138kV transmission loop that would make the overall system stronger and provide additional resilience to our customers in this area. The BTU 138kV West Loop project began in its planning stages nearly a decade ago and progress began accelerating in 2019. The last stage of the project was completed in 2023.

## 2019

Constructed 6 miles of 138kV transmission line from Snook Substation to Steele Store Substation.

## 2020

Constructed a 138kV terminal at Snook Substation to accommodate the new transmission line.

Constructed the new Steele Store Substation converting a radial 69kV station to a looped 138kV station.

## 2022

Constructed the Leonard Rd Substation as a radial 69kV substation with capability to convert to a 138kV looped station.

Constructed the new 138kV Smetana Substation to replace 2 existing radial 69kV substations.

Constructed 4 miles of 138kV transmission line from Steele Store Substation to Smetana Substation.

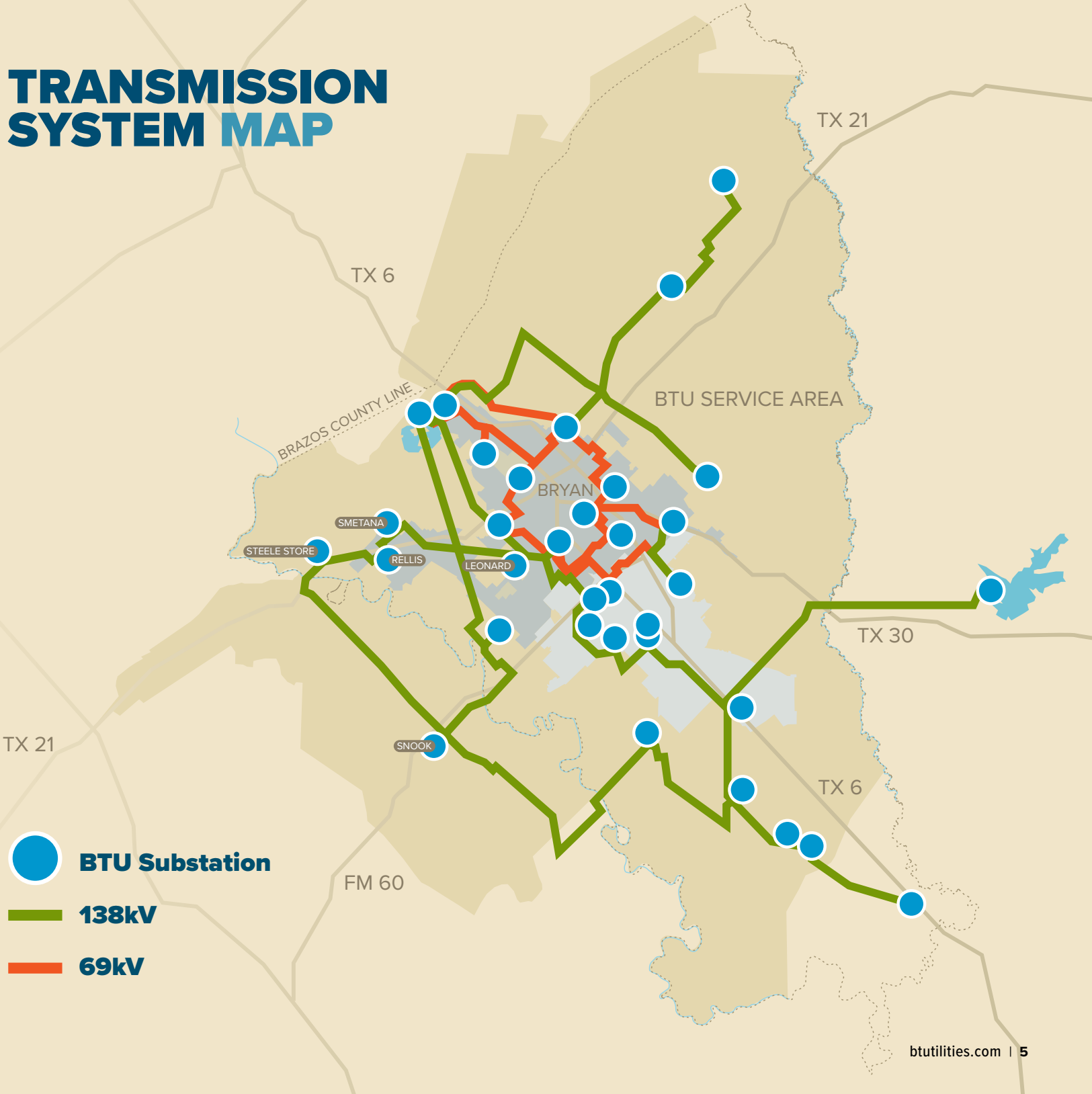
## 2023

Constructed 5 miles of 138kV transmission line from Smetana Substation to Leonard Rd Substation.

Converted Leonard Rd Substation from 69kV to 138kV.

Converted the Atkins Substation to Leonard Rd Substation transmission line from 69kV to 138kV to complete the BTU 138kV West Loop.

# TRANSMISSION SYSTEM MAP



# ENGINEERING RELIABILITY

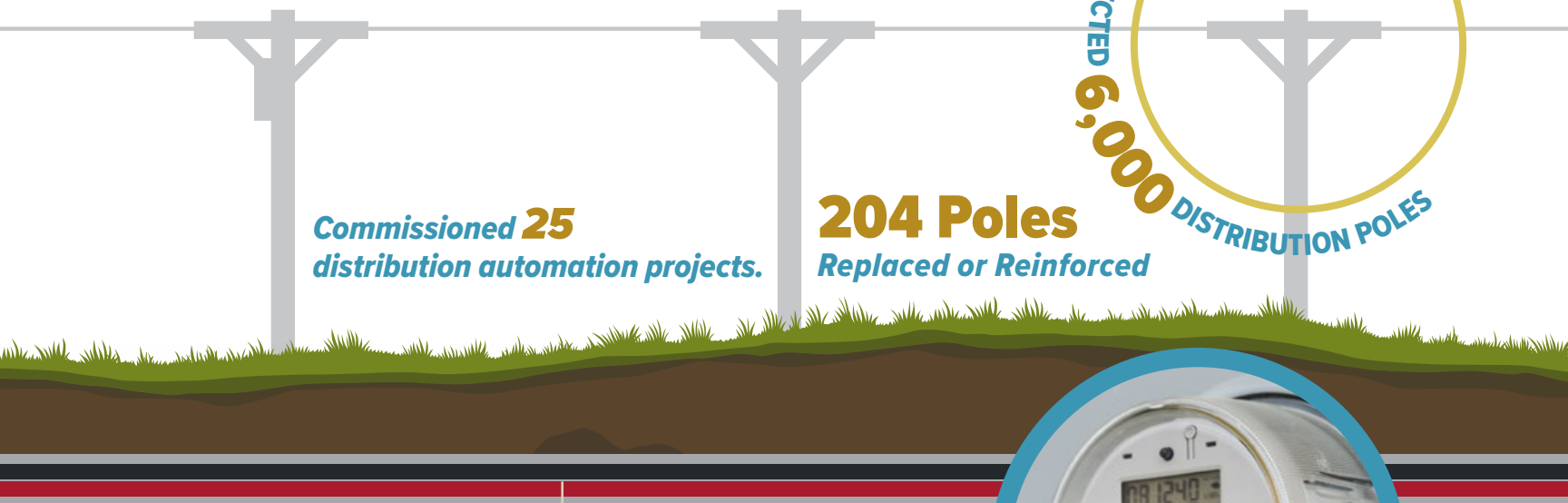
In an era marked by dynamic challenges and unique uncertainties, BTU has relied on its foundational strategic approach to fortify its preparedness and resilience. Through a blend of distribution automation projects, capacity upgrades, and reliability enhancements, BTU has not only responded to the demands of today but positioned itself for the challenges of tomorrow.

***Performed reliability and capacity upgrades to more than 20 miles of distribution lines.***

***Commissioned 25 distribution automation projects.***

**204 Poles**
***Replaced or Reinforced***

***INSPECTED 6,000 DISTRIBUTION POLES***



## UNDERGROUND CABLE

***175 sections of underground cable inspected***

***78 sections tested for performance***

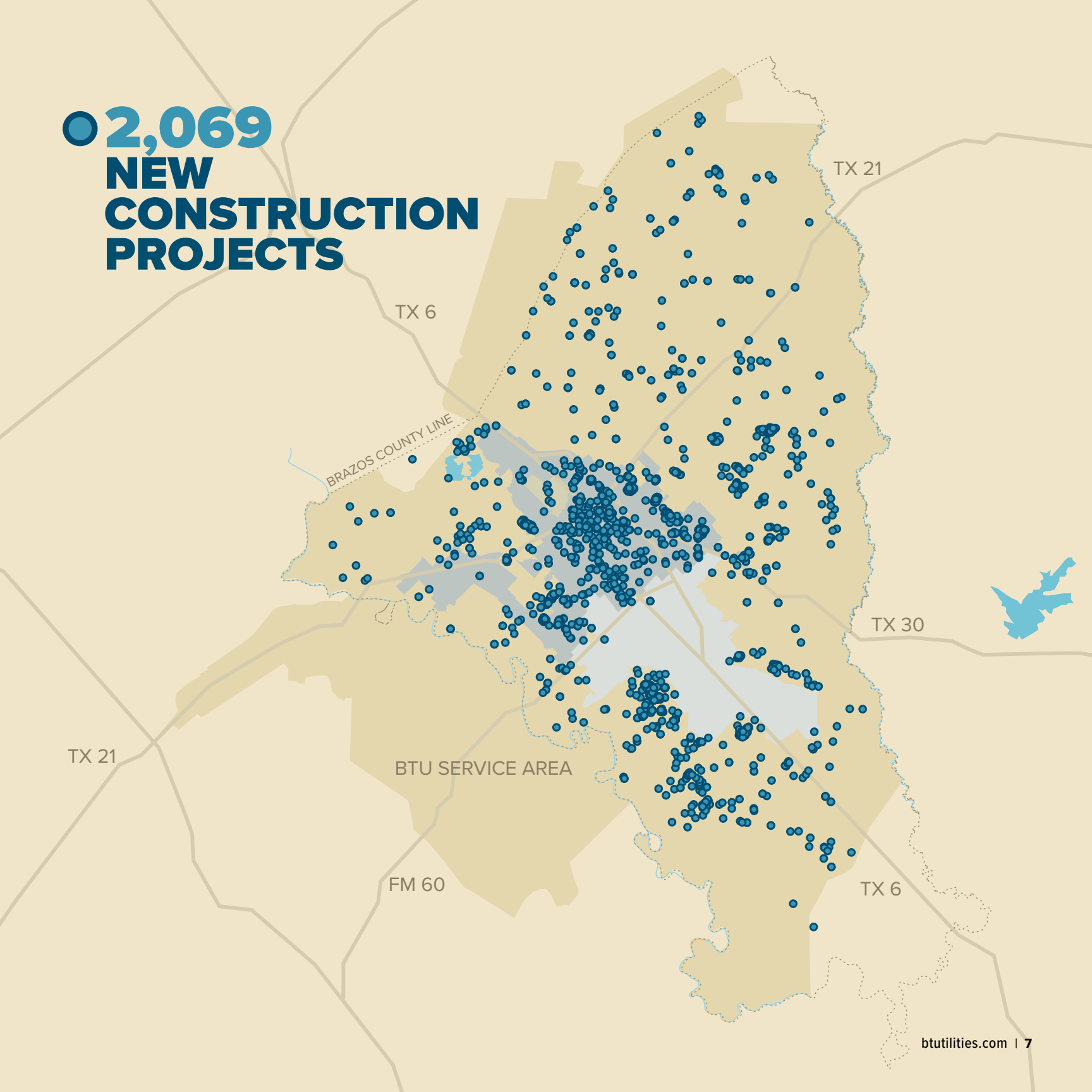
***24 sections repaired or replaced***

***Performed 3,823 meter site inspections.***


***Began final phases of overhead to underground infrastructure conversion along Texas Ave and William J Bryan Ave.***

***Processed applications for 2,543 communication pole attachment touchpoints.***

# 2,069 NEW CONSTRUCTION PROJECTS



# GENERATION

**A key element to resiliency in the electric industry is reliable electric generation. BTU owns and operates four natural gas fired generating units. In 2023, BTU continued its efforts to ensure the reliability of its generating units, which helps keep energy costs low and predictable for customers.**

## Heat Trace and Insulation

Electric heat tracing, also known as heat tape or surface heating, utilizes heating cables to maintain or elevate the temperature of pipes and vessels. The system involves an electrical heating element running in direct contact along the pipe's length, typically covered with thermal insulation to minimize heat losses. Operating temperatures of pipes vary from 100°F to 1,000°F, but still have a risk of freezing without protective measures.

In designing protective systems, the Electric Reliability Council of Texas (ERCOT) specifies temperature thresholds based on weather zones. BTU, exceeding ERCOT requirements, designed systems to handle 0°F with a 25-mph wind (-24°F wind chill). In 2023, BTU installed over 3,500 linear feet of heat tracing and insulation at the Roland C. Dansby Power Plant, home to three generating units.

## Turbine Repairs

Dansby 1 is a natural gas fired steam unit that BTU commissioned in 1978. The Generation department schedules a major inspection involving disassembling the unit on a regular maintenance cycle, typically once per decade. The turbine and its' associated parts operated for over 65,000 hours since the last major inspection in 2013. This comprehensive overhaul involves examining and refurbishing the entire steam turbine generator set, covering the turbine casing, rotor, seals, bearings, generator, and associated components like gears, couplings, lubrication system, and controls. Planning for the overhaul typically starts 1 to 2 years before the commencement of work. Results of the inspection led to several proactive measures which should allow the unit to operate successfully for many years, while helping BTU provide affordable and reliable energy to customers.

## Dam Repairs

Dansby 1 requires a water source to keep the unit at constant desired temperatures. Lake Bryan, an 840-acre lake, was constructed in the early 1970s to serve as a cooling reservoir for the power plant. In 2023, the Generation department initiated a project to remediate dam erosion on the upstream slope of certain areas at Lake Bryan. The upstream slope is crucial for dam protection against erosion caused by wave action. Without proper protection, a phenomenon known as "beaching" can occur, where wave action erodes embankment material and deposits it lower down the slope. The extent of erosion depends on various factors, including wind direction, dam orientation, slope steepness, water level fluctuations, and boating activities.

***Repaired nearly***
**600 linear feet**
***of the upstream slope of the dam.***

**2,000 tons of material for repairs.**
***(gravel bedding, rock rip rap, excluding soils/clay)***

***Expenditure of nearly***
**$700,000**
***on dam repairs in 2023.***

## BTU AND STATEWIDE CITY RATE COMPARISON

*(Cents/kWh)*


## BTU AND STATEWIDE RURAL RATE COMPARISON

*(Cents/kWh)*

**BTU**
**11.36¢**

Statewide Cooperative Average
**13.9¢**
*22.4% Higher*

# SAFETY

***Safety at BTU is a commitment, promise, and value to every employee and of every employee.*** Over the last several years, BTU has developed a commitment to safety as an integral part of its mission and culture. BTU's safety culture is formed and led by employees, and supported by management.

As a result of these efforts, in fiscal year 2023, BTU experienced its lowest total recordable incident rate (TRIR) in history: 0.50. TRIR is an industry accepted measure that compares the number of incidents to the total number of employee hours worked.

Safety is of the utmost importance to all that work at BTU, and we are proud that the safety culture has demonstrated such strong positive outcomes.

**LOWEST**
**TOTAL RECORDABLE INCIDENT RATE**
**IN BTU HISTORY: 0.50**

## EXTREME TEMPERATURES

Despite the oppressive heat, BTU field workers continued their daily routines while avoiding heat-related illnesses. Heatstroke, dehydration, and other dangerous heat-related conditions can occur within a matter of minutes. However, the workers were equipped with training to recognize early signs of heat-related issues and promptly took breaks in shaded areas, stayed hydrated, and wore appropriate protective gear. Employee safety is a cornerstone of BTU's mission and culture.

## HOTTEST SUMMER ON RECORD | 2023

***50 consecutive days over*** **100°**
*(Longest consecutive stretch)*

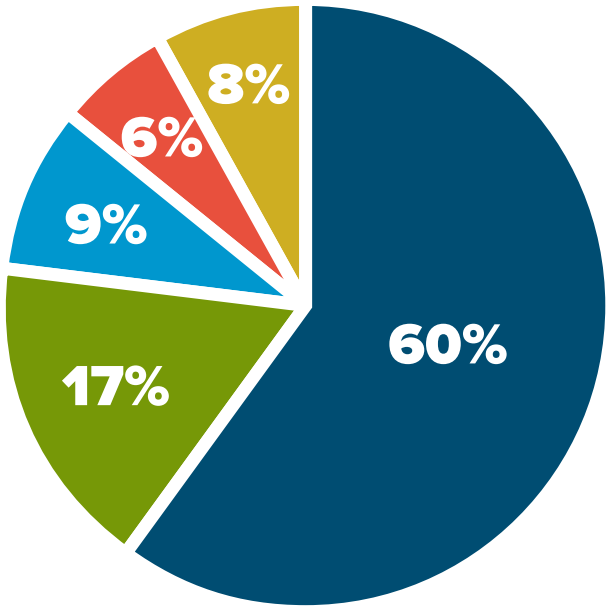
**AUGUST** ***Hottest month on record for the Brazos Valley and globally***

**JUNE, JULY, AND AUGUST:**
***The average temperature was 89.8°, 5.3 degrees above the historical average of 84.5°.***

# POWER SUPPLY

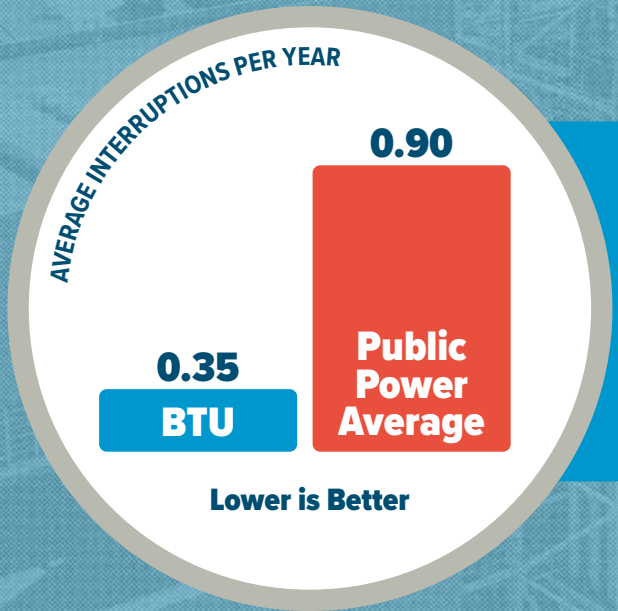
Diverse sources of power generation are essential to providing stable and economical rates to BTU customers. BTU's Qualified Scheduling Entity (QSE) and Generation departments work collaboratively to procure and provide low-cost energy to BTU customers. The QSE plans for long-range resource adequacy for the system's needs by leveraging day-ahead or real-time market purchases against long-term power purchase agreements and BTU's physical generation assets to provide predictable energy costs. This insulates BTU customers against market volatility and keeps rates affordable and steady.

| | | |
|---|---|---|
| **Dansby 1** | **110 MW natural gas** | **Brazos County** |
| **Dansby 2** | **48 MW natural gas** | **Brazos County** |
| **Dansby 3** | **48 MW natural gas** | **Brazos County** |
| **Atkins 7** | **20 MW natural gas** | **Brazos County** |
| **Los Vientos V** | **30 MW wind** | **Starr County** |
| **Penascal II** | **30 MW wind** | **Kenedy County** |
| **Bryan Solar** | **10 MW solar** | **Presidio County** |
| **Samson Solar** | **75 MW solar** | **Lamar County** |




- Fixed-Cost Energy Purchases
- Market Purchases
- BTU-owned Facilities *(Dansby and Atkins Power Plants)*
- Wind Power Purchase Agreements
- Solar Power Purchase Agreements

# SYSTEM RELIABILITY | 2023




## Average Number of Interruptions

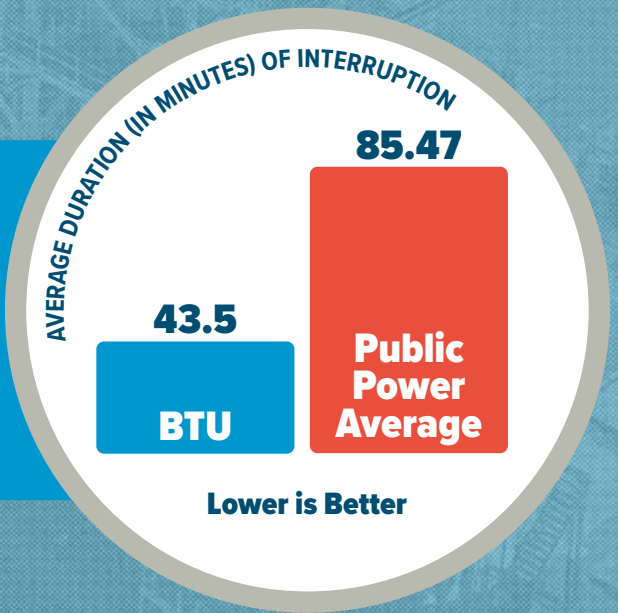
*The average number of interruptions that a customer would experience over the course of a year.*

**In 2023, a BTU customer would experience 0.35 outages per year while the Public Power average was 0.90 outages per year.**

## Average Duration of Interruptions

*The total duration (in minutes) of interruption for the average customer over the course of one year.*

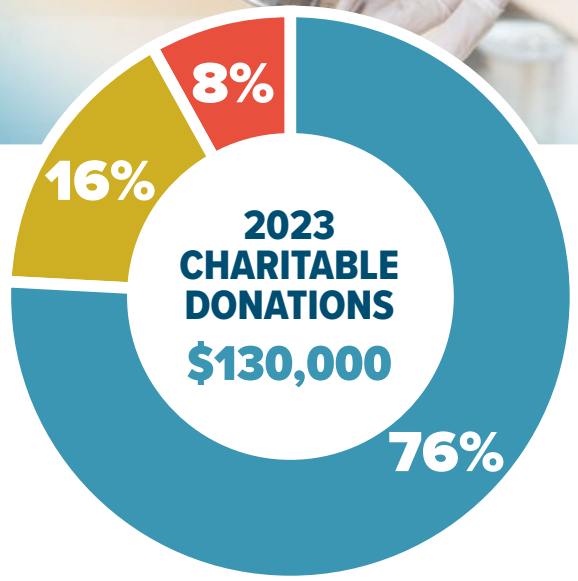
**In 2023, BTU customers had an average duration of 43.5 minutes while the Public Power average was 85.47 minutes.**




***Source : American Public Power Association***

# SERVING THE COMMUNITY

BTU is committed to empowering the community it serves, and that means more than providing electricity. In 2023, BTU gave nearly $130,000 back to those it serves through charitable donations. Donations focused on strengthening the community and economic prosperity such as the Bryan/College Station Chamber of Commerce, caring for those in need such as the Brazos Valley Food Bank or the Salvation Army, and empowering the next generation of community leaders with participation in worthwhile programs such as the George and Barbara Bush High School Public Service Scholarship or The Hispanic Forum of Bryan/College Station.



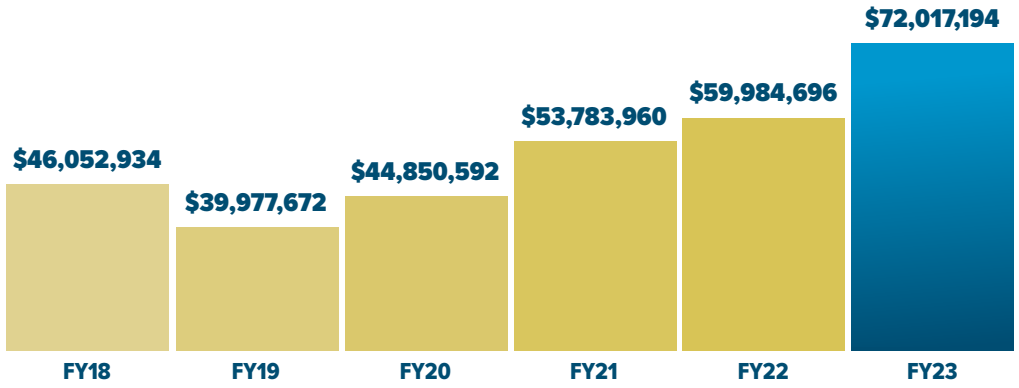

- Scholarship and youth service programs
- Charitable, non-profit organizations
- Economic development and civic organizations

# PERFORMANCE

## CAPITAL EXPENDITURES

*(Actual)*
City + Rural

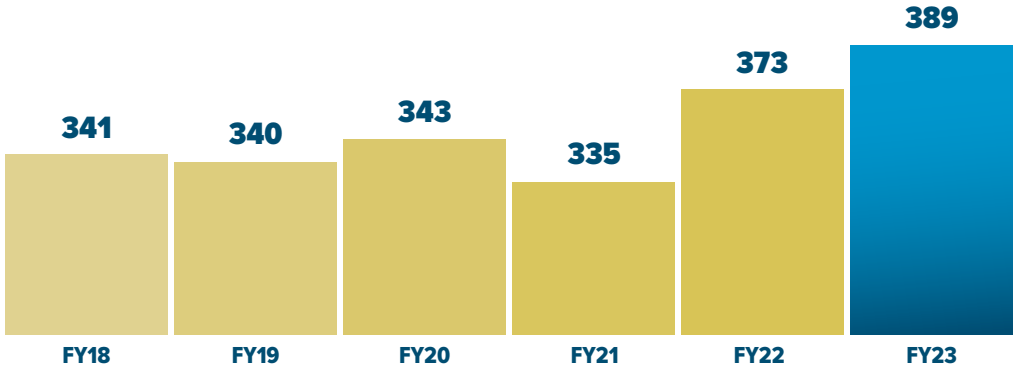
***BTU is reinvesting in the system for reliability and resiliency.***




## SYSTEM PEAK

*(Megawatts)*

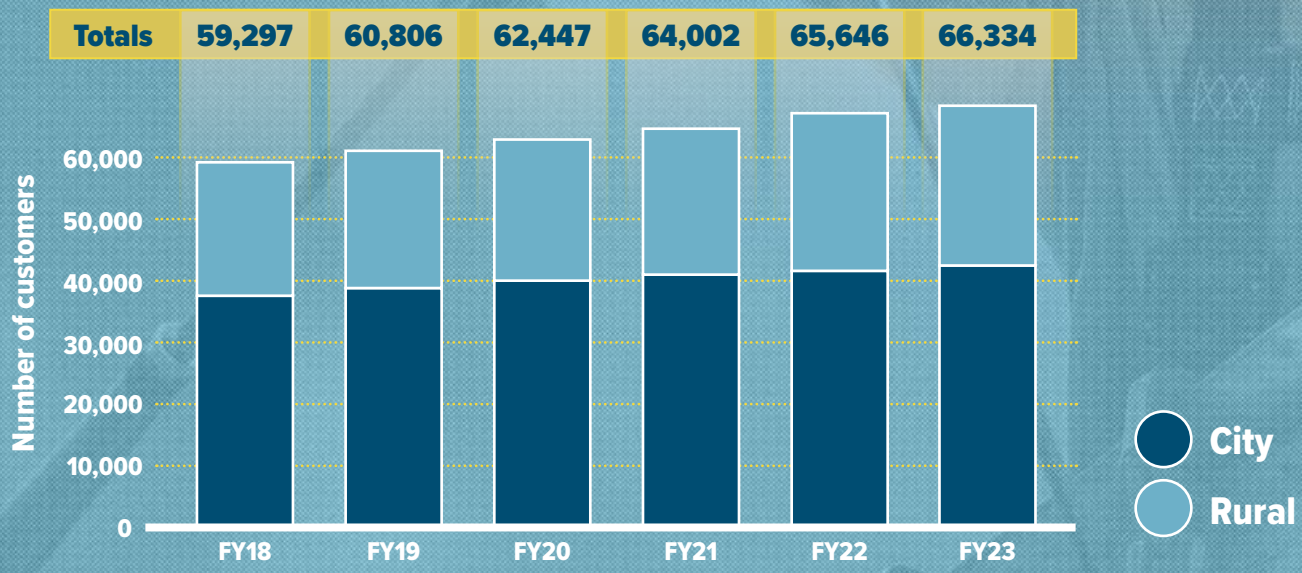
***Along with number of meters served, the demand for energy in the BTU service territory is growing.***



# NUMBER OF CUSTOMERS

## City + Rural

*BTU service territory is growing.*



# CONDENSED FINANCIAL STATEMENTS

## CITY ELECTRIC SYSTEM

| Condensed Statements of Net Position | FY2023 | FY2022 |
|---|---|---|
| Current assets | $ 148,502,501 | $ 136,418,056 |
| Capital assets, net | 489,789,372 | 452,639,672 |
| Restricted assets | 124,956,644 | 173,503,541 |
| Other | 7,842,767 | 17,737,838 |
| **Total assets** | **771,091,284** | **780,299,108** |
| **Deferred outflows of resources** | **12,517,540** | **3,050,408** |
| Current liabilities | 19,937,476 | 16,616,057 |
| Current liabilities payable from restricted assets | 85,265,194 | 111,516,560 |
| Non-current liabilities | 304,970,170 | 312,188,954 |
| **Total liabilities** | **410,172,840** | **440,321,571** |
| **Deferred inflows of resources** | **8,312,356** | **16,463,924** |
| **Net position:** | | |
| Net investment in capital assets | 229,579,426 | 202,318,185 |
| Restricted | 7,459,028 | 17,116,712 |
| Unrestricted | 128,085,174 | 107,129,123 |
| **Total net position** | **$ 365,123,628** | **$ 326,564,021** |

| Condensed Statements of Revenues, Expenses and Changes in Net Position | FY2023 | FY2022 |
|---|---|---|
| Operating revenues | $ 233,681,607 | **$ 237,447,855** |
| Operating expenses | 178,239,318 | **163,161,346** |
| **Operating income** | **55,442,289** | **74,286,509** |
| Investment income | 8,680,131 | **3,130,470** |
| Interest expense | (12,716,886) | **(11,353,314)** |
| Gain/(loss) on asset sale | 601,598 | |
| Investment Mark to Market | (75,901) | **(6,240,305)** |
| **Income before operating transfers** | **51,931,231** | **59,823,360** |
| Transfers, net | (13,371,624) | **(13,154,669)** |
| **Change in net position** | **38,559,607** | **46,668,691** |
| Net position, beginning of period | 326,564,021 | 279,895,330 |
| **Net position, end of period** | **$ 365,123,628** | **$ 326,564,021** |


# RURAL ELECTRIC SYSTEM

| Condensed Statements of Net Position | FY2023 | FY2022 |
|---|---|---|
| Current assets | $ 36,303,638 | $ 28,525,996 |
| Capital assets, net | 139,596,077 | 128,616,670 |
| Restricted assets | 2,505,756 | 12,849,263 |
| **Total assets** | **178,405,471** | **169,991,929** |
| Current liabilities | 2,110,859 | 5,311,009 |
| Current liabilities payable from restricted assets | 4,101,219 | 3,951,581 |
| Non-current liabilities | 51,379,356 | 53,401,068 |
| **Total liabilities** | **57,591,434** | **62,663,658** |
| **Deferred inflows of resources** | **14,636,049** | **14,408,310** |
| Net position: | | |
| Net investment in capital assets | 70,369,880 | 68,751,415 |
| Restricted | 426,250 | 406,250 |
| Unrestricted | 35,381,859 | 23,762,296 |
| **Total net position** | **$ 106,177,989** | **$ 92,919,962** |

| Condensed Statements of Revenues, Expenses and Changes in Net Position | FY2023 | FY2022 |
|---|---|---|
| Operating revenues | $ 57,824,649 | $ 57,642,815 |
| Operating expenses | 44,485,454 | 42,080,537 |
| **Operating income** | **13,339,194** | **15,562,278** |
| Investment income | 1,227,254 | 332,425 |
| Interest expense | (1,796,434) | (1,849,440) |
| Unrealized gain/(loss) on investments | 488,012 | - |
| **Non-operating income/(expense)** | **(81,168)** | **(2,533,330)** |
| **Change in net position** | **13,258,026** | **13,028,947** |
| Net position, beginning of period | 92,919,962 | 79,891,014 |
| **Net position, end of period** | **$ 106,177,989** | **$ 92,919,962** |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BRYAN TEXAS UTILITIES

BTU

THE DIFFERENCE IS **YOU**

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