# State of New Braunfels Utilities


## City Council

November 17, 2022

NBU NEW BRAUNFELS UTILITIES

# Overview

- Strategic Plan and Annual Priorities
- Utility Operations and Outcomes
- Capital Plan
- Water Planning
- Energy Planning

- Power Supply – Report from The Energy Authority (TEA)

# STRATEGIC PLAN AND ANNUAL PRIORITIES

# STRATEGIC PLAN OVERVIEW

**MISSION**
Strengthening our community by providing resilient essential services

**VISION**
Be a trusted community partner dedicated to excellence in service

**CORE VALUES**
Safety, Team, Integrity, Culture, and Stewardship (STICS)

# GUIDING PRINCIPLES

- One Utility, One Team
- Speak Up, Lead, and Care for All
- Know and Do the Right Thing
- Continuously Improve
- Be Convenient
- Be Resilient
- Be Flexible and Innovative

# STRATEGIC GOALS

- Customers and Community
- People and Culture
- Infrastructure and Technology
- Financial Excellence
- Safety and Security
- Stewardship

# FY 2023 ANNUAL PRIORITIES

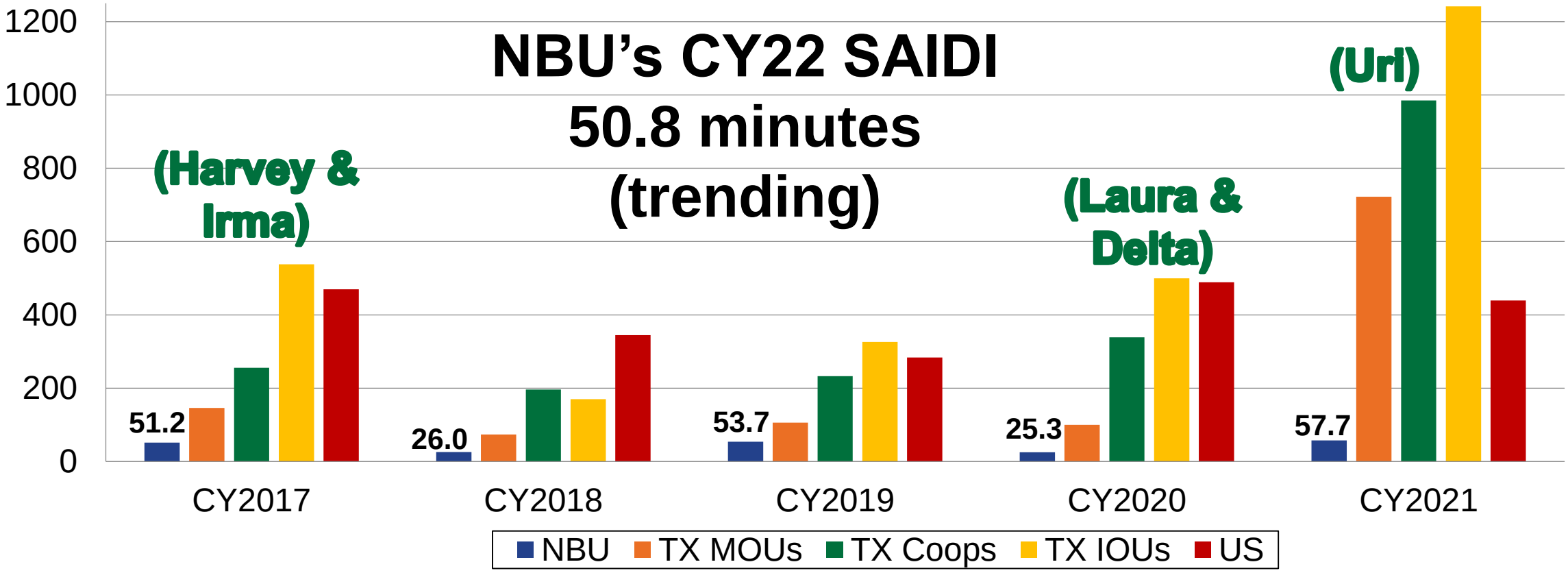
- Backup Operations Center
- Customer Information System Research
- Distributed Energy Resources (DER) Program Creation
- Electric Transportation (ET) Program Creation
- Emergency Management
- Employee Engagement Strategic Roadmap
- Enterprise Asset Management
- Enterprise Project Management
- Fiber
- NBU HQ
- One Water
- Power Supply Addressing ERCOT Market Changes
- Procurement and Warehouse Transformation
- Rate Plan (FY 2024 - FY 2026)
- SAS Budget Model
- SCADA Solutions
- Security Master Plan

# Fiscal Year 2022 Performance Results

| KEY FOCUS AREA | TIER 1: GOAL | MEASUREMENT | YEAR END RESULT |
|---|---|---|---|
| Customers and Community | Trusted community partner dedicated to excellence in service | Achieve a >67.3% (3 year average of Great Blue Research's national benchmark) customer service satisfaction rating | Goal accomplished |
| People and Culture | Develop and retain an engaged and ethical workforce | Implement Employee Engagement Roadmap, including the development of core skill sets in NBU leadership | Goal accomplished |
| Infrastructure and Technology | Maintain organizational reliability and resiliency | Complete 80% of baseline water/wastewater projects +/- 15% projected budget | Goal accomplished |
| | | Implement Phase 2 of Asset Management Roadmap | Goal accomplished |
| | | Implement Phase 2 of Project Management Roadmap | Goal accomplished |
| | | Maintain a three-year rolling average SAIDI <52.56 minutes | Goal accomplished |
| | | Sustain 90% uptime standard | Goal accomplished |
| Financial Excellence | Maintain a competitive bond rating | Achieve a cost per customer of ≤$348.03 | Goal accomplished |
| Safety and Security | Provide a safe and secure environment | Manage at-fault safety violations greater than $250 vehicle or equipment damage less than 3.31% | Goal accomplished |
| | | Complete security upgrades on a minimum of two high risk locations each fiscal year | Goal accomplished |
| Stewardship | Be responsible steward of our resources | Implement cross organizational working group including the City of New Braunfels, GBRA, and NBU to develop the One Water Roadmap | Goal accomplished |

# Electric Reliability

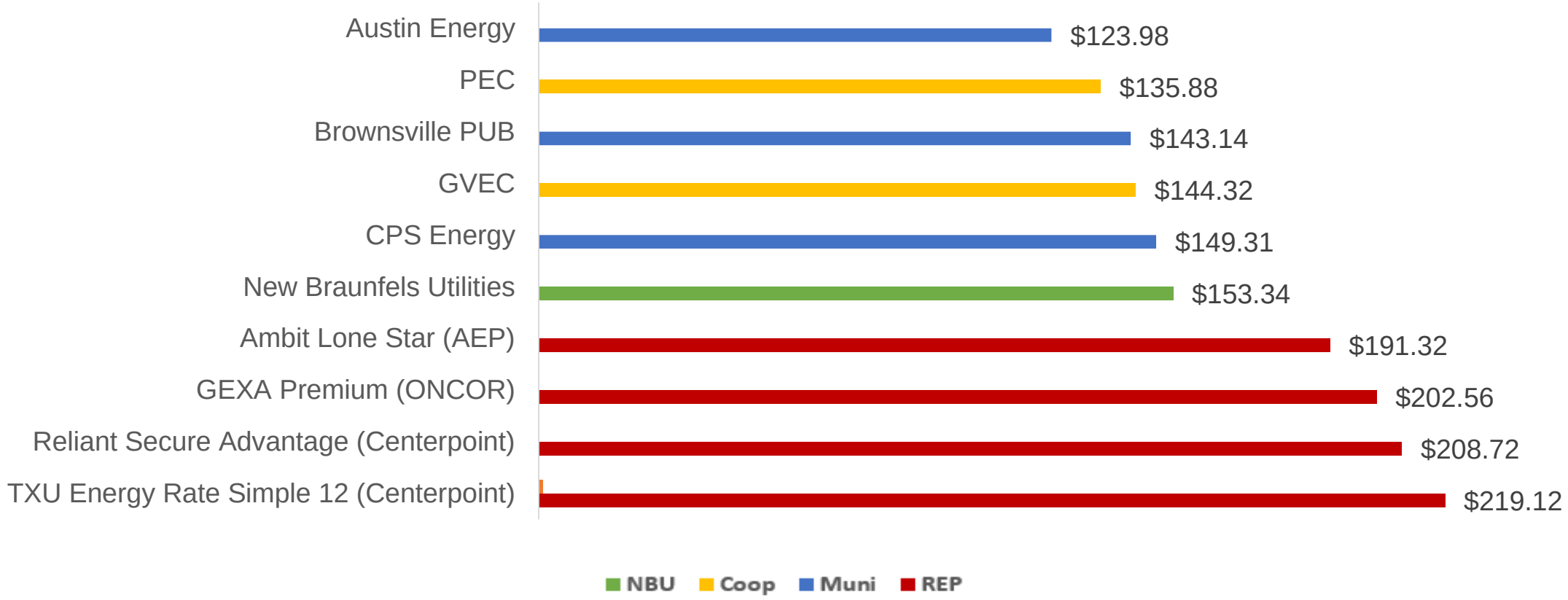
# Reliability Bar Graph, SAIDI (Lower is better!)




Source: U.S. Energy Information Administration
https://www.eia.gov/electricity/data/eia861/

# Utility Bill Comparisons

# Average Residential Electric Bill Comparison – 1,200 kWh October 2021-October 2022



# NBU's Retail Electric Price Comparison

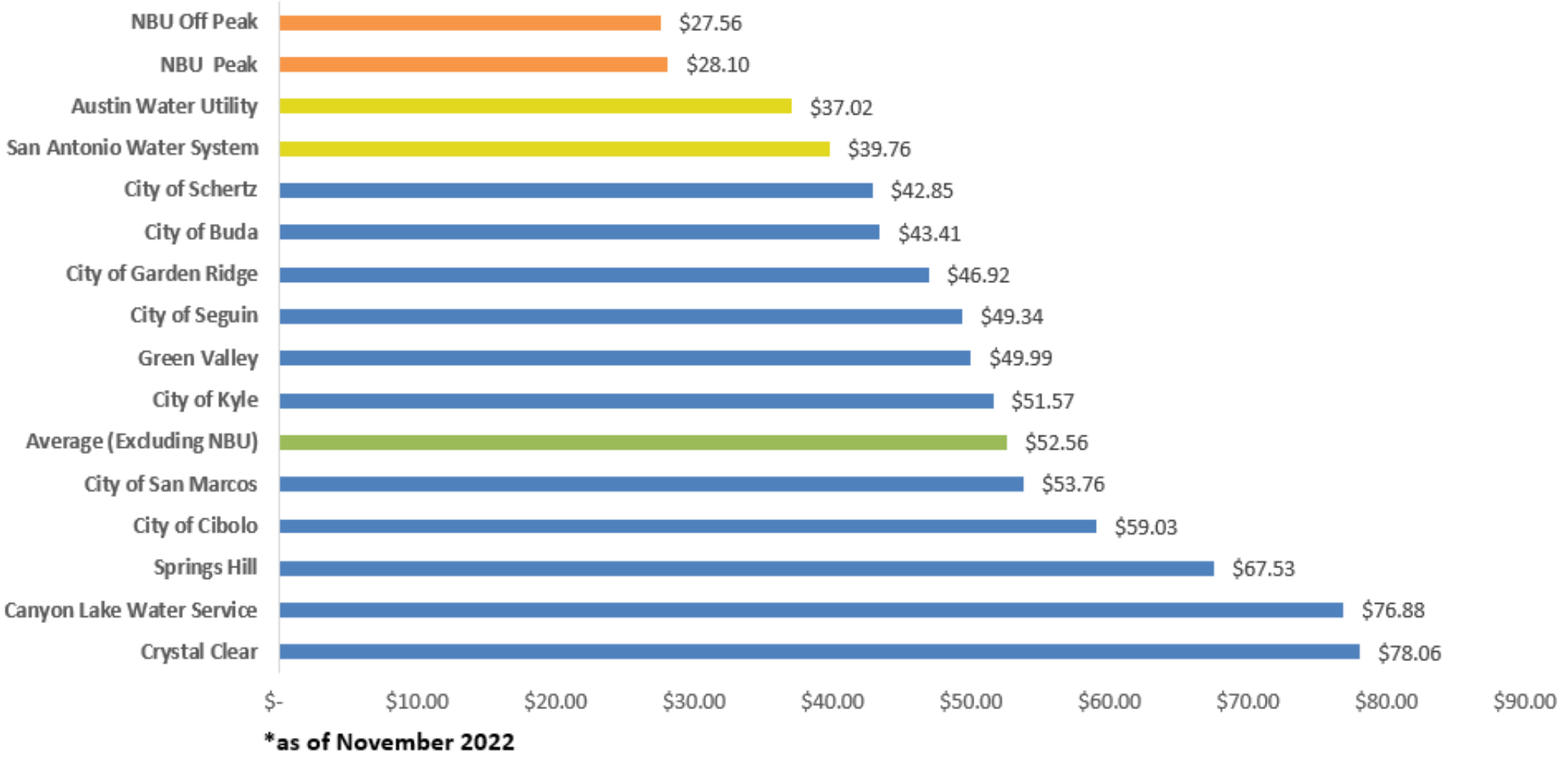
| | 2011-2021 | |
|---|---|---|
| | Average $/kWh | Average Bill |
| New Braunfels Utilities | $ 0.087 | $ 104.04 |
| GEXA Premium | $ 0.095 | $ 114.00 |
| Austin Energy | $ 0.097 | $ 116.40 |
| CPS Energy | $ 0.097 | $ 116.40 |
| GVEC | $ 0.100 | $ 120.00 |
| PEC | $ 0.101 | $ 121.20 |
| Brownsville PUB | $ 0.103 | $ 123.60 |
| AMBIT | $ 0.108 | $ 129.60 |
| Reliant Secure Advantage | $ 0.131 | $ 157.20 |
| TXU Energy Rate Simple 12 | $ 0.133 | $ 159.60 |

| | October 2021-October 2022 | |
|---|---|---|
| | Average $/kWh | Average Bill |
| Austin Energy | $ 0.103 | $ 123.60 |
| PEC | $ 0.113 | $ 135.60 |
| Brownsville PUB | $ 0.120 | $ 144.00 |
| GVEC | $ 0.120 | $ 144.00 |
| CPS Energy | $ 0.125 | $ 150.00 |
| New Braunfels Utilities | $ 0.128 | $ 153.60 |
| AMBIT Lone Star | $ 0.168 | $ 201.60 |
| GEXA Premium | $ 0.197 | $ 236.40 |
| TXU Energy Rate Simple | $ 0.207 | $ 248.40 |
| Reliant Secure Advantage | $ 0.208 | $ 249.60 |

* Data from U.S. Energy Information Administration and respective utility websites

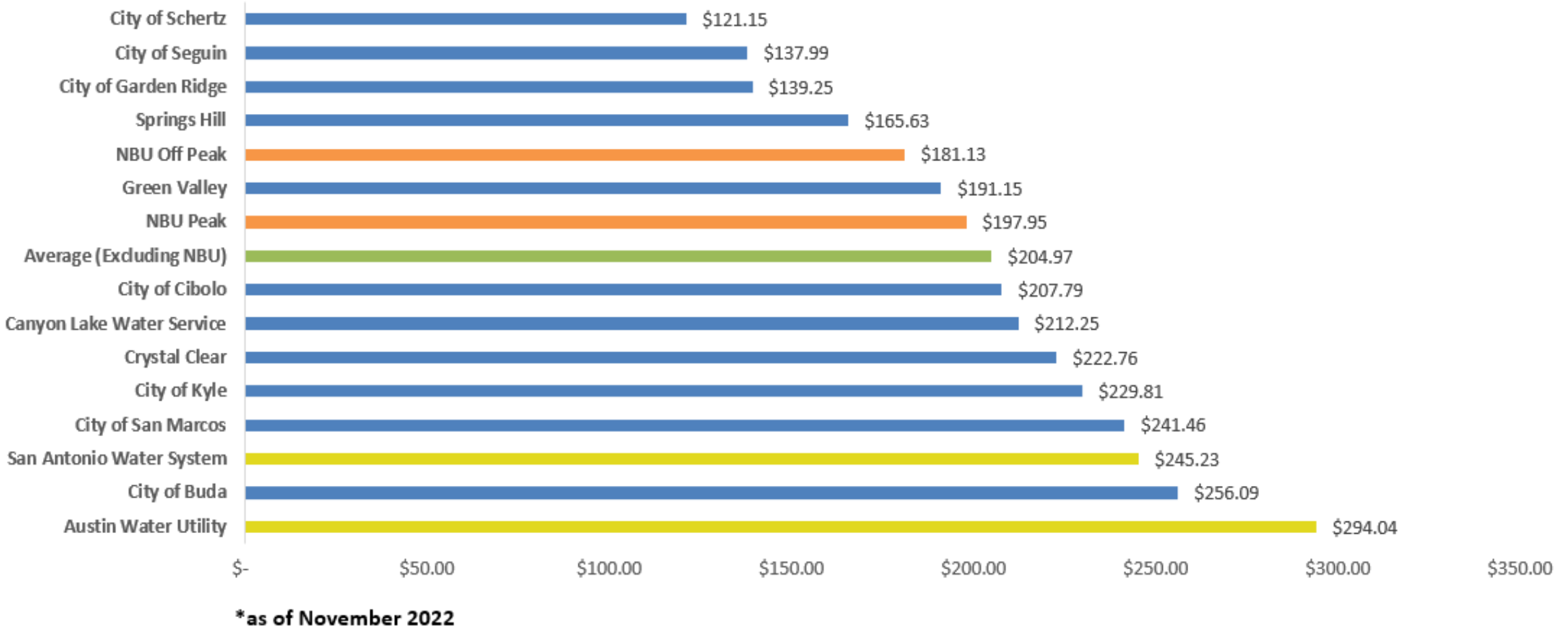
***As of October 2022**; assuming 1,200 kWh Usage

# Residential Water Bill Comparison – 6,000 Gallons



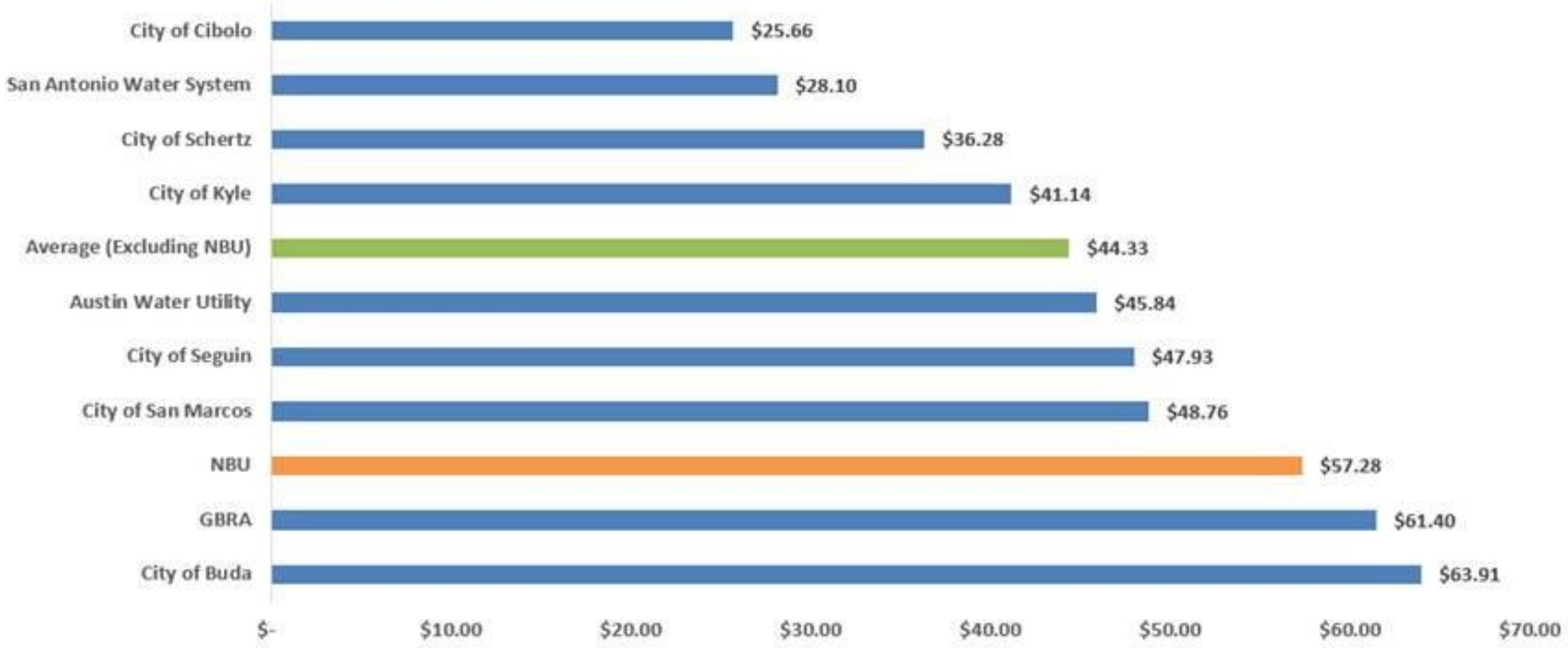

*as of November 2022

# Residential Water Bill Comparison – 25,000 Gallons



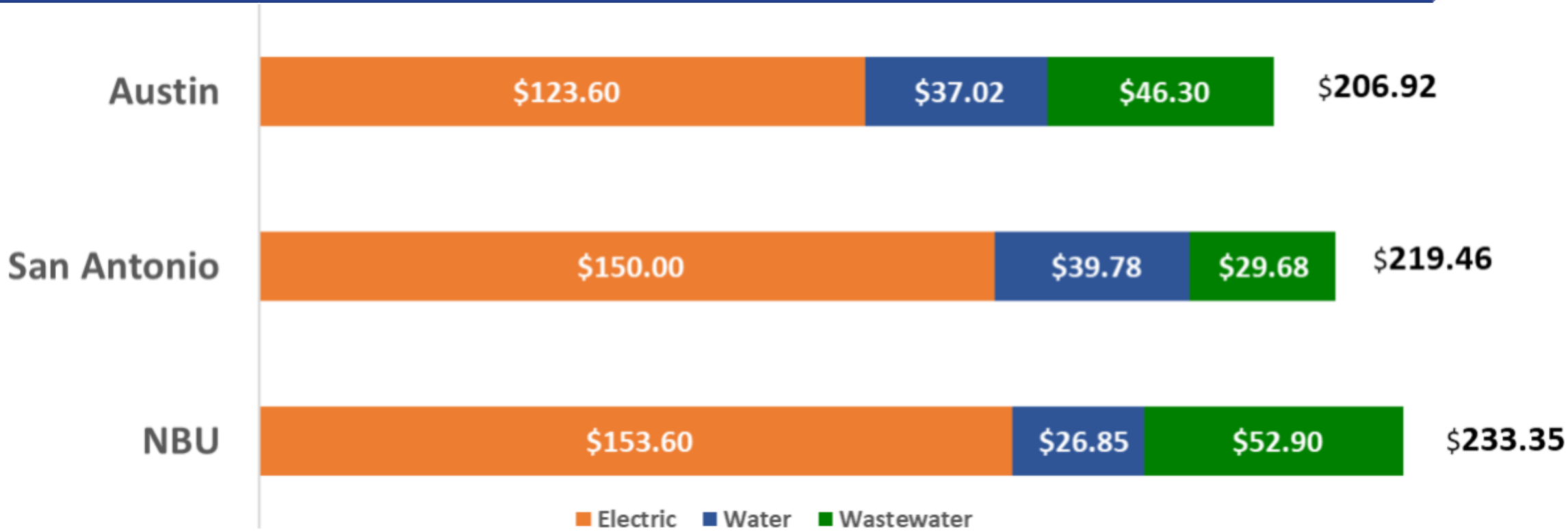

*as of November 2022

# Residential WW Bill Comparison – 4,600 Gallons




*as of November 2022

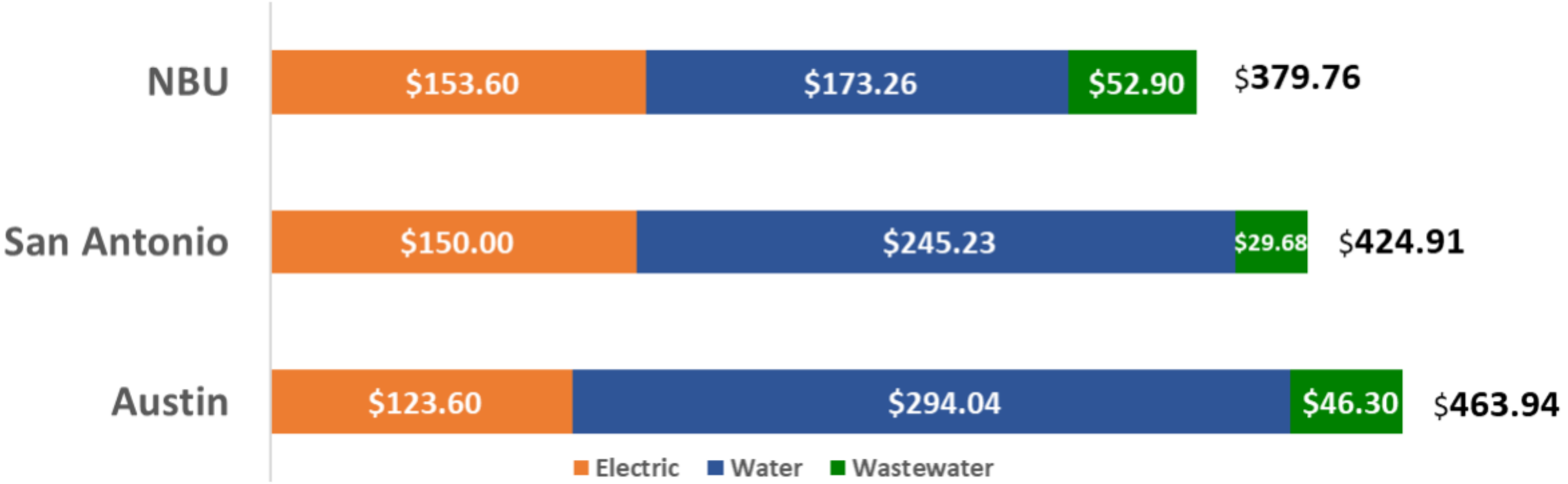
# Total Bill Comparison




*as of November 2022

*Water volume is essential use with no irrigation.
*Average wastewater and electric volume.

# Total Bill Comparison

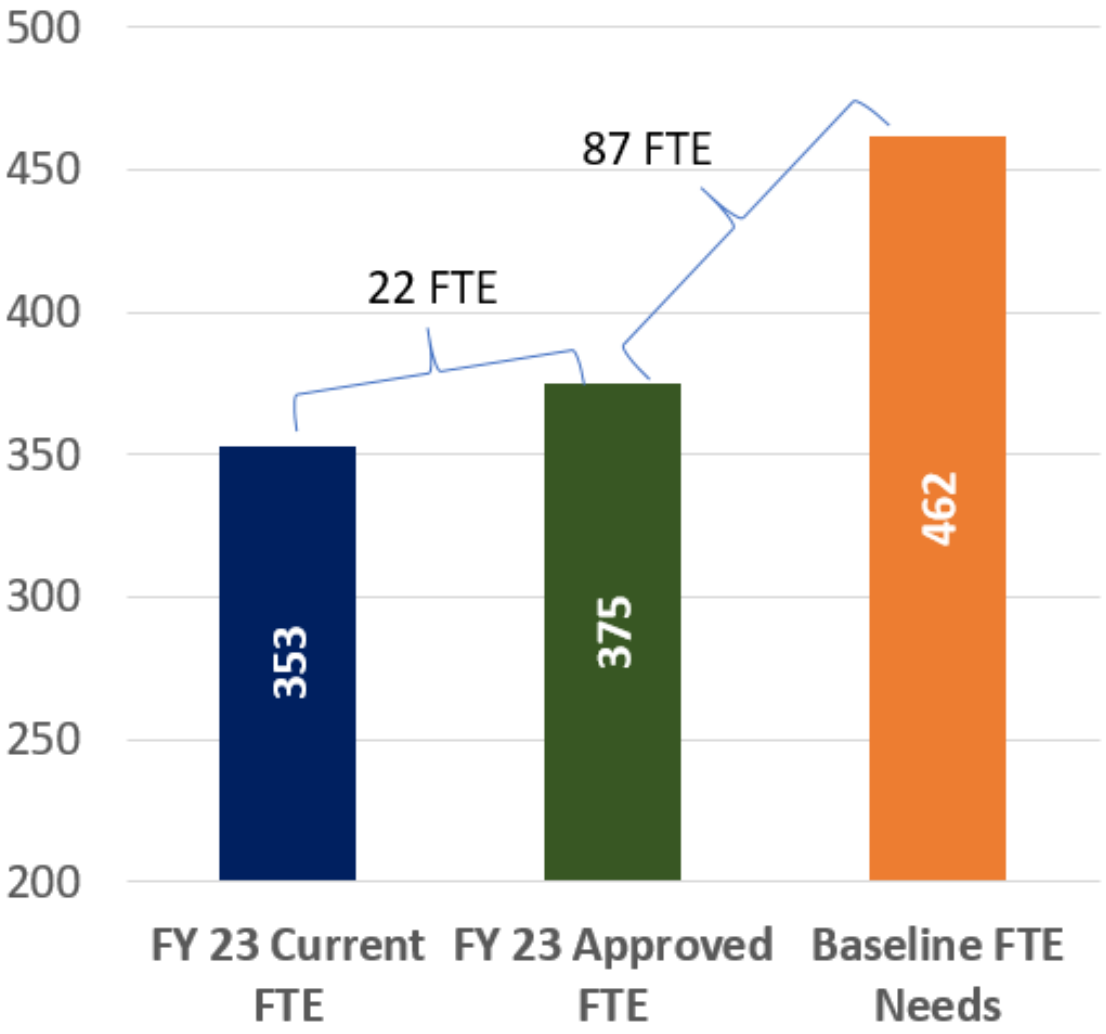



*as of November 2022

*Water volume is 25,000 gallons which assumes irrigation use.
*Average wastewater and electric volume.

# Workforce

# NBU FTEs vs Forecasted Needs




Workforce study performed by Raftelis May through October 2022

Key workforce findings:

- NBU has multiple opportunities across the company to implement technology and process improvements.
- There is a shortfall of employees needed to address the base level of work at NBU.
- Raftelis recommends an additional 87 FTE on top of the positions NBU has approved for FY 23.
- Combined with unreleased positions for FY 23 This is a 31% shortfall in FTEs needed to meet the demands for work.

# UTILITY OPERATIONS AND OUTCOMES

# NBU's Credit Ratings

| Agency | Current Rating | Current Outlook |
|---|---|---|
| S&P | A+ | Negative |
| Fitch | AA- | Stable |
| Moody's | Aa1 | Negative |

**S&P**: "We believe that ERCOT's demand and price volatility, and NBU's growth pressures necessitate extraordinary levels of liquidity, and so we view the prospective improvement in liquidity as necessary to maintain the current rating."
**Moody's**: "A return to stability is dependent on the utility's ability to return to pre-storm liquidity and debt service coverage levels."

# Bond Ratings Comparison

| Public Power - Retail Systems Peer Comparisons | | Total Operating Revenue (Millions) | Debt Service Coverage (x) | Days Cash on Hand | Debt to Capitalization |
|---|---|---|---|---|---|
| **"AA+" Median** | **$** | **503** | **3.41** | **273** | **65%** |
| **"AA" Median** | **$** | **330** | **2.52** | **264** | **57%** |
| Austin Energy | $ | 1,272 | 0.72 | 217 | 46% |
| NBU - Per Fitch Report as of June 2022 (FY 2021 data) | $ | 244 | 1.41 | 89 | 57% |
| NBU - FY 2023 Projected (Based on FY 2023 Financial Operating Plan) | $ | 249 | 1.79 | 193 | 45% |
| **"AA-" Median** | **$** | **257** | **2.59** | **231** | **61%** |
| Bryan Utilities City Electric System | $ | 48 | 5.27 | 116 | 58% |
| CPS Energy | $ | 2,510 | 1.71 | 232 | 38% |
| Garland Power & Light | $ | 365 | 1.56 | 412 | 37% |
| Pedernales Electric Cooperative | $ | 827 | 2.57 | 5 | 43% |
| **"A+" Median** | **$** | **274** | **1.95** | **95** | **50%** |
| Brownsville Public Utilities Board | $ | 313 | 0.30 | 95 | 55% |
| Guadalupe Valley Electric Cooperative | $ | 308 | 2.70 | 35 | 44% |
| **"A" Median** | **$** | **155** | **1.83** | **97** | **55%** |
| City of Denton | $ | 412 | 1.11 | 210 | 49% |
| **"A-" Median** | **$** | **63** | **1.99** | **171** | **51%** |
| Seguin Utility Fund | $ | 60 | 3.20 | 268 | 58% |

**Source: U.S. Public Power Peer Review, June 13, 2022, Fitch Rating, Inc.**

# Power Supply Reserves Update

| As of FY23 Budget | Power Stabilization Fund at $20M | Power Stabilization Fund Full |
|---|---|---|
| Target | July 2023 | FY2030 |
| Forecast | August 2023 | FY2030 |

# Power Supply Reserves Bill Impact

| As of FY23 Budget | Thru July 2023 | July 2023 – July 2027 |
|---|---|---|
| Cost per kWh | 1.3¢ | 0.75¢ |
| Average Residential Bill Impact | $15.60 | $9.00 |

# FY23 Plan – Revenue Requirements and Ratios

| FY23 Plan | | | | | |
|---|---|---|---|---|---|
| **FY23** | FY23* | FY24 | FY25 | FY26 | FY27 |
| **Electric**** | 3.3% | 1.7% | 1.7% | 1.7% | 1.7% |
| **Water** | 22.0% | 10.0% | 10.0% | 10.0% | 10.0% |
| **Wastewater** | 13.0% | 6.0% | 6.0% | 6.0% | 6.0% |

| FY2027 Results | |
|---|---|
| DSC | 2.87 |
| Total New Debt | $600.0M |
| Debt to Cap. | 54% |
| Total Debt | $906.8M |

| Policy |
|---|
| ≥2.4X |
| |
| <55% |
| |

| FY23 Plan | FY23 | FY24 | FY25 | FY26 | FY27 | Policy |
|---|---|---|---|---|---|---|
| Total Debt / Capitalization Ratio* | 45.17% | 49.58% | 51.86% | 52.95% | 53.51% | 55% |
| Debt Service Coverage | 5.07 | 3.44 | 2.90 | 2.92 | 2.87 | 2.40 |
| Debt Service Including Extraordinary Event | 1.79 | 3.44 | 2.90 | 2.92 | 2.87 | 1.40 |
| Days Cash on Hand | 193 | 223 | 242 | 266 | 286 | |

FY22 Forecasted DSC Including Extraordinary Event = 1.98

# Current Plan and Assumption Changes

**FY2023 is final year of a 3 year rate plan**

**Revenue impacts**

- Transformer shortages
- Mortgage rates driving down growth
- Suspended late fees and disconnects

**Mitigation**

- O&M reductions
- Pause on hiring new positions
- Comprehensive review of fees
- Supply chain management

# Customer Assistance

# Financial Assistance

- NBU will continue to fund The Utility Bill Assistance program through the New Braunfels Food Bank. NBU employees have been supporting in screening applications.

- ARPA Funding-The McKenna Foundation and the City of New Braunfels, together with the New Braunfels Food Bank, the Family Life Center, Community Council and the Salvation Army have partnered to assist income-constrained households within the New Braunfels city limits with their utility bills. These agencies will consider requests for assistance through the application on **comalcountycares.com.**

Helping People. Changing Lives. Community Action Partnership
Community Council of South Central Texas, Inc.

Comal Emergency Relief Fund

The Salvation Army Doing the Most Good
Serving Texans in Need Since 1889

New Braunfels Food Bank
Serving Southwest Texas

NBU New Braunfels Utilities

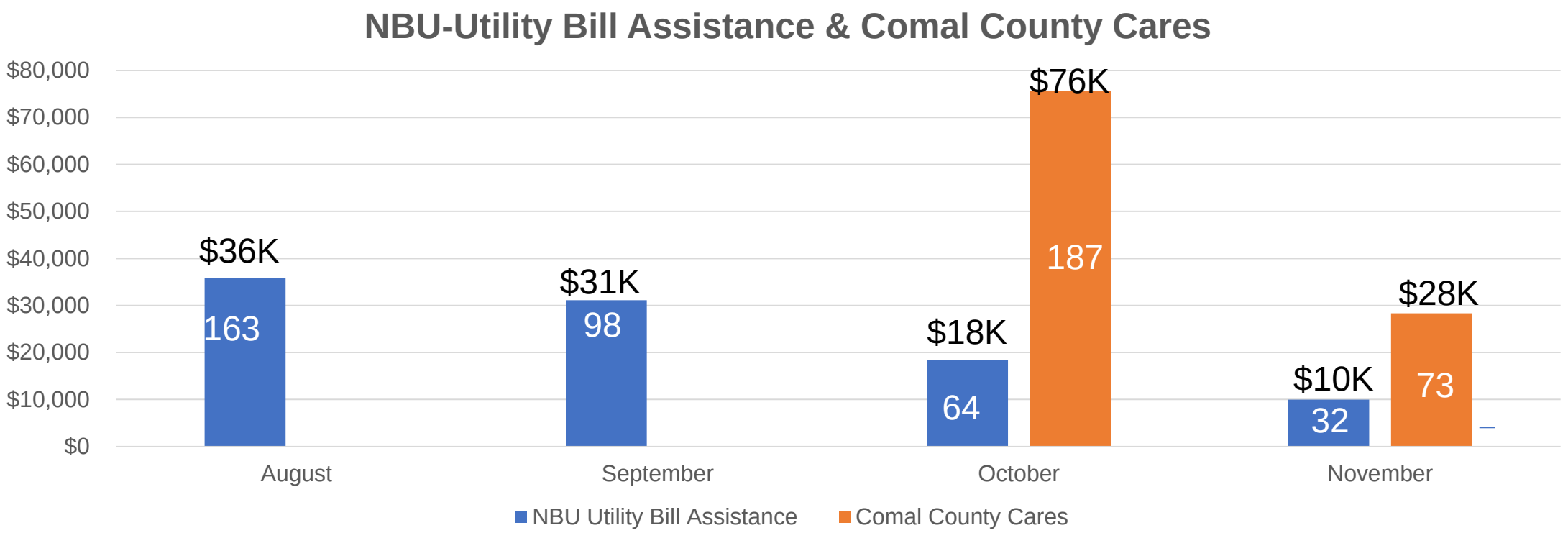
Family Life Center

City of New Braunfels

McKenna
Inspiration · Influence · Impact

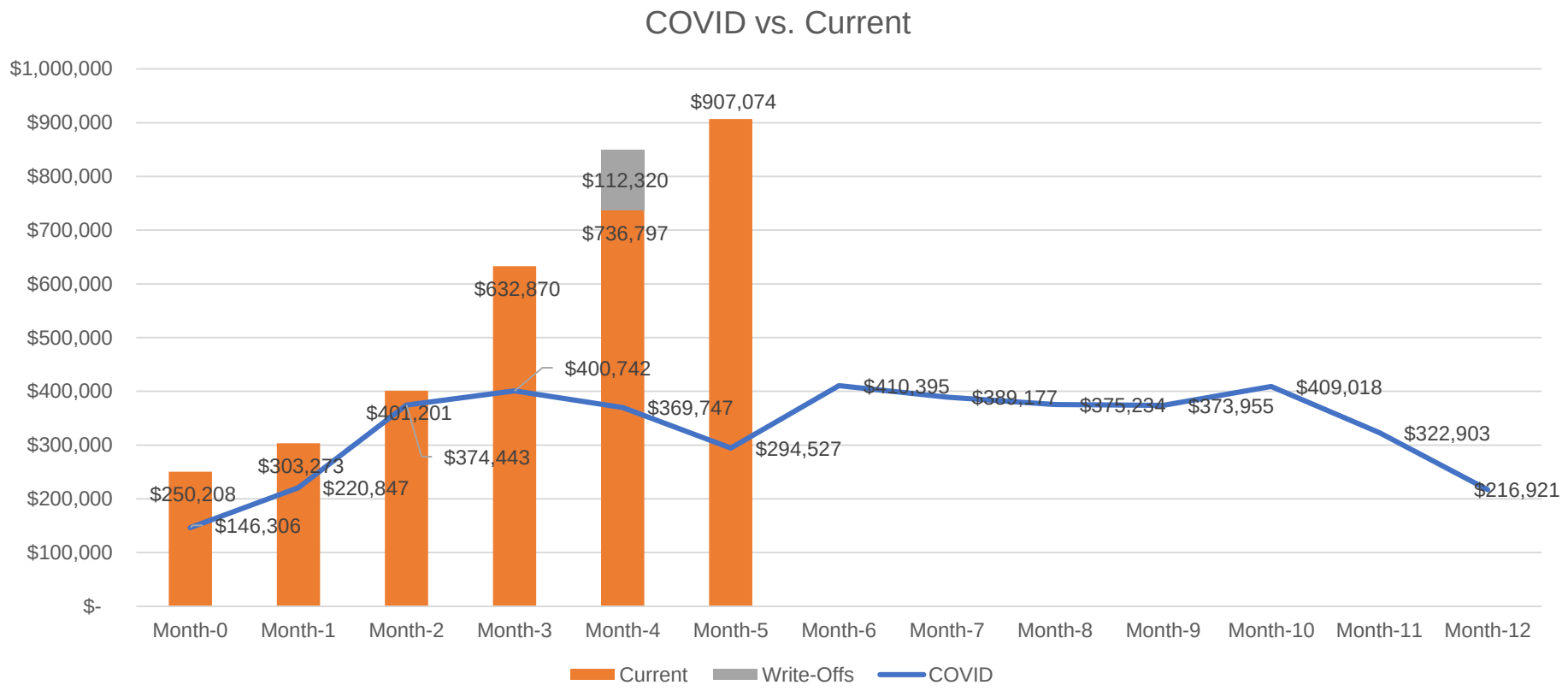
# Assistance Programs

## Number of Vouchers & Amount




*Data updated on Wednesday 11/16/2022

# Aging Account-Past Due Amount




**<u>COVID</u>**:

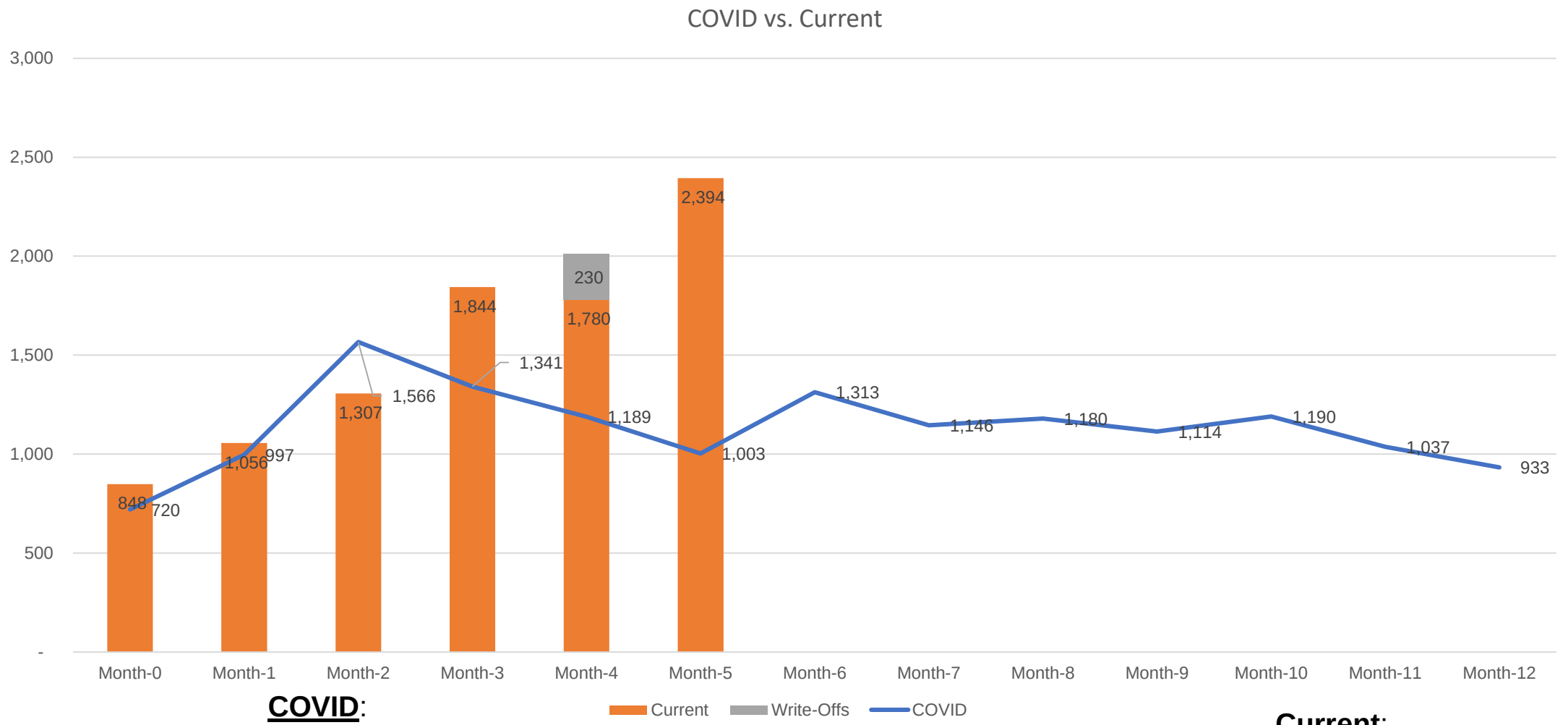
February 2020 (Month 0)
March 2020 (Month 1) - Suspended Disconnects
July 2020 (Month 5) - Reinstated Disconnections
Month 12 = March 2021
Payment Arrangement Timeline:  Up to 6 Months

**<u>Current</u>**:

June 2022 (Month 0)
August 2022 (Month 2) - Suspended Disconnects
January 2023 ( Month 7) – Reinstate Disconnection
Payment Arrangement Timeline:  Per Customer Basis

*Data updated on 11/16/2022

# Aging Accounts-Number of Accounts

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# Bill Redesign

# Electric Grid vs. Electric Bill Line Items

## THE ELECTRIC GRID AND NBU'S BILL

| ELECTRIC GRID | CURRENT BILL ITEMS | PROPOSED BILL ITEMS |
|---|---|---|
| GENERATION  | • Purchased Power<br>• Power Cost Recovery Adjustment (PCRA) | • Generation |
| TRANSMISSION  | | • Transmission<br>• Replenish Reserves |
| DISTRIBUTION  | • Delivery Charge<br>• Availability Charge | • Delivery Charge<br>• Electric Service Availability Charge |

NBU NEW BRAUNFELS UTILITIES

# RATE ADVISORY COMMITTEE (RAC)

# What is the Role of the Rate Advisory Committee (RAC) and who serves on it?

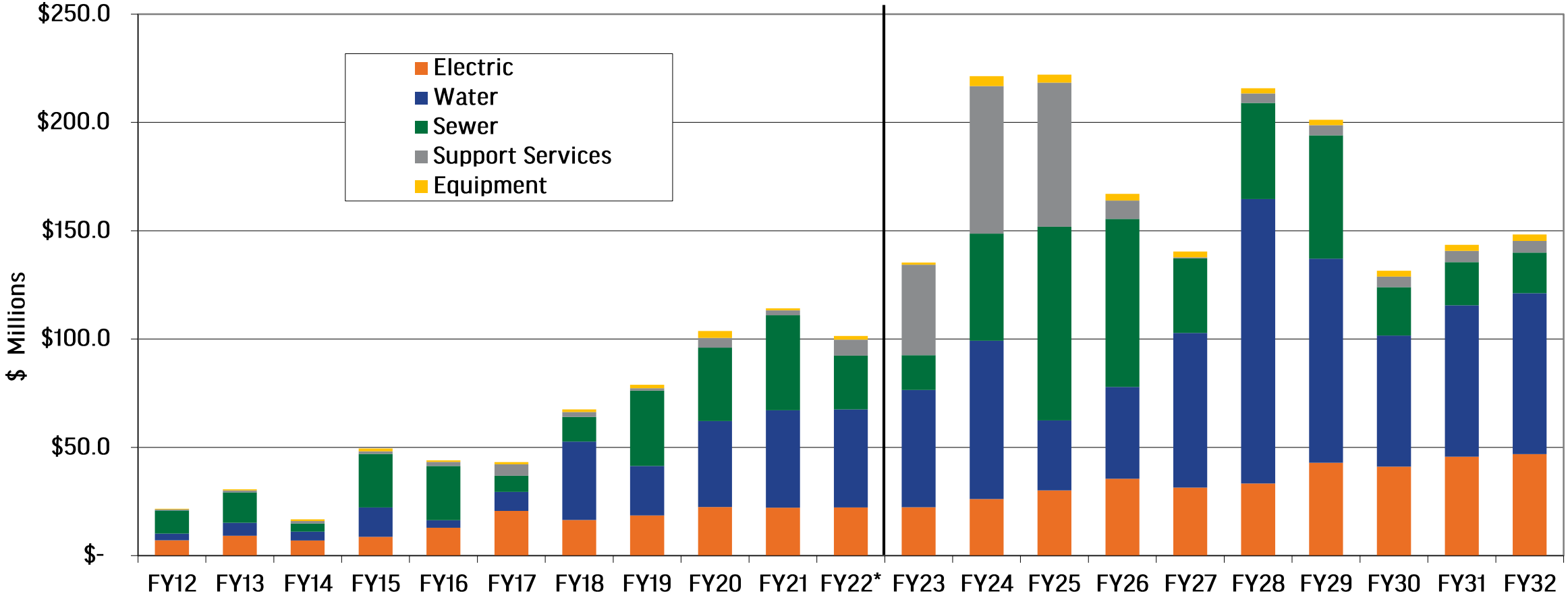
- The role of the RAC is to review, discuss, and analyze rate design alternatives and provide comments to the NBU Board of Trustees and City Council.
- The RAC consists of:
  - Total of 18 community members appointed by the NBU Board of Trustees
  - 11 members nominated by the NBU Board of Trustees
  - Seven members, nominated by each member of the City Council
- RAC members represent a cross-section of customer types to represent the interests of their customer segment
- RAC members serve on a voluntary basis
- The RAC will wrap up its work in late 2022 for consideration by the NBU Board of Trustees and then City Council in winter/spring 2023

NBU NEW BRAUNFELS UTILITIES

# CAPITAL IMPROVEMENT PROGRAM

# Capital Expenditures – Historical & Projected

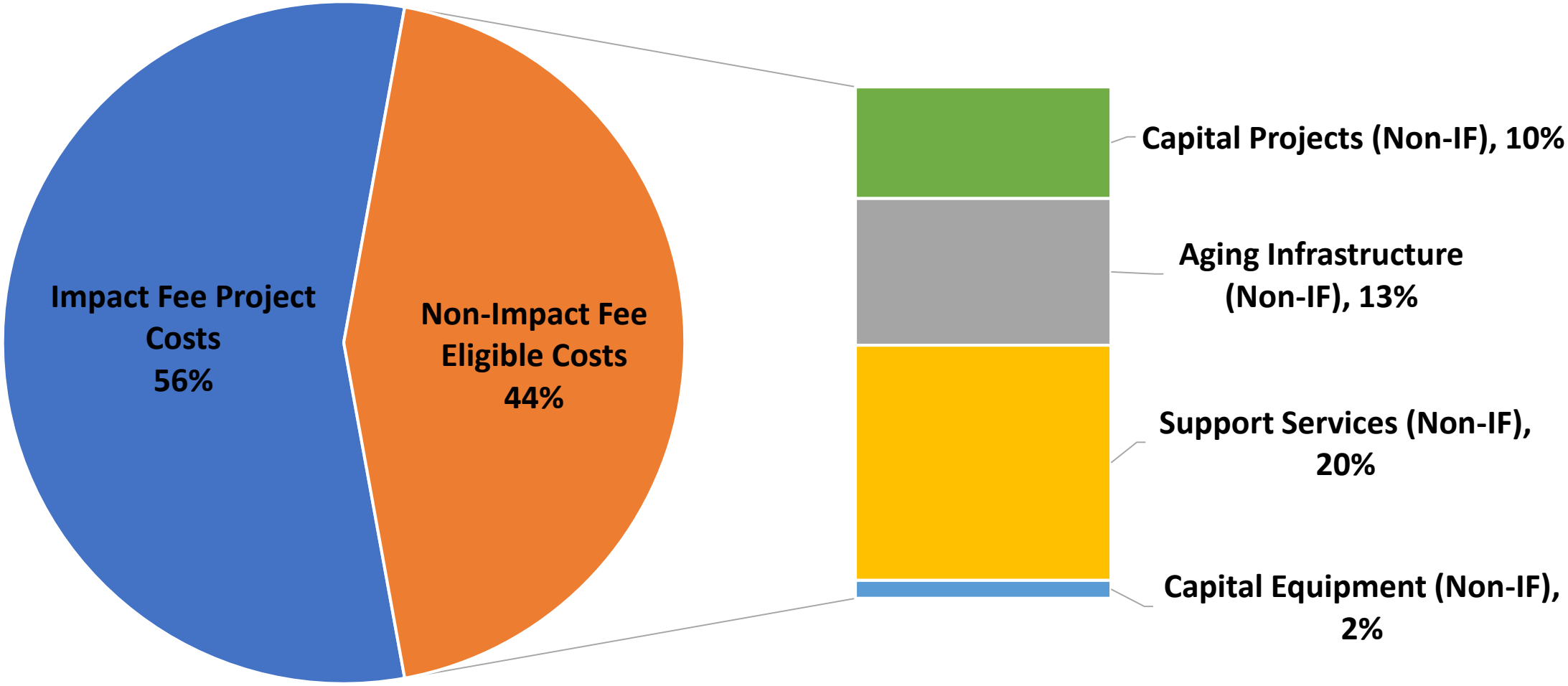
(FY 2012 - 2032)



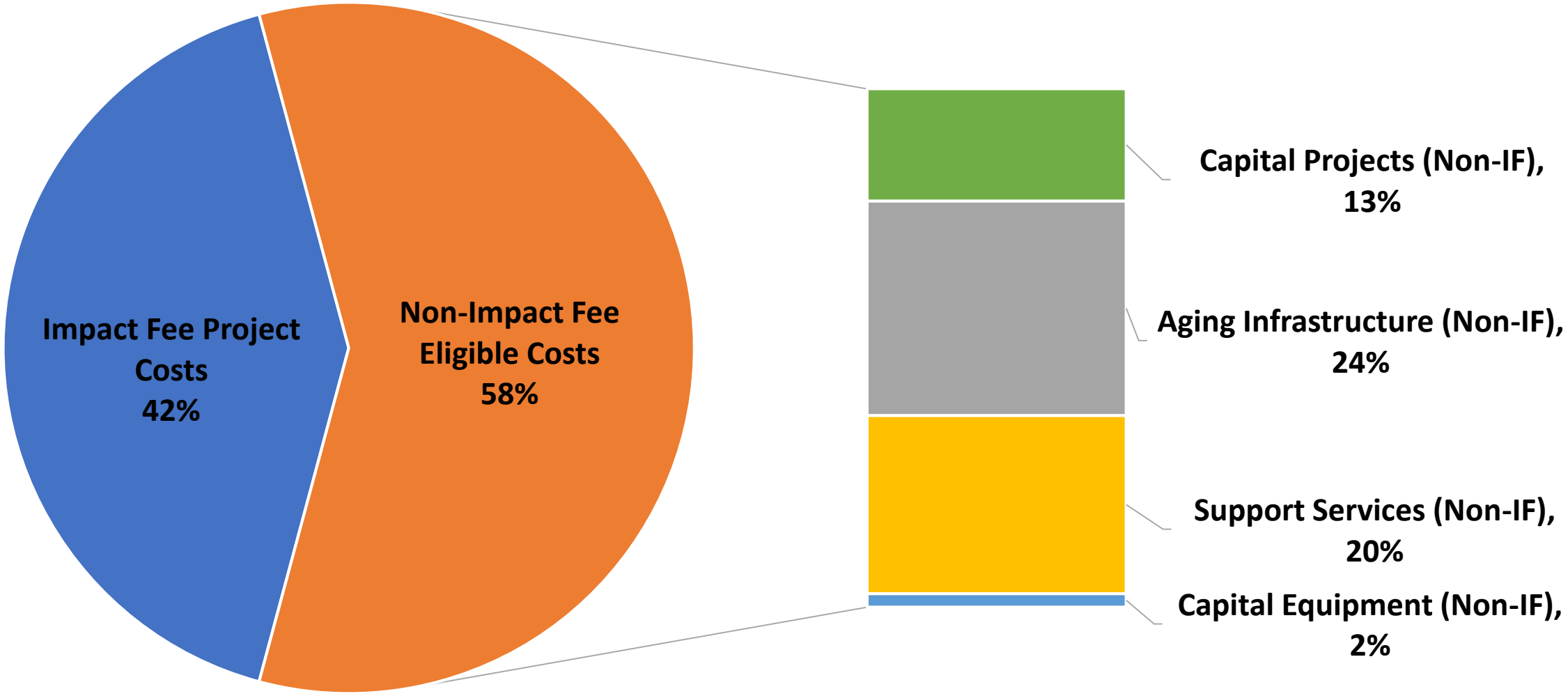

*Forecast (actual amounts through April)

NBU NEW BRAUNFELS UTILITIES

# NBU WATER CAPITAL PROJECTS FY 23-27



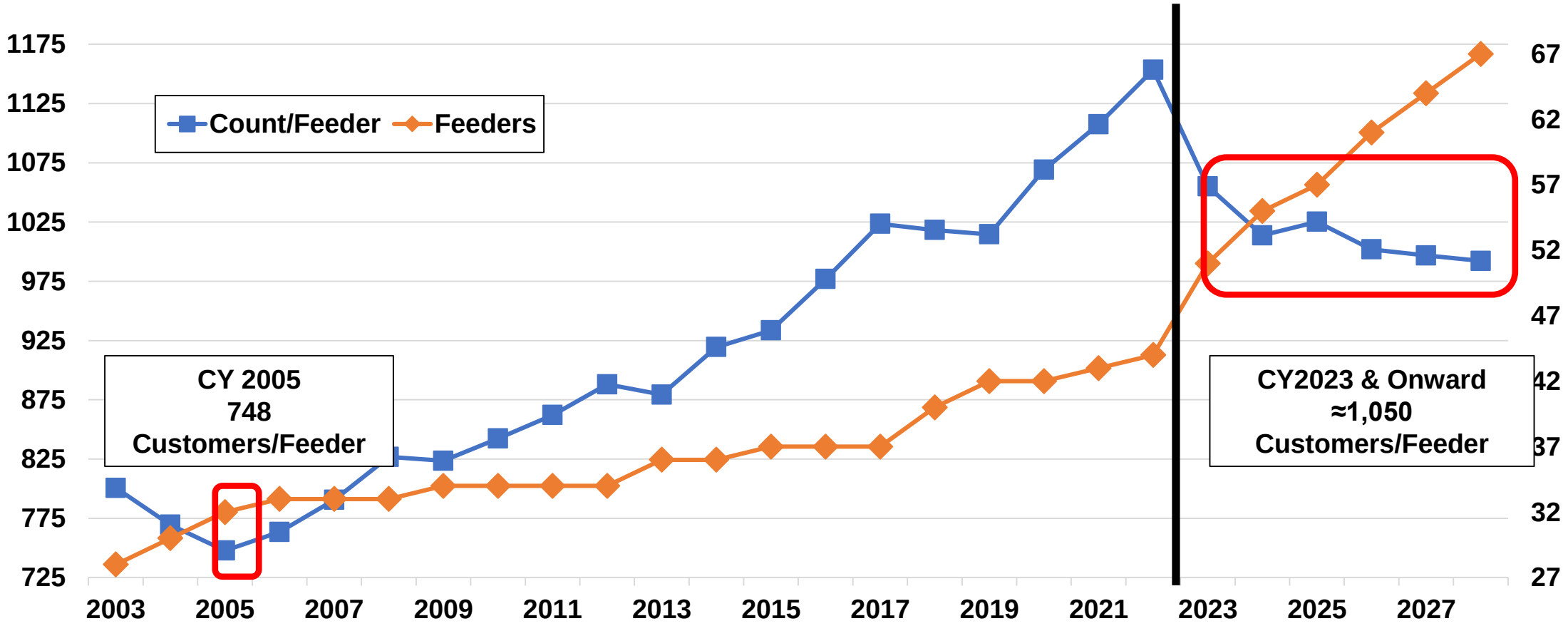
# NBU WASTEWATER CAPITAL PROJECTS FY 23-27



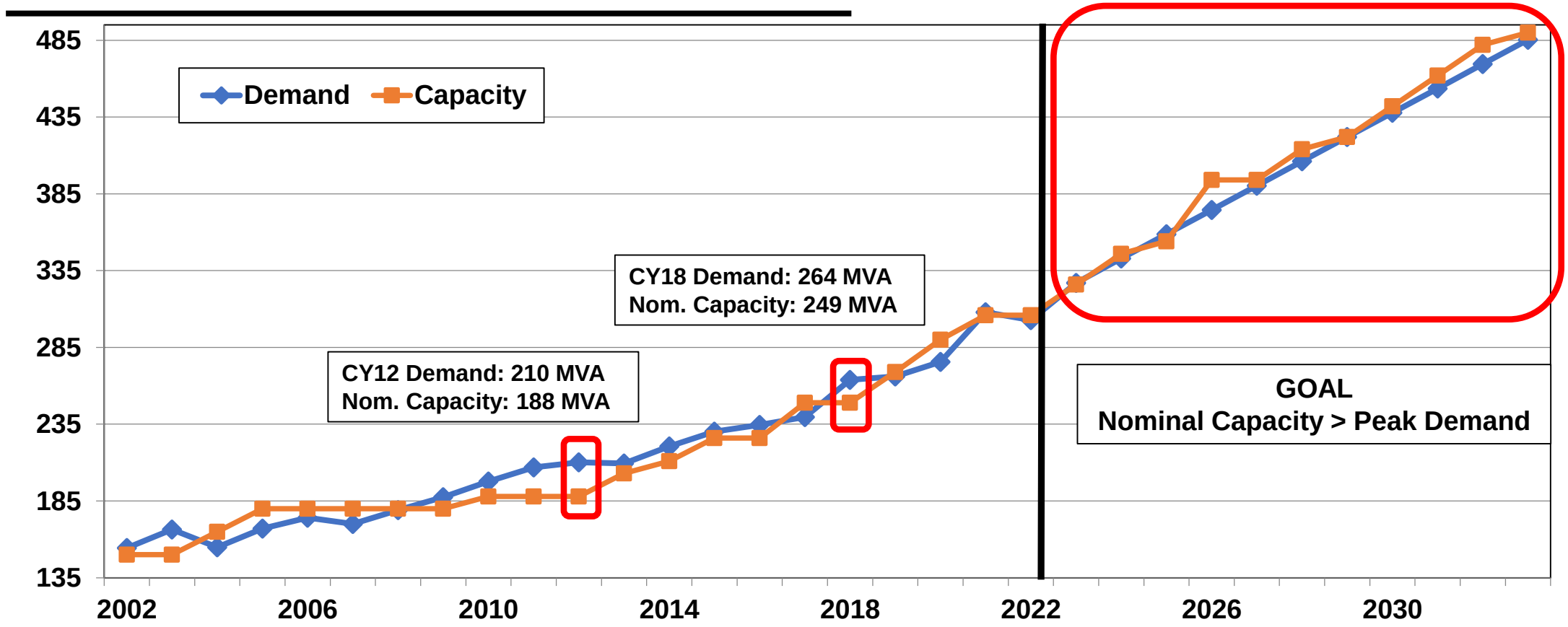
# Capital Plan

# Electric Infrastructure

# Customer Count per Feeder



# Demand in MVA
# System Demand vs. Nominal Capacity

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# ELECTRIC

## TRANSMISSION

## DISTRIBUTION

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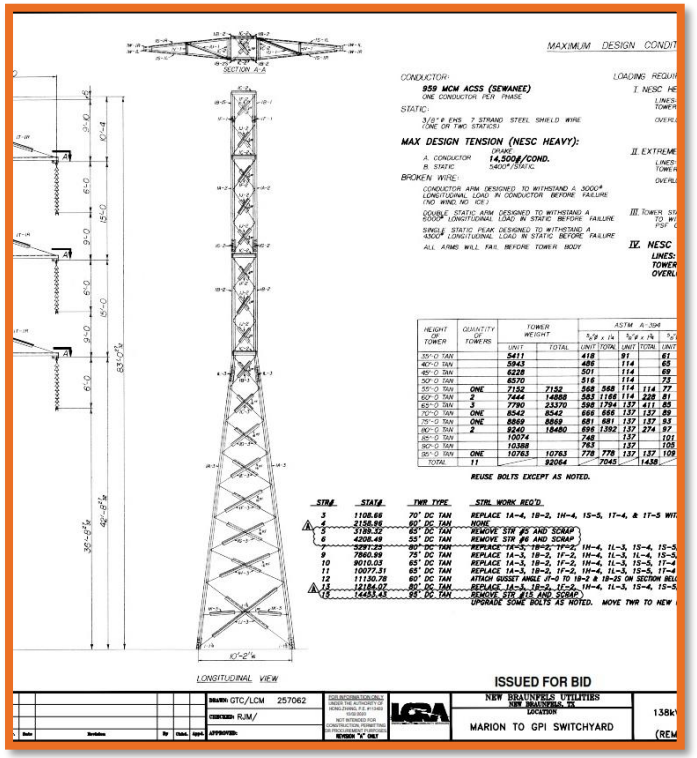
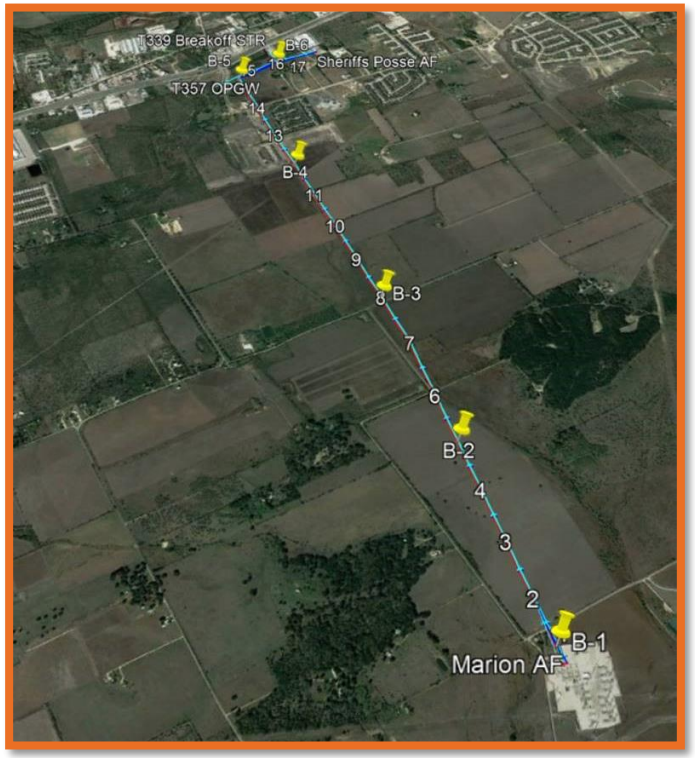
# TRANSMISSION




## DISTRIBUTION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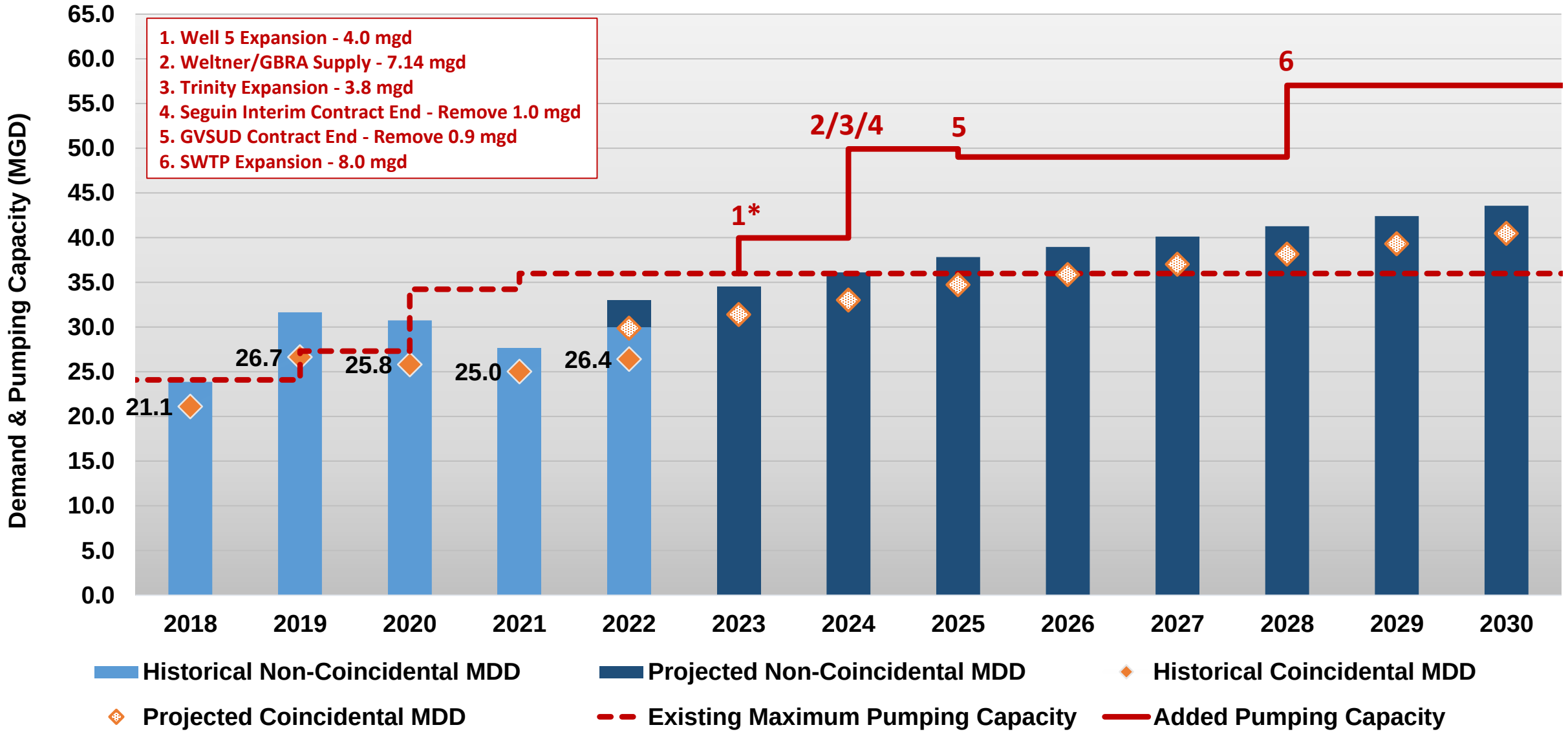
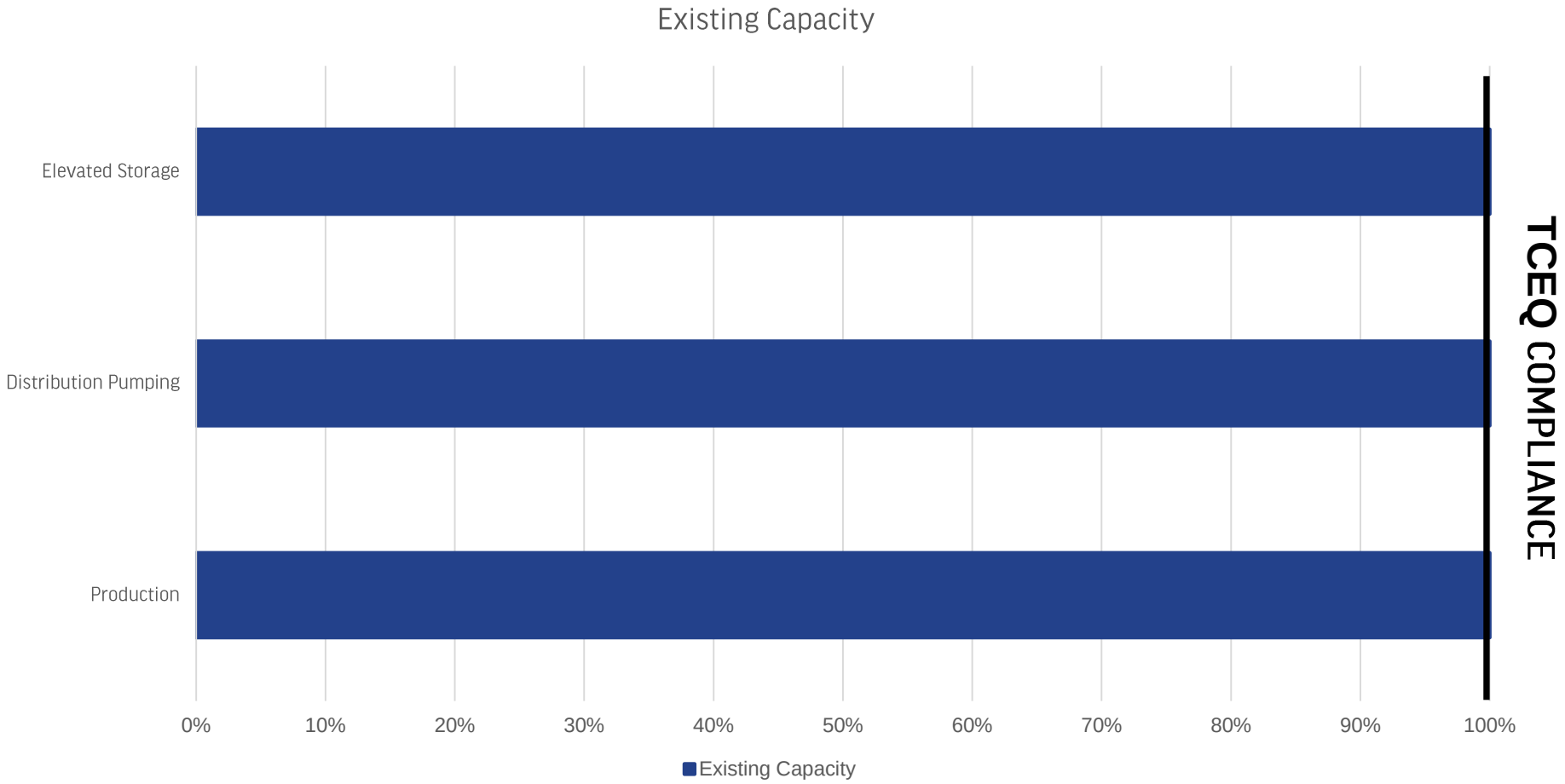
# Capital Plan

# Water Infrastructure

# Water Production Evaluation



# Capacity vs. Compliance – Water



# WATER

SUPPLY

TREATMENT

DISTRIBUTION PUMPING

TRANSMISSION

ELEVATED STORAGE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## SUPPLY

NBU NEW BRAUNFELS UTILITIES

## TREATMENT


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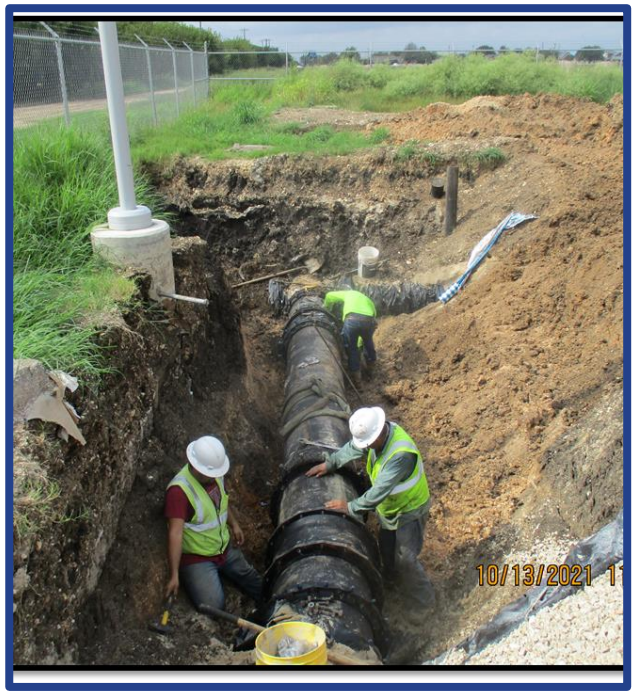
## DISTRIBUTION PUMPING

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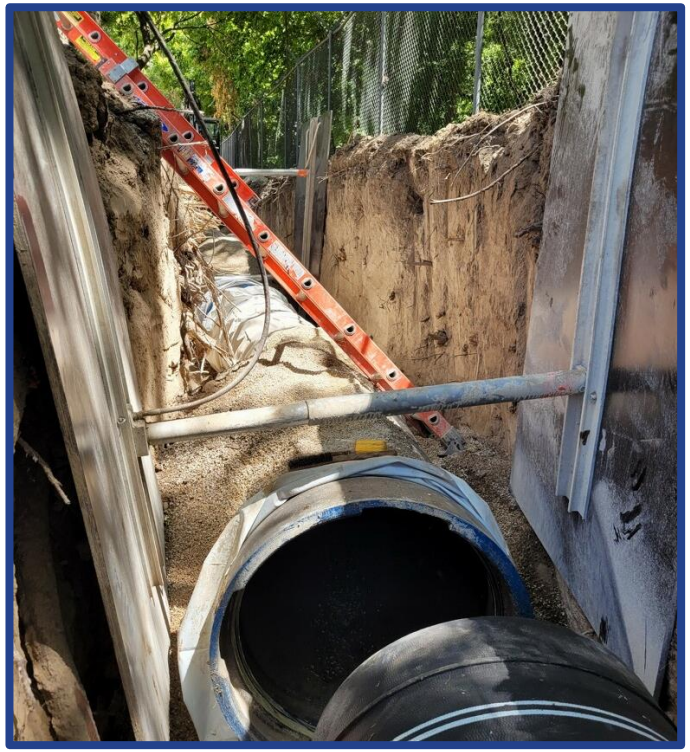
# TRANSMISSION

NBU NEW BRAUNFELS UTILITIES

## ELEVATED STORAGE

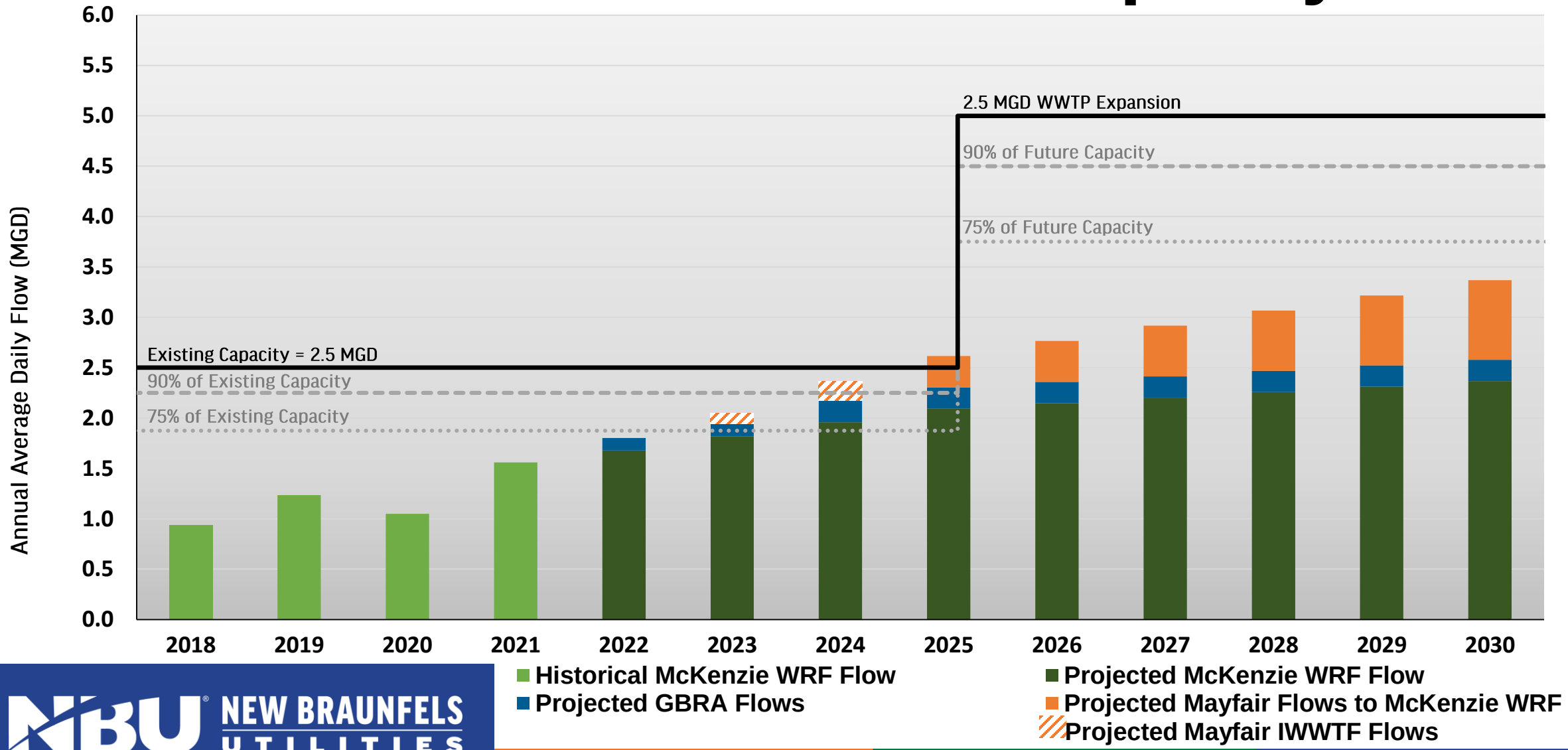


NBU NEW BRAUNFELS UTILITIES

# Capital Plan

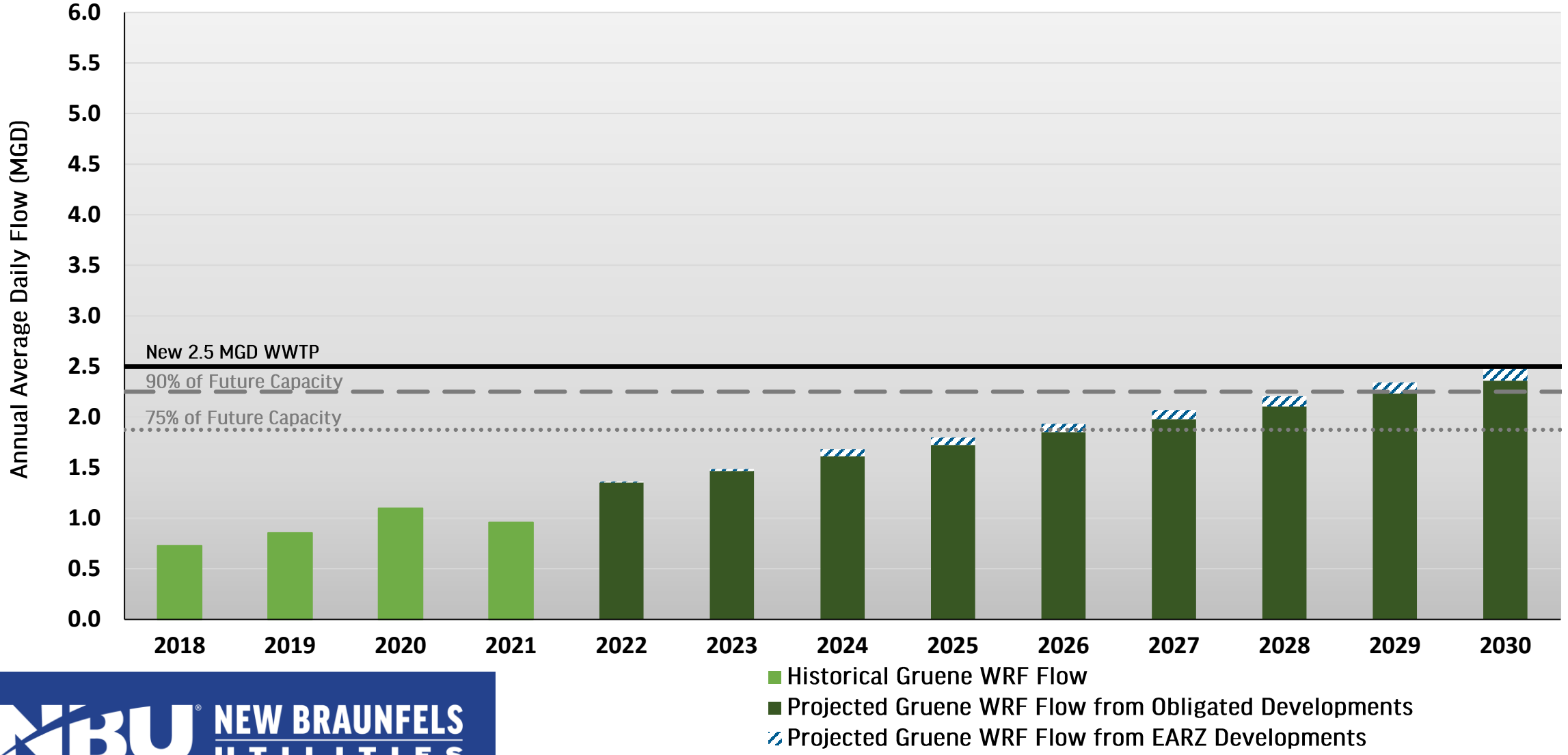
# Wastewater Infrastructure

# McKenzie Treatment Capacity

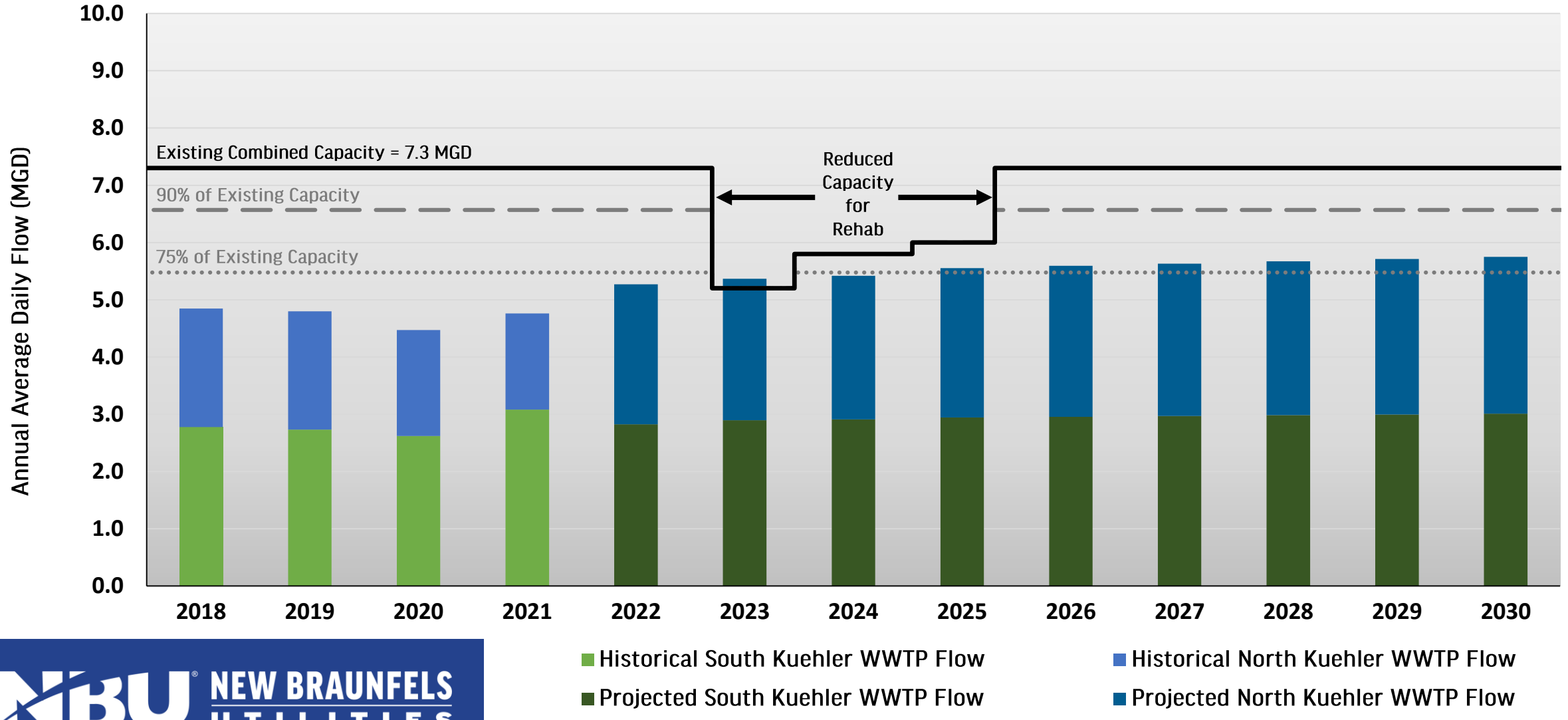



NBU NEW BRAUNFELS UTILITIES

# Gruene Treatment Capacity

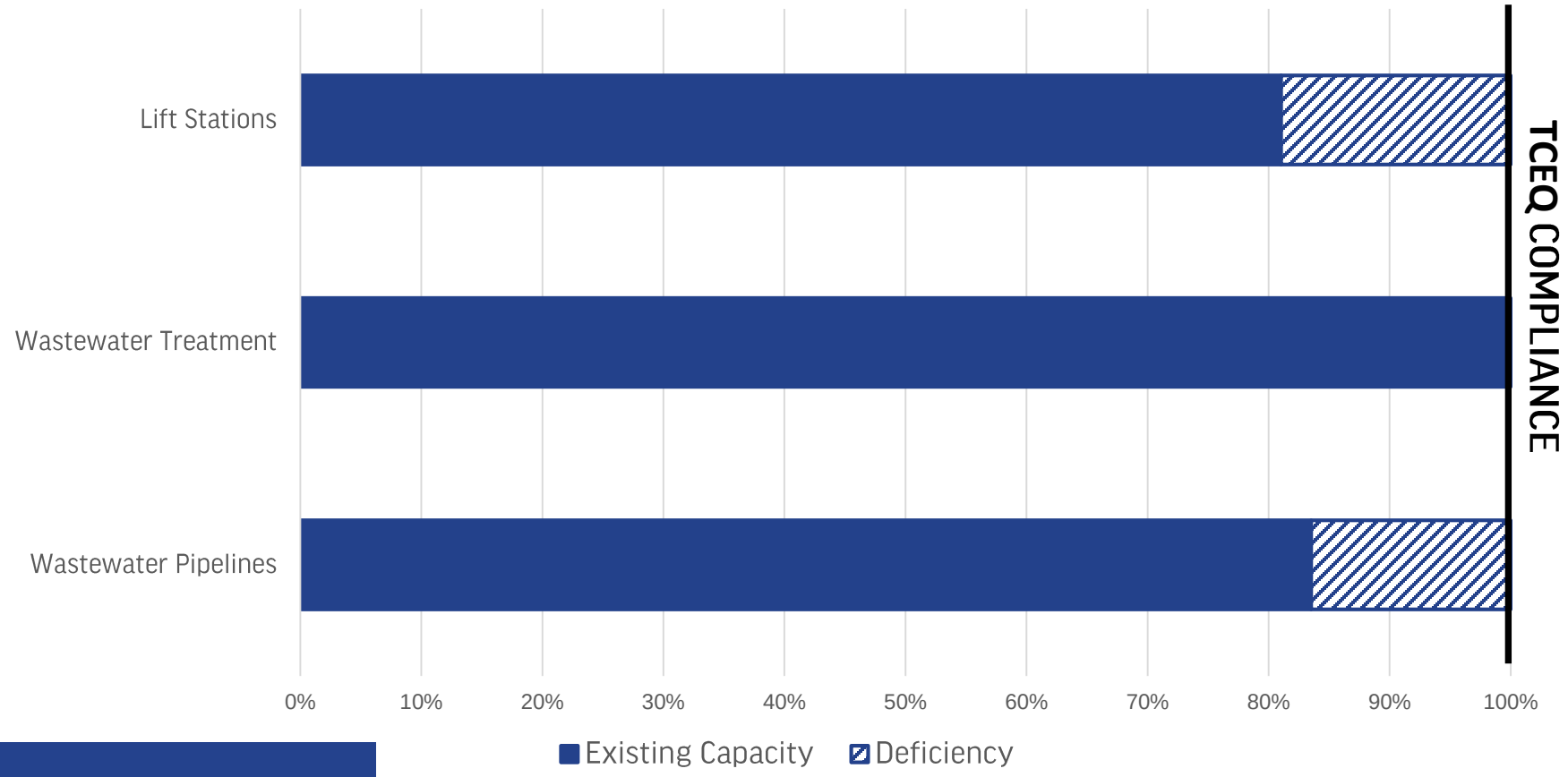


# Kuehler Treatment Capacity




NBU NEW BRAUNFELS UTILITIES

# Capacity vs. Compliance – Wastewater




NBU NEW BRAUNFELS UTILITIES

# WASTEWATER

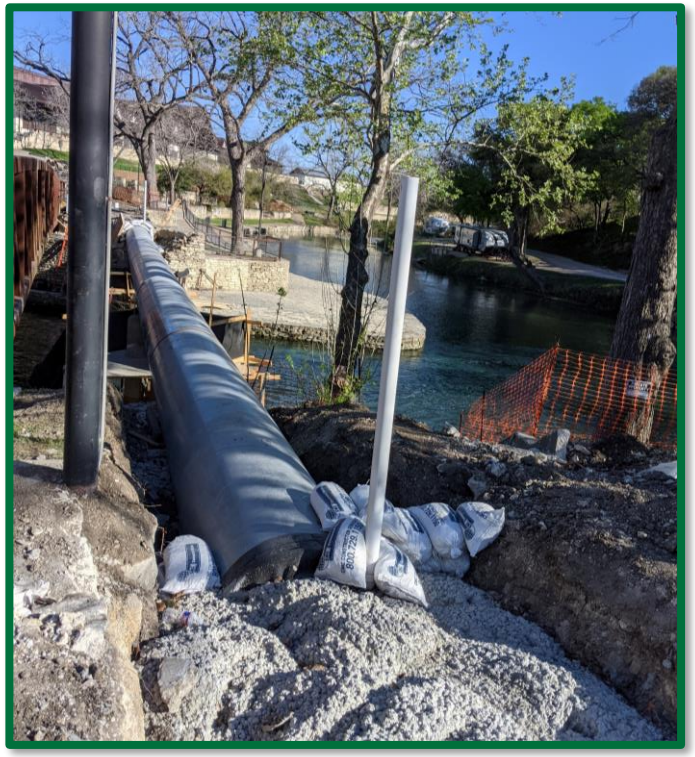
## COLLECTION

## TRANSMISSION

## TREATMENT



NBU NEW BRAUNFELS UTILITIES

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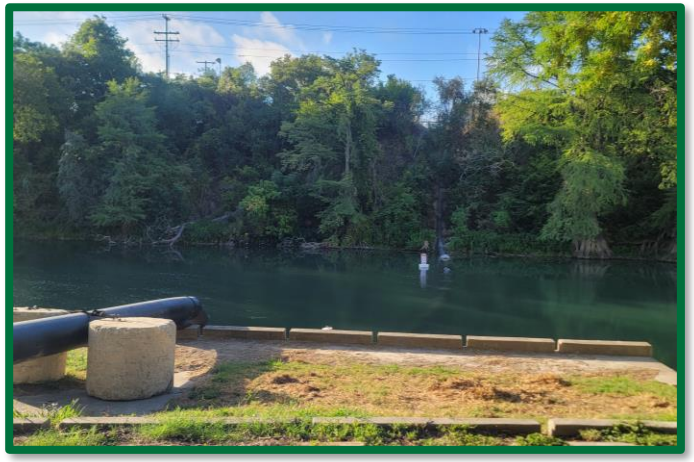
## TRANSMISSION





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## TREATMENT



NBU® NEW BRAUNFELS UTILITIES

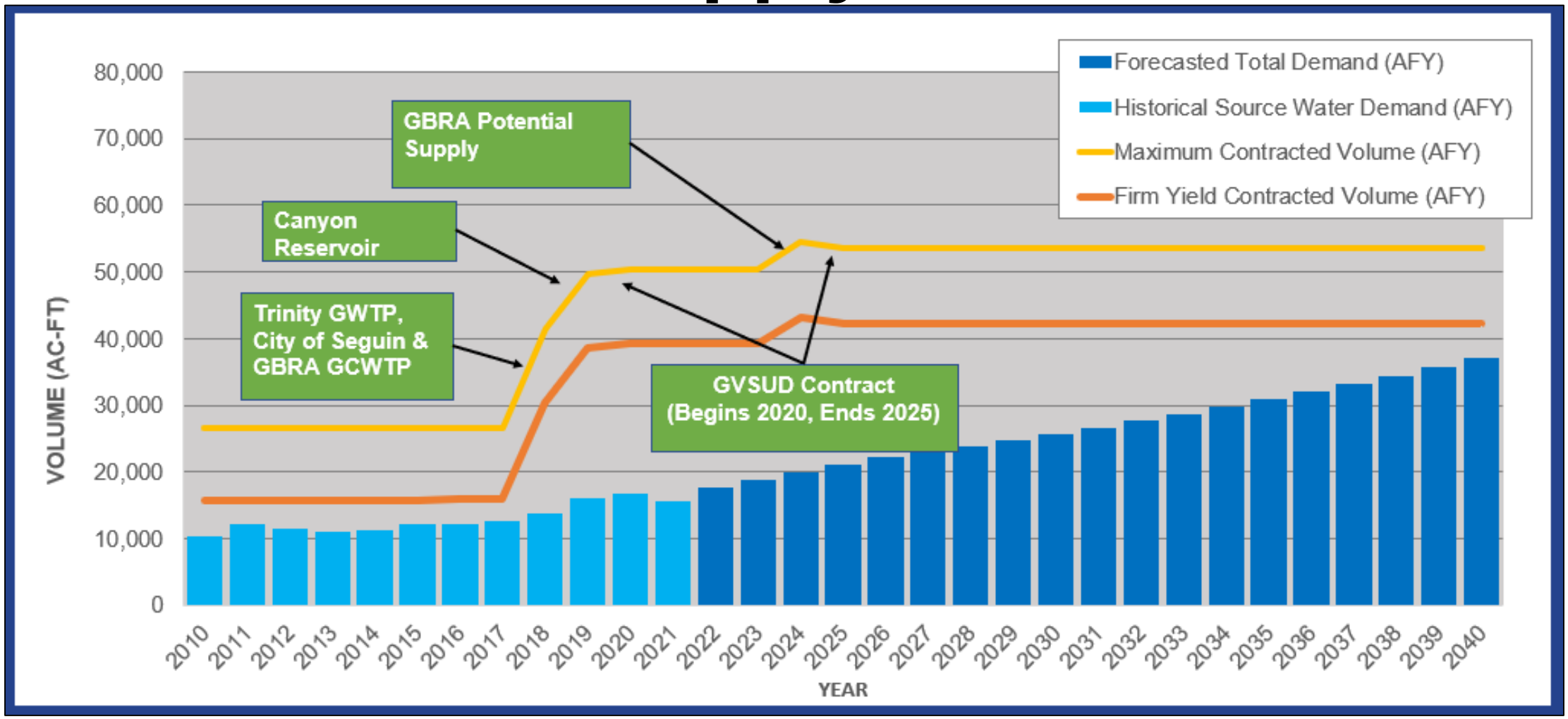
# Water Supply

# Water Supply

# Water Infrastructure

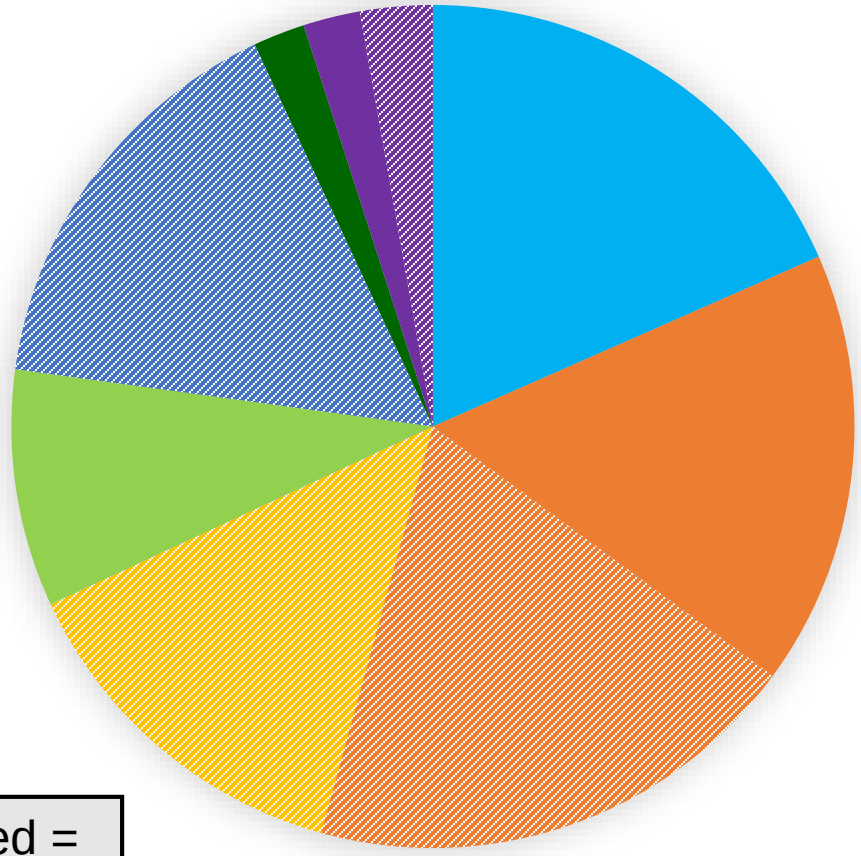
NBU NEW BRAUNFELS UTILITIES

# Water Supply Evaluation




NBU NEW BRAUNFELS UTILITIES

# Water Supply Portfolio

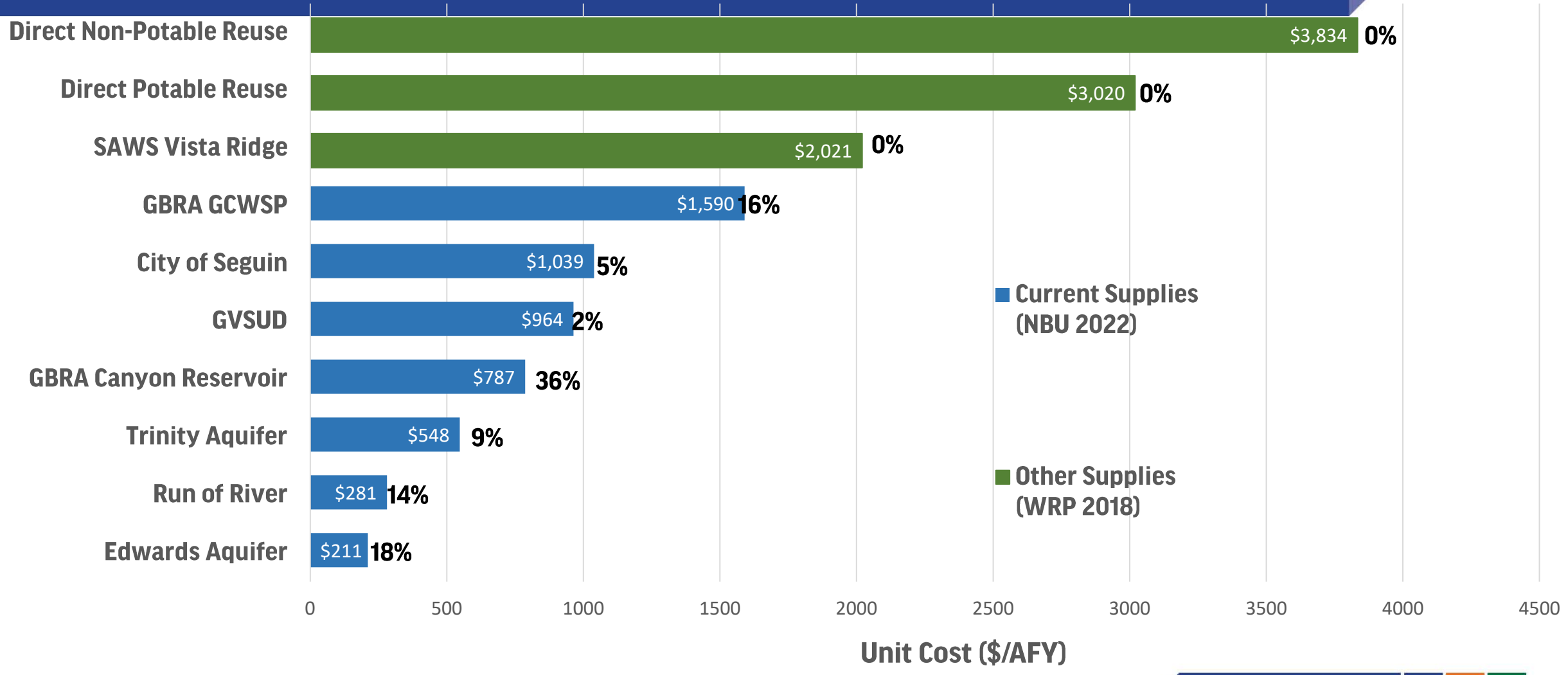


- Edwards Aquifer ($211 per ac-ft) = 18%
- Canyon Reservoir ($787 per ac-ft) = 36%
- Run of River ($281 per ac-ft) = 14%
- Trinity Aquifer ($548 per ac-ft) = 9%
- GBRA GCWSP ($1590 per ac-ft) = 16%
- GVSUD ($964 per ac-ft) = 2%
- City of Seguin ($1039 per ac-ft) = 5%

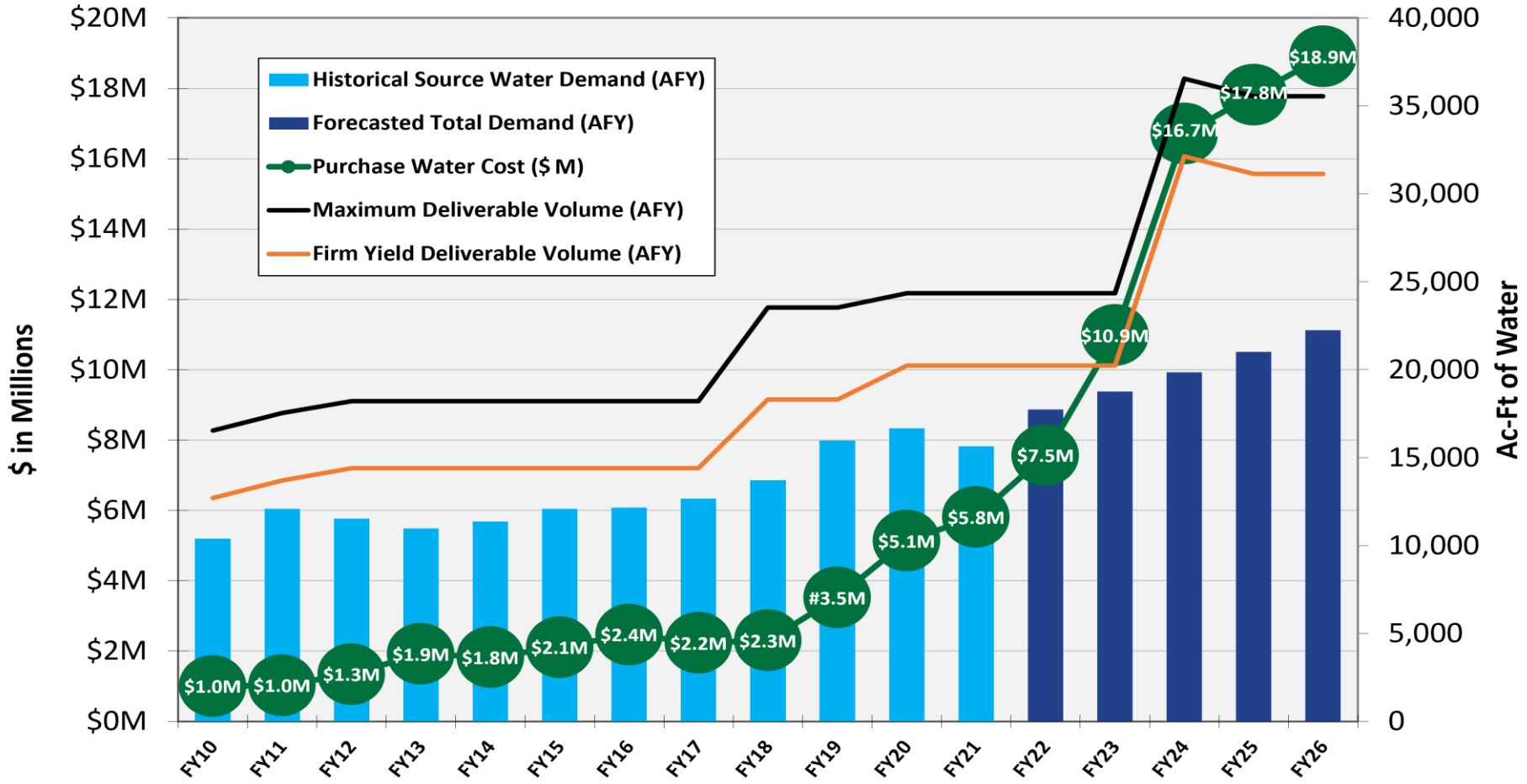
Hatched = Undeliverable

**Max Volume** Contracted**, as of 2021 – 50,375 AFY**
**Max Volume Deliverable, as of 2021 – 24,920 AFY**

# Water Supply Cost Comparison



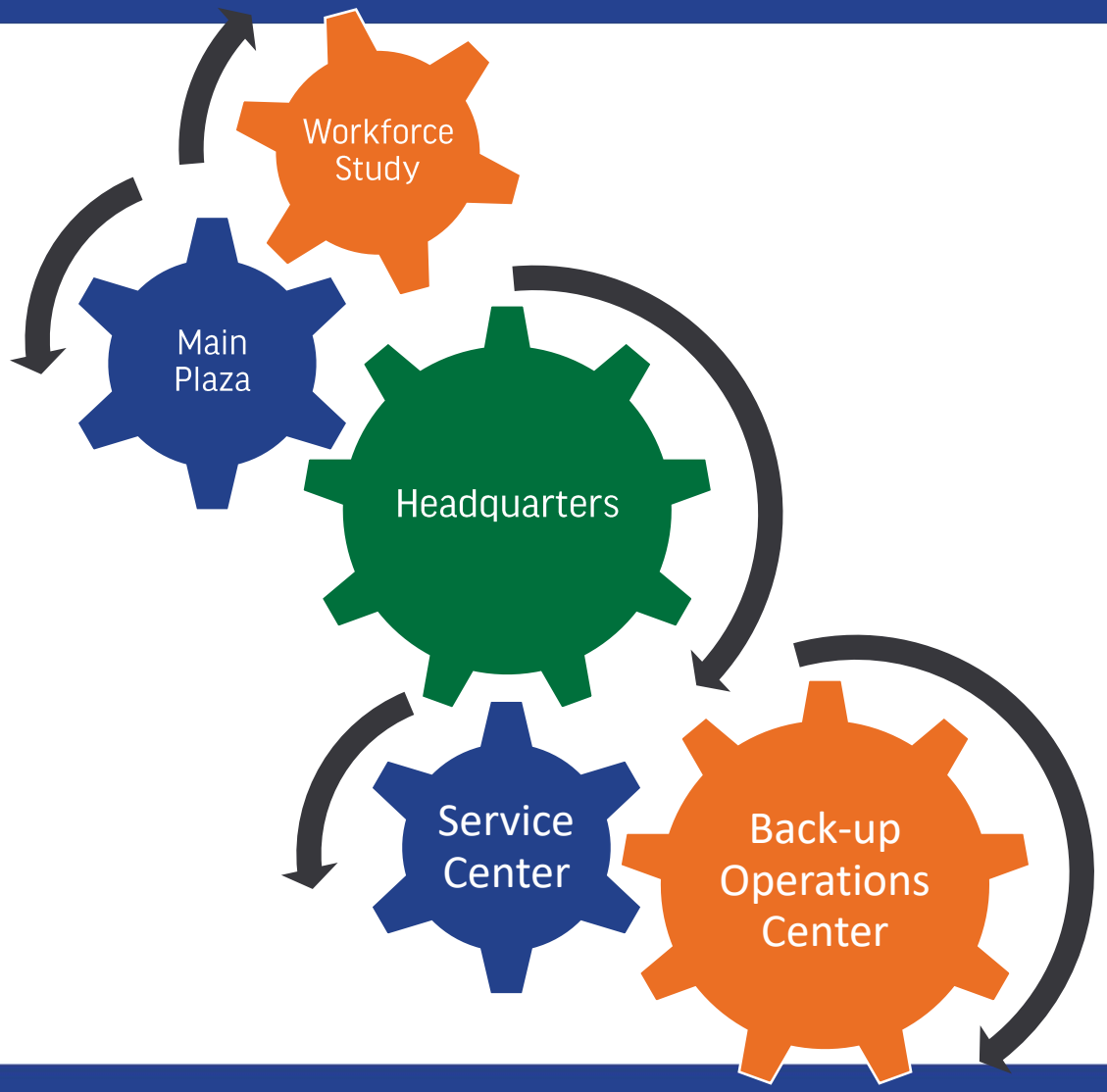
# Water Supply Costs



# Capital Plan

# Facilities

# Facilities – The moving parts



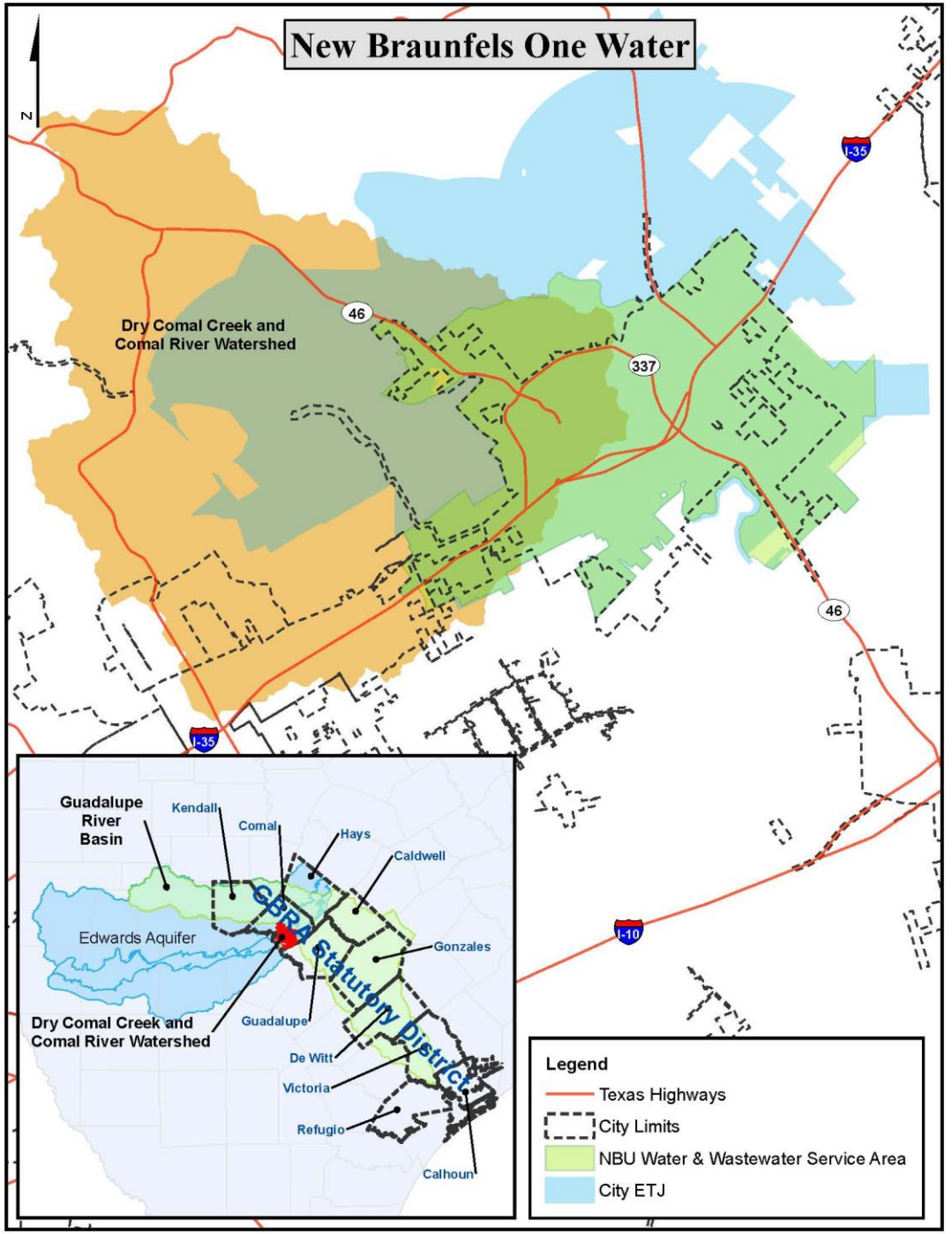
# WATER PLANNING

# One Water

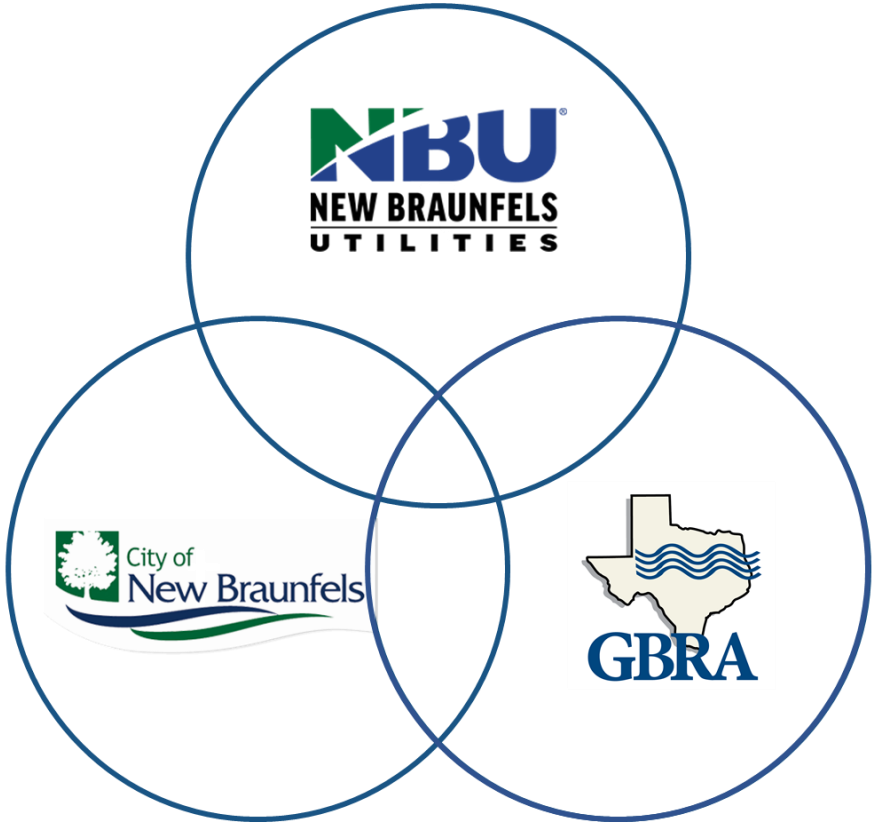
# One Water

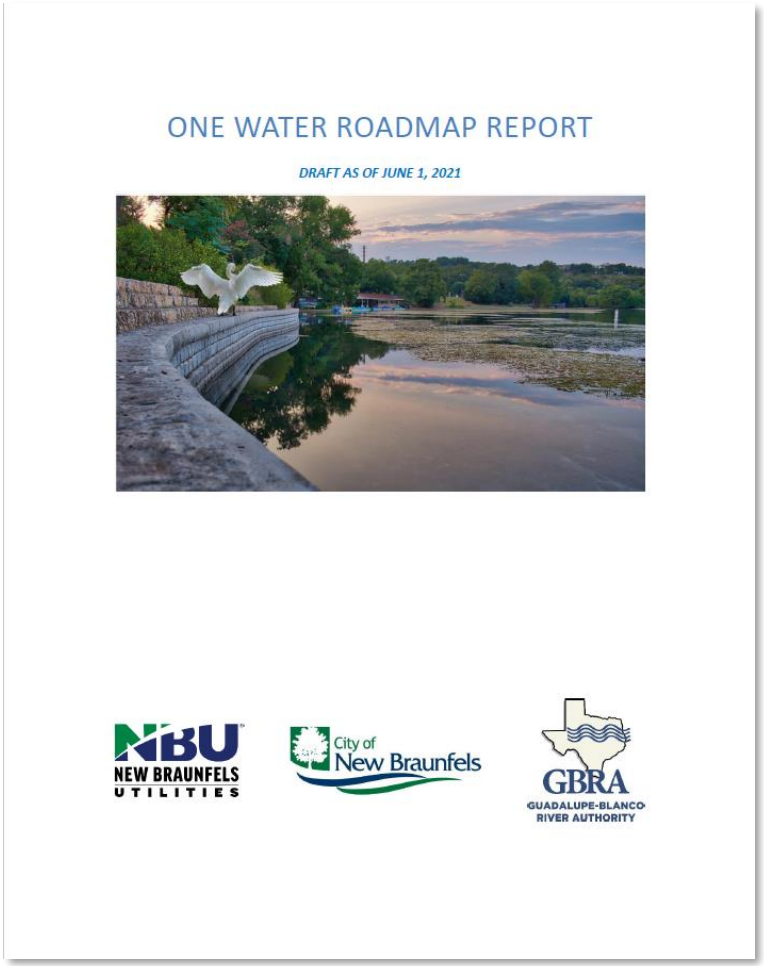
**An integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs.**

***Water Research Foundation (WRF)***



# One Water New Braunfels Roadmap



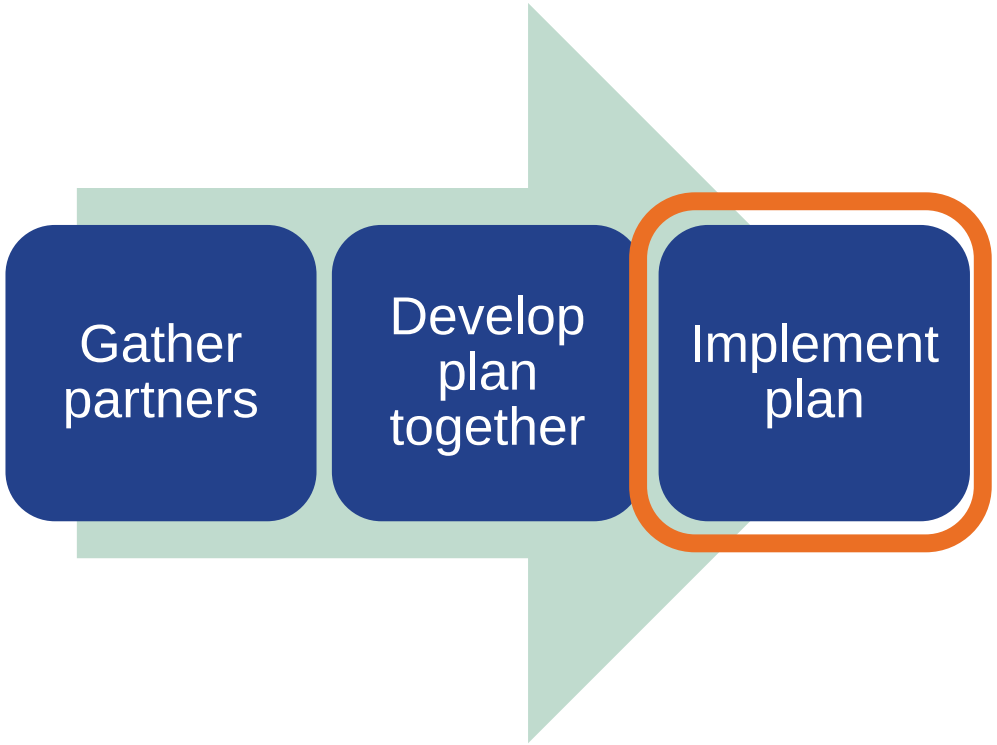



# Vision

To ensure water remains a celebrated and protected feature of our community by collaboratively managing our water resources to safeguard watersheds, waterways, and groundwater.

| | |
|---|---|
| 1 | Plan for and manage water resources holistically and sustainably |
| 2 | Maximize environmental, social, and economic benefits to the greater New Braunfels area |
| 3 | Ensure water remains a celebrated feature of New Braunfels |
| 4 | Provide sustainable and high-quality water |
| 5 | Ensure healthy watersheds, waterways, and groundwater resources |

# What's next?




- Presentations to City Council and GBRA Board
- Execute formal agency agreement
- Hire and onboard One Water Coordinator
- Develop 3 to 5-year operational plan
- Advance activities from each action area

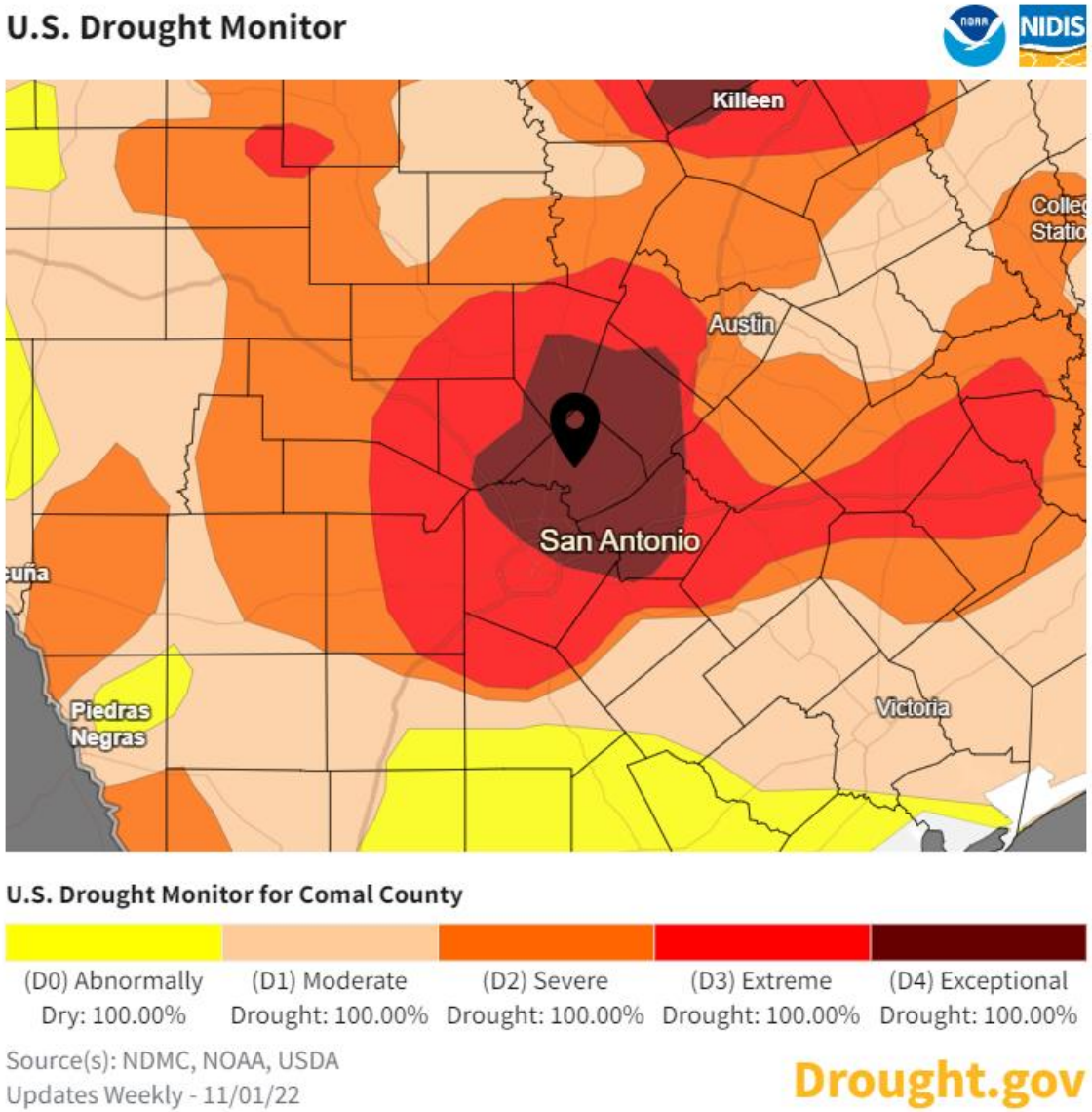
# Drought Synopsis

# Summer 2022 Recap

- Multiple heat and drought records met or broken locally, State and nationally
- Edwards Aquifer levels and Comal Spring flows lowest since 2014
- Drought Stage III since June 21st

Headwaters – Spring Run (October)

# Current and Future Drought Conditions




**Remains one of the hardest hit areas in Texas**

- D4 Exceptional Drought – 100%
  Most severe designation

**Drought expected to persist through Spring 2023**

**La Niña for consecutive third year (warmer and drier than normal)**

- Only has happened two other times since records began – Early 1970s and Late 1990s

# What NBU is Doing

| New Braunfels Drought Severity Evaluation Matrix | |
|---|---|
| Current NBU Stage | 3 |
| Current EAA Stage | 4 |

**Proposed Enhanced Triggers and Monitoring Matrix**

| | *Triggers* | *Stage 1* | *Stage 2* | *Stage 3* | *Stage 4* | *Stage 5* | *Updated as of 10/19/2022* |
|---|---|---|---|---|---|---|---|
| 1 | EAA J17 Level 10-Day Average | <660' | <650' | <640' | <630' | <625' | 630.63 |
| 2 | Comal Flow - Daily | <225cfs | <200cfs | <150cfs | <100cfs | <45/40cfs | 104 |
| 3 | Comal Flow 10-Day Average | <225cfs | <200cfs | <150cfs | <100cfs | <45/40cfs | 101 |
| 4 | San Marcos Flow | <96cfs | <80cfs | | | | 87 |
| 5 | Canyon Lake - Level | <895 | <890 | <885 | N/A | | 900.84 |
| 6 | Run of River - Canyon Lake - Release Rate | <50cfs | | | | | 57 |

| 6 | **Weather-based Factors** | | | | | | *Updated as of 10/19/2022* |
|---|---|---|---|---|---|---|---|
| 7 | Time drought conditions have persisted (months) | <6 mon | >6 mon | >12 mon | >18 mon | > 24 mon | 7.3 |
| 8 | 10-day Rain % | <50% | | <40% | <30% | <25% | 8% |
| 9 | 10-day Avg Hi-Temp | ≥95 | | >100 | >102 | >103 | 89 |
| 10 | Comal County Drought Monitor - D3 Extreme % | >10% | >25% | >50% | >75% | >90% | 100% |
| 11 | Comal County Drought Monitor - D4 Exceptional % | >10% | | >25% | >50% | >75% | 82% |
| 12 | Seasonal Drought Outlook | Drought to Persist through the Next 3 Months | | | | | Yes |
| 13 | Percentage of State in Drought | >50% | | >75% | >80% | >90% | 94.25% |
| 14 | Total Rain YTD (Inches) | Annual Average 2000-2022, 32.31" | | | | | 8.79 |
| | Rainfall Defecit YOY (Inches) | 2021 YTD | 31.85 | | 2022 YTD | 8.79 | -23.06 |
| 15 | | >2.5" | >5" | >7.5" | >10" | >12.5" | |
| | Rainfall Defecit vs Avg YTD (Inches) | Avg YTD | 24.67 | | 2022 YTD | 8.79 | -15.88 |
| 16 | | >2.5" | >5" | >7.5" | >10" | >12.5" | |
| 17 | Comal County Burn Ban Duration | >30 days | >60 Days | >90 Days | >120 Days | >150 days | 160 |
| | Comal County Fire Risk (KBDI) | 300-399 | 400-499 | 500-599 | 600-699 | 700-800 | 729 |

| **Infrastructure-based Factors** | | *Updated as of 10/19/2022* |
|---|---|---|
| Maximum NBU Pumping Capacity (MGD) | 36MGD | 17.0 |

**Availability Water Supply Reduction Requirements**

| | *Stage 1* | *Stage 2* | *Stage 3* | *Stage 4* | *Stage 5* |
|---|---|---|---|---|---|
| Edwards Aquifer Authority | 20% Reduc | 30% Reduc | 35% Reduc | 40% Reduc | 44% Reduc |
| Canyon Lake | 5% Reduc | 10% Reduc | 15 % Reduc | N/A | |
| Trinity | No reduction requirements | | | | |
| City of Seguin | Must Follow CoNB Drought Management Plan | | | | |
| GVSUD | | | | | |
| Run of River | Not available below 50 cfs | | | | |

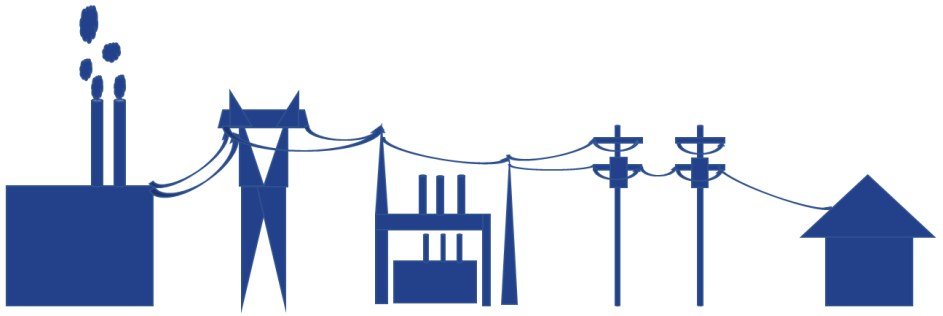
- Additional monitoring and reporting
- Enhanced communications
- Increased patrolling
- Expedited violation processing
- Direct outreach to HOA, builders and developers

# ENERGY PLANNING

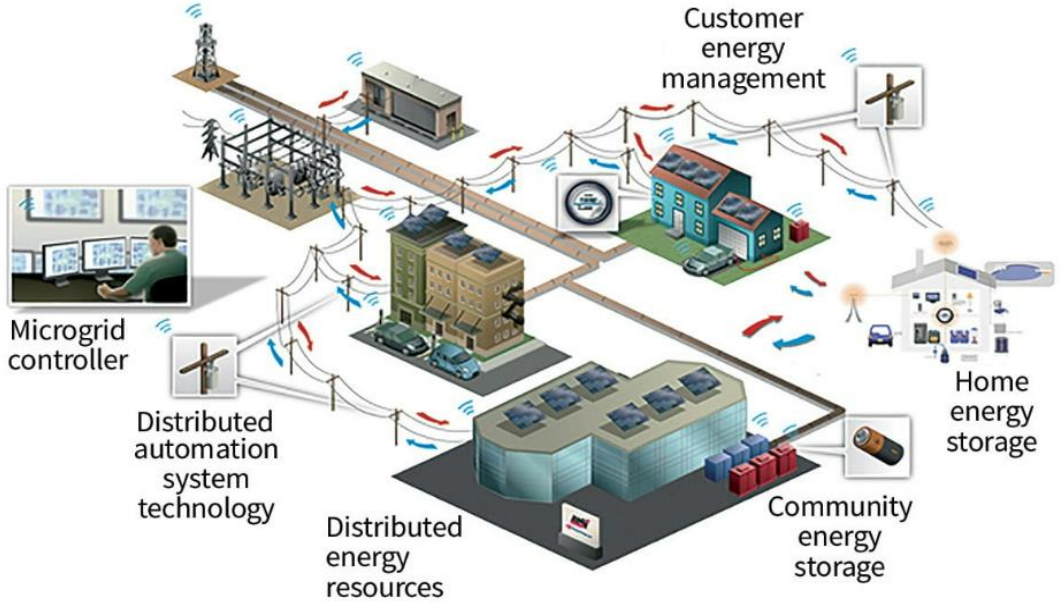
# Distributed Energy Resources & Solar Program

# How Does Electricity Get to You?

## Looking Back



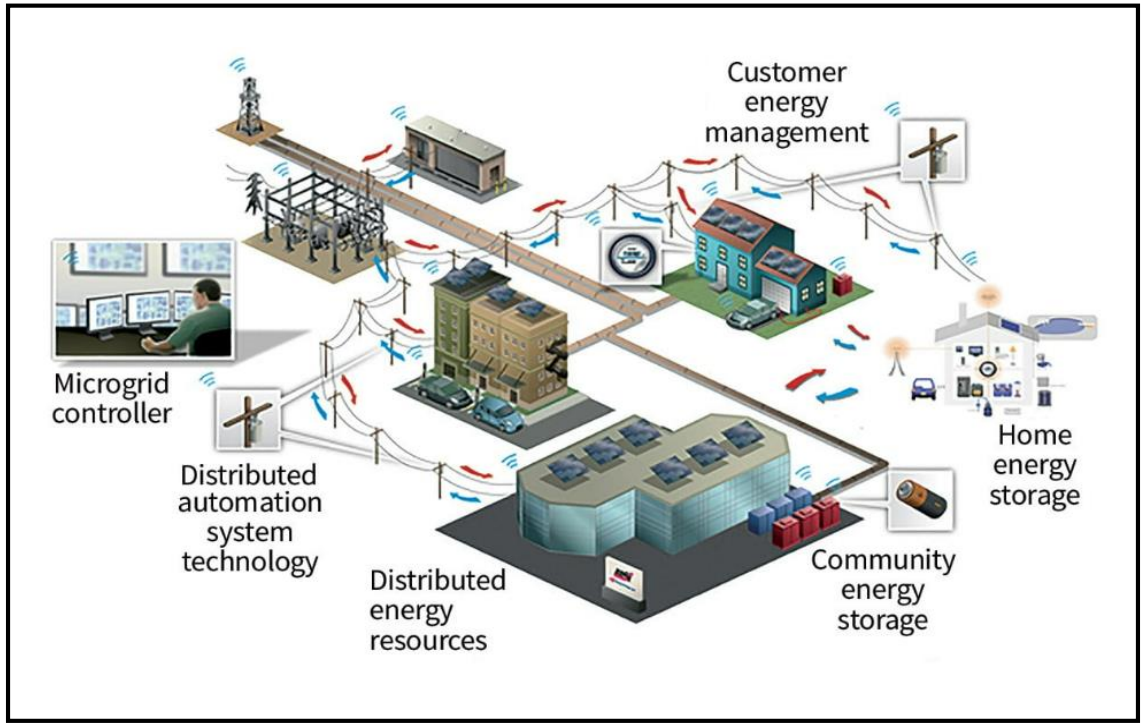

## Looking Ahead



# Distributed Energy Resources (DERs)

A DER is an electricity supply on the *customer side* that is interconnected to the grid that:

- generates electricity with a primary fuel source (e.g. solar and onsite generators); or
- stores energy to supply electricity to the grid (e.g. batteries and electric vehicles)



# DERs, NBU and Our Customers

**Texas expected to see 32,924 MW DER to come online between 2020 and 2030* – *enough to power one in three Texas homes!***

**Currently, DERs in service territory are primarily residential solar installments** ***(more on this in later slides)***

**Increasing number of commercial requests for more complex systems**

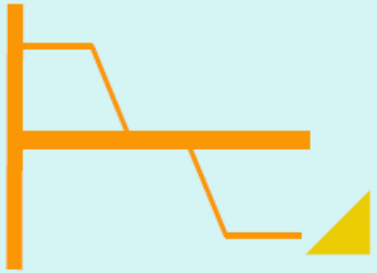
- Large solar installations
- Solar with back up battery storage
- Large onsite generators
- Large battery storage units


* How VPPs Can Replace Fossil Fuel Peaker Plants. Autogrid *(2022)*

# Where NBU is Headed with DER integration

## *Grid Planning & Technical Interconnection Requirements*
*(e.g., IEEE 1547-2018)*

**THIS ACTIVITY**



Specify **DER** Performance and Functional **Capabilities**

- e.g., adopt IEEE Std 1547-2018

Update interconnection agreements

- e.g., allow for **utilization** of DER capabilities

## *Research, Development, Standardization*
*(e.g., DERMS, IEEE 2030.11)*

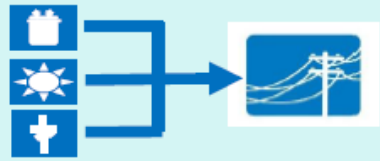
Design architecture and deploy DER **communication infrastructure**

- e.g., start with utility-scale DER before integrating retail-scale DER

Specify DER Management System and select **DER Aggregations/ Group Management** Functions

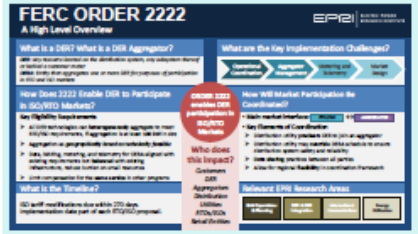
- e.g., codify messages to be exchanged across the T&D interface

## *Markets & Operations*
*(e.g. FERC Order 2222)*



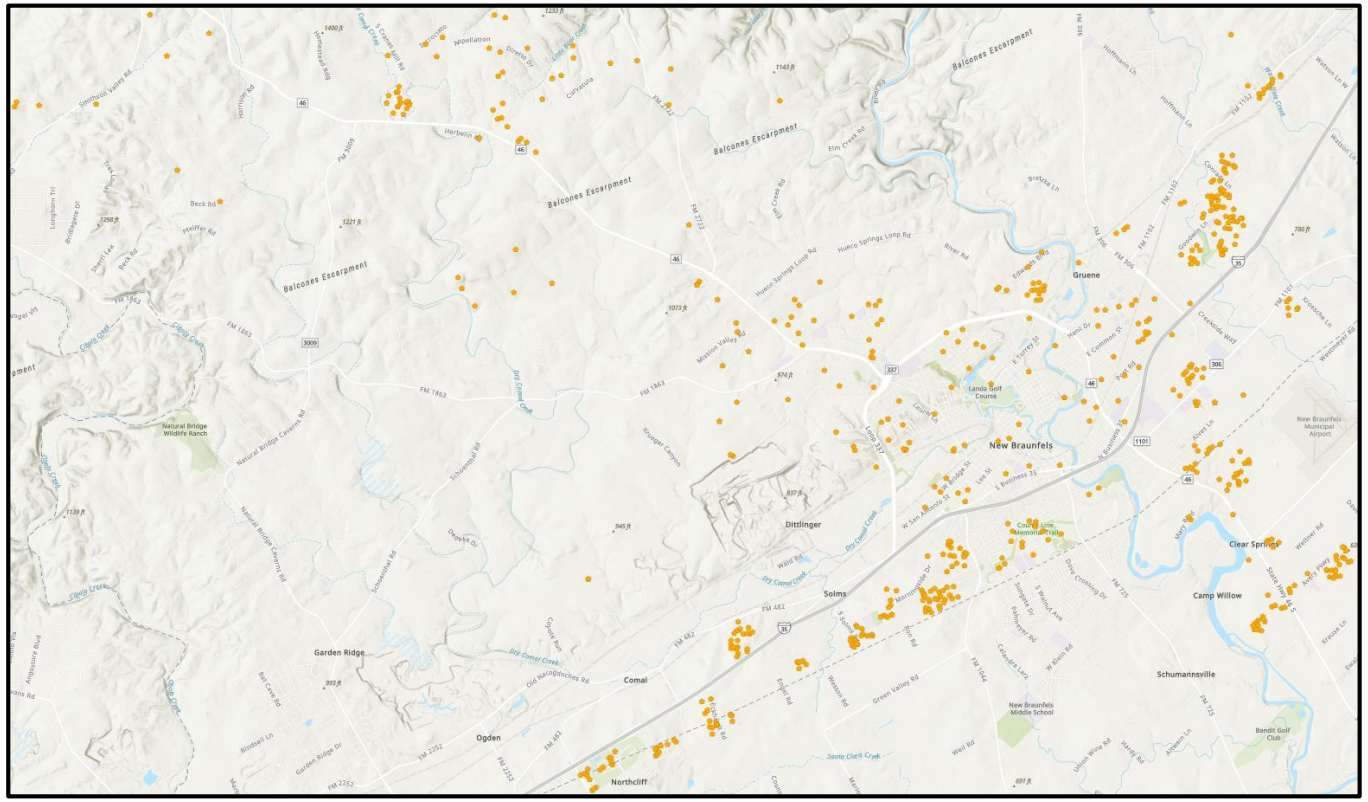
Design **market** and integrate DER into **grid operations**

- e.g., energy products, capacity products, re-dispatch, regulating reserves



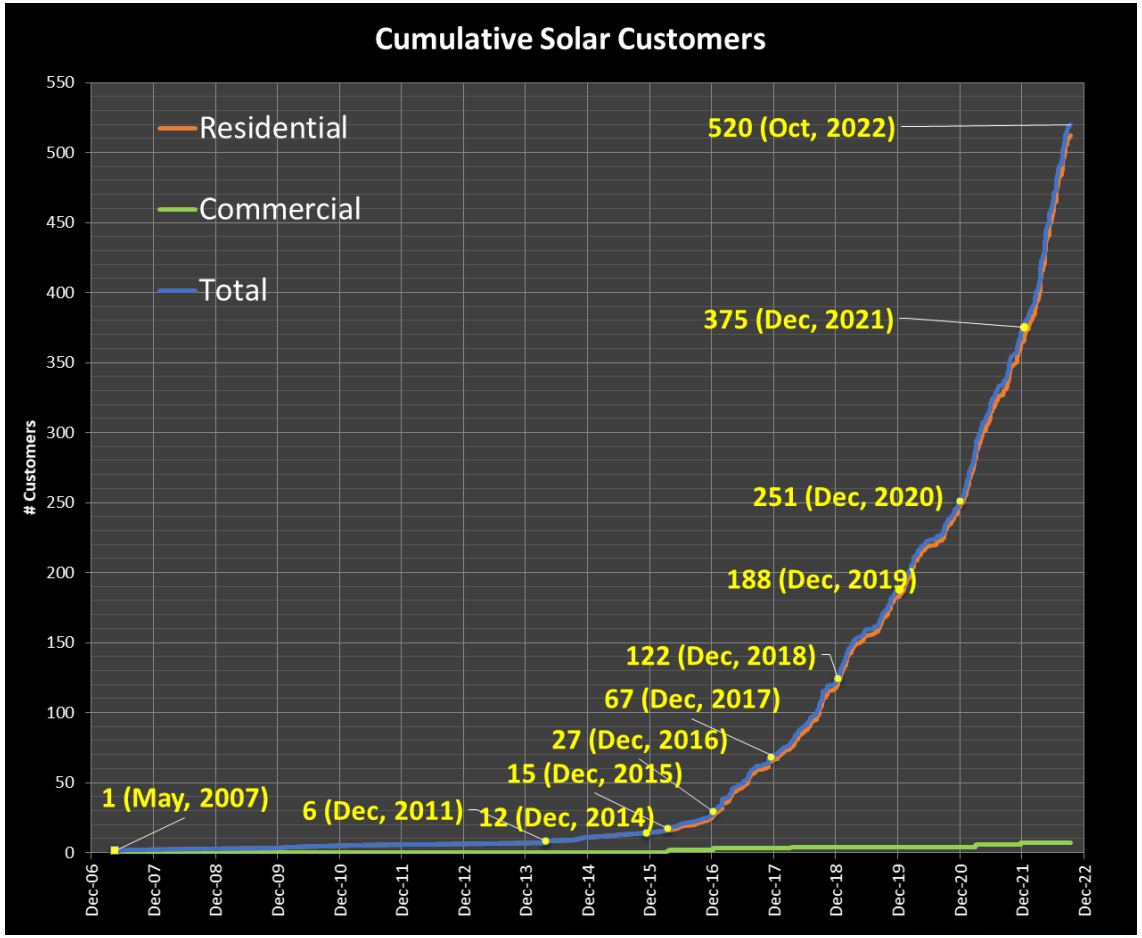
# Solar Energy in New Braunfels

- Solar doubling year over year
- 520 residential systems
- 10 commercial systems
  - HEB the largest at 579kW
- Represents just under 2% of customers



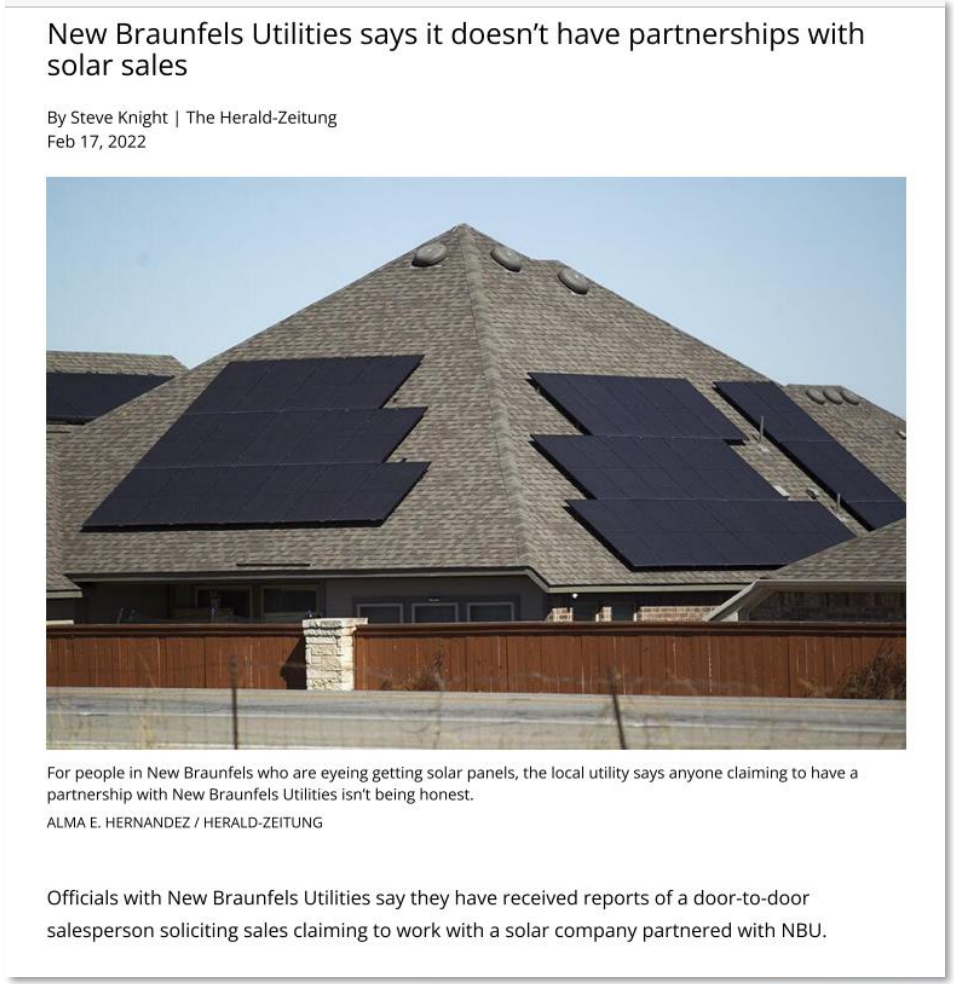
# Keeping Pace with Solar Growth

- Increased staff levels to manage requests
- Additional staff training
- Consultant reviewing processes and programs to recommend efficiencies and improvements
- Introducing expanded customer education tools and qualified solar vendor requirements



# Qualified Solar Vendor Program

- Couple solar rebate with vendor requirements and expectations
- Program modeled after CPS Energy and Austin Energy programs
- To include additional customer education and support



New Braunfels Utilities says it doesn't have partnerships with solar sales

By Steve Knight | The Herald-Zeitung
Feb 17, 2022

For people in New Braunfels who are eyeing getting solar panels, the local utility says anyone claiming to have a partnership with New Braunfels Utilities isn't being honest.

ALMA E. HERNANDEZ / HERALD-ZEITUNG

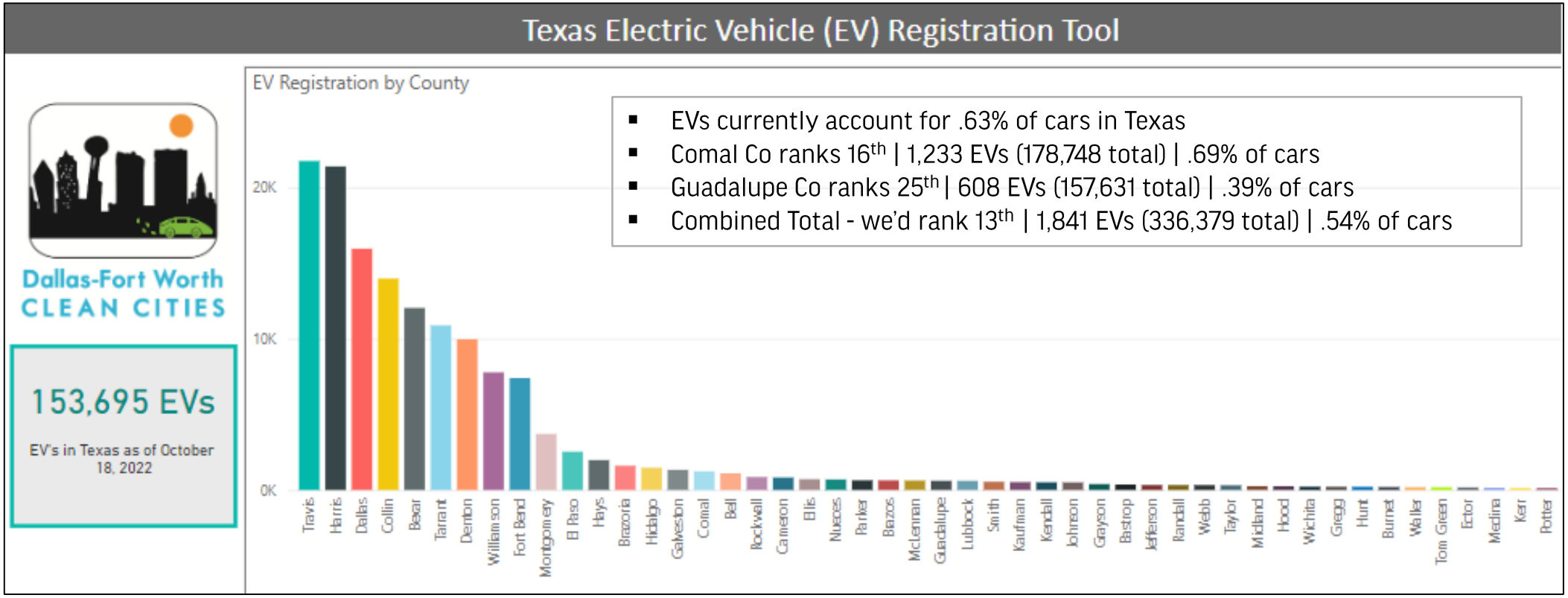
Officials with New Braunfels Utilities say they have received reports of a door-to-door salesperson soliciting sales claiming to work with a solar company partnered with NBU.

# Electric Vehicles

# The Move to Electric Vehicles (EVs)

- EV market growing at 25x the pace of car market overall
- 22 million EVs on roads in 10 years
  - 15% of vehicles on TX roads by 2030
- EVs could be as much as 76% of vehicle miles traveled in 2050
- IIJA: $30.7 billion on EVs & infrastructure
  - $408M to TX

# EVs in Texas and New Braunfels

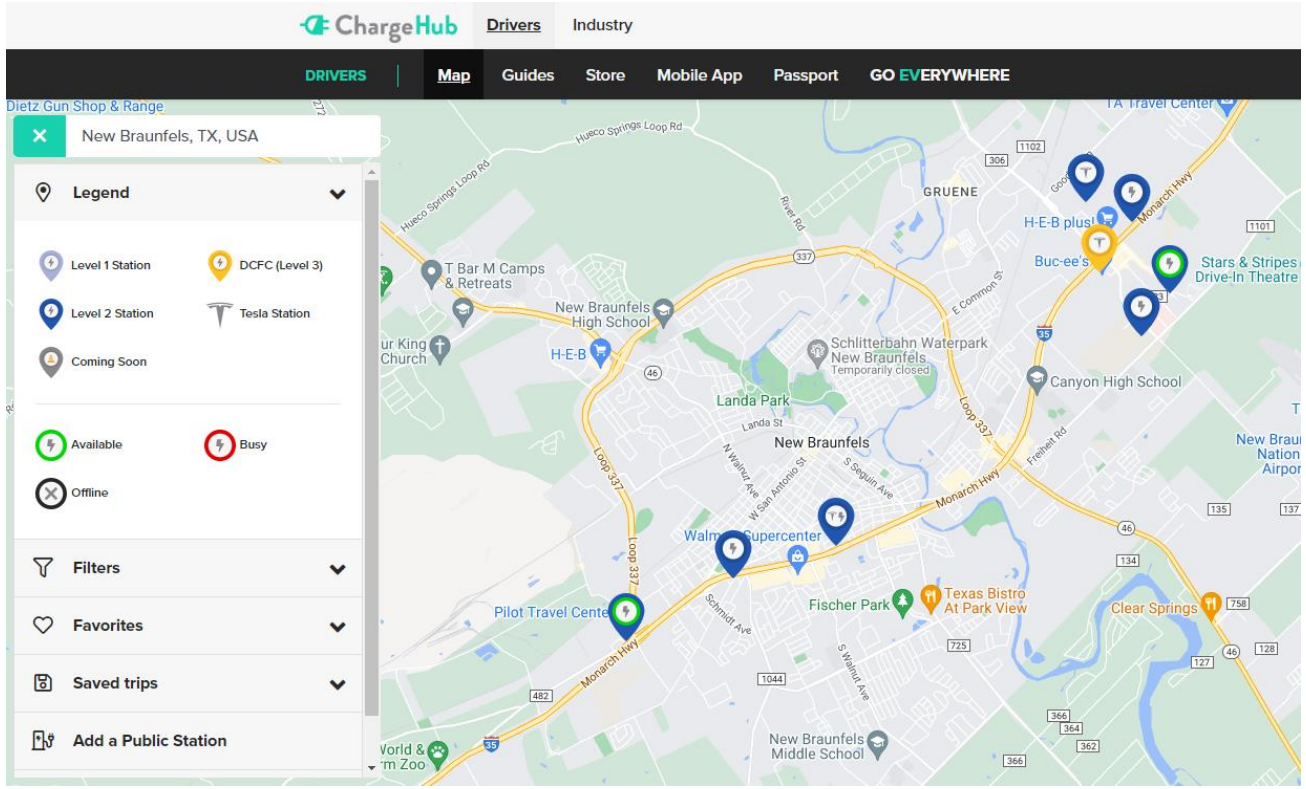



- EVs currently account for .63% of cars in Texas
- Comal Co ranks 16th | 1,233 EVs (178,748 total) | .69% of cars
- Guadalupe Co ranks 25th | 608 EVs (157,631 total) | .39% of cars
- Combined Total - we'd rank 13th | 1,841 EVs (336,379 total) | .54% of cars

*Tool produced by NCTCOG and Dallas Fort-Worth Clean Cities Coalition.*
*Utilizes State of Texas DMV registration data and Atlas EV Hub VIN decoder.*

NBU NEW BRAUNFELS UTILITIES

# EV Charging Infrastructure




## DOE Analysis

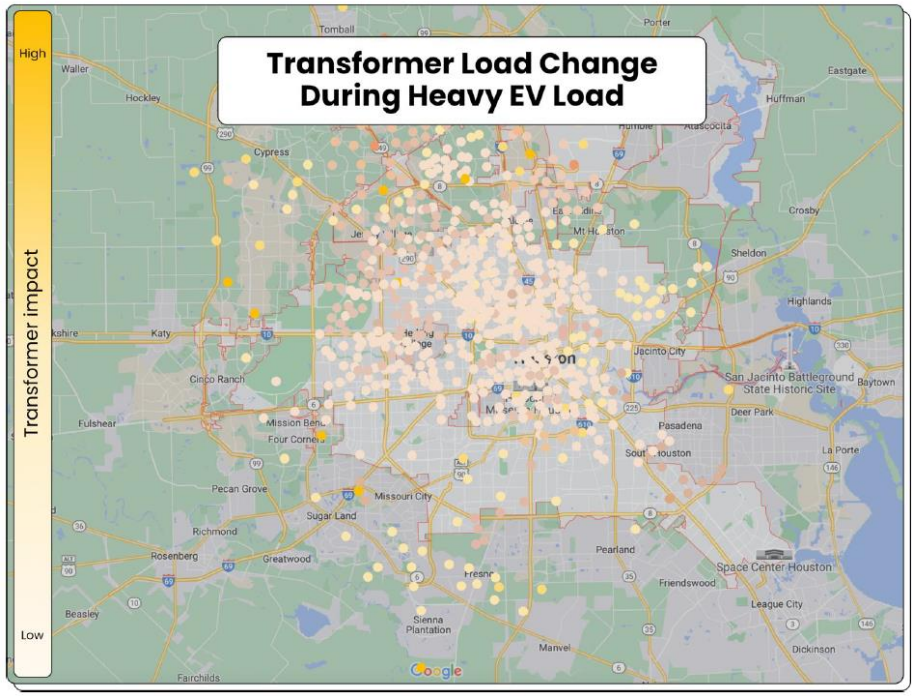
*For every 1000 EVs*
**36 Level 2** & **1.5 DC Fast** (non residential) **chargers**

| | CURRENT NUMBERS | GAP | 2030 PROJECTED* | PROJECTED GAP |
|---|---|---|---|---|
| **EVs** *(light duty only)* | 1,841 | | 50,456 | |
| **Level 2 Chargers** | 7 | -47 | 1,816 | -1,809 |
| **DC Fast Chargers** | 1 | -.5 | 76 | -75 |

Dept of Energy *National Plug-In Electrical Vehicle Infrastructure Analysis* report, 2017

# EVs & the Electric Grid

- Currently no major impact to the electric grid
- Other communities begin experiencing impacts with light duty adoption rate of ~6%
- NBU to conduct study of potential impact with variety of adoption scenarios
- Will develop customer programs to ensure charging is well managed to mitigate infrastructure upgrades  and support grid reliability



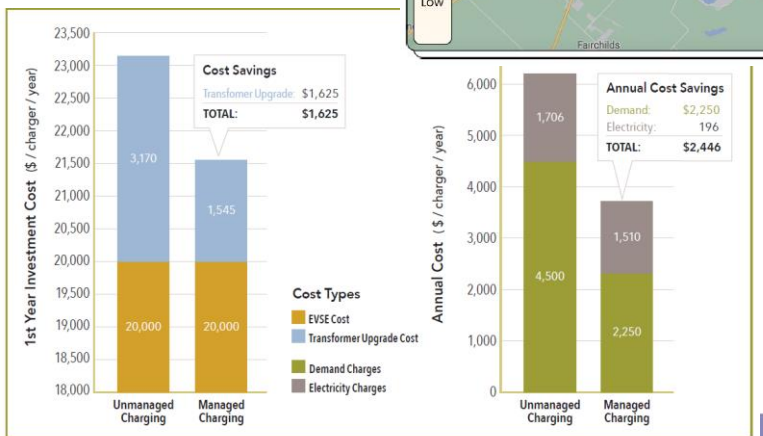




**Figure 2. Managed EV charging saves the fleet owner over $244,000 annually and minimizes up-front costs.** Itron's projection shows that smaller equipment, less maintenance and off-peak pricing combine for an impressive 38% benefit over the lifespan of a 100-bus fleet and its 100 chargers.

NBU NEW BRAUNFELS UTILITIES

# Power Supply Program

# NEW BRAUNFELS / TEA CITY COUNCIL MEETING: ENERGY RISK MANAGEMENT REVIEW

**NOVEMBER 17, 2022**

# AGENDA

- Background of The Energy Authority
- Municipally Owned Utilities in Texas
- Executive Summary
- NBU Energy Risk Management Review

# BACKGROUND OF THE ENERGY AUTHORITY

TEA

THE EnergyAuthority





## PUBLIC POWER

- Local Ownership, Control & Governance
- Non-Profit
- Physical Complexity
- Public Pressures

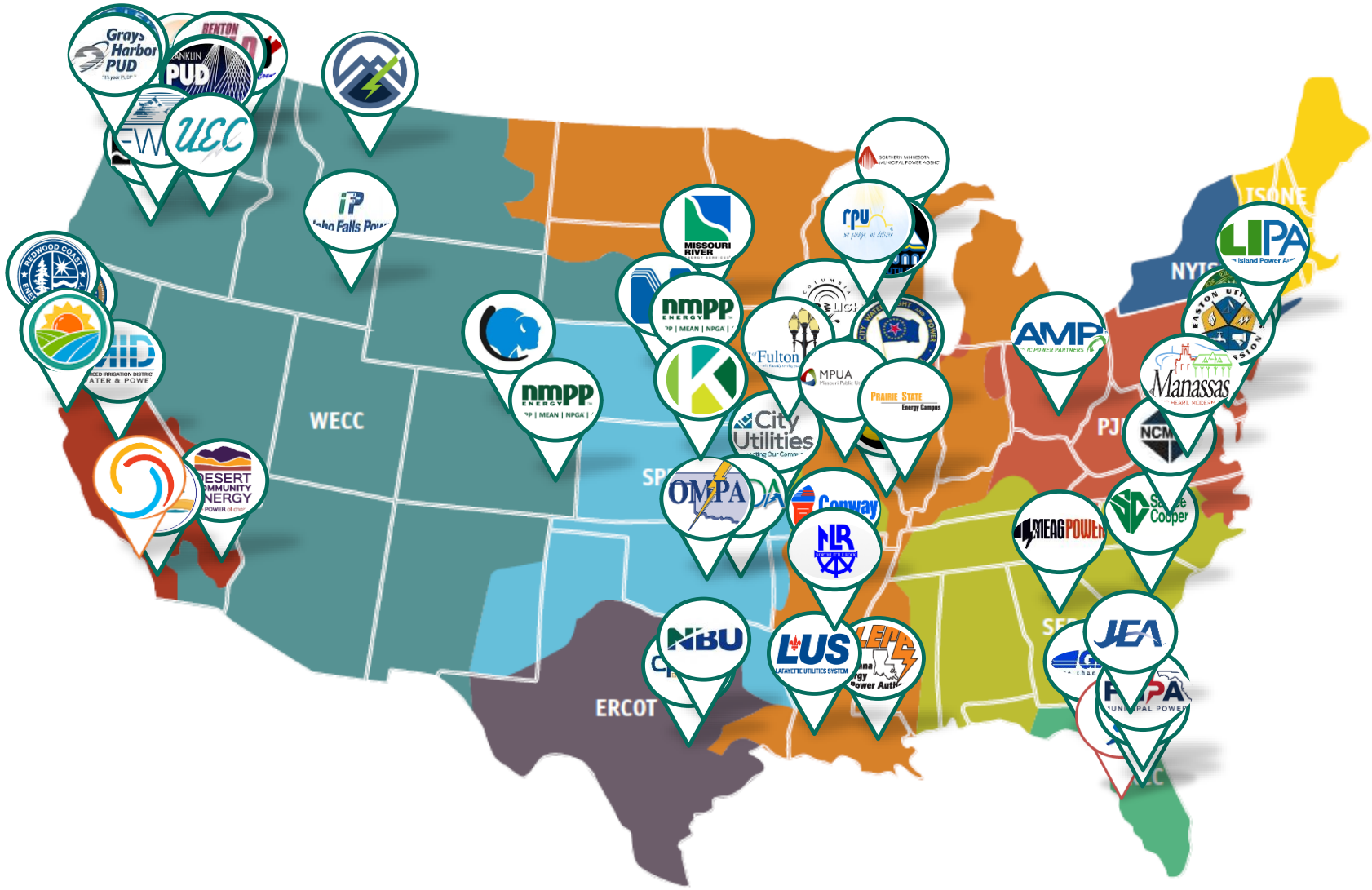
## ENERGY MARKET

- Financial Complexity
- Dynamic
- Competitive
- Data Intensive
- Specialized Skillsets

# OUR MISSION

**Maximize the value of our clients' assets in the wholesale energy markets.**

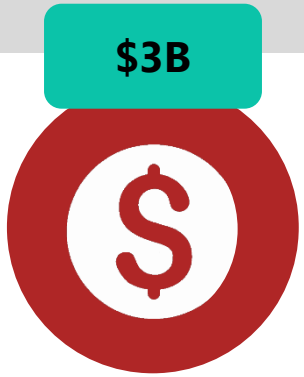
# TEA TODAY






TEA THE EnergyAuthority

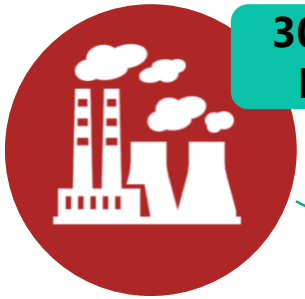
# ECONOMIES OF SCALE




Over $3B in gross revenues annually

~ 230 employees

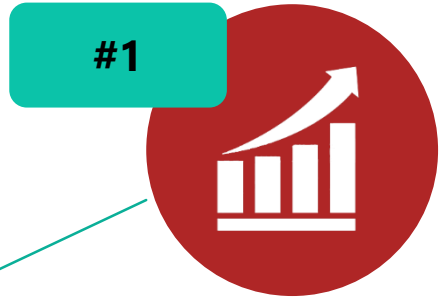
Offices in Jacksonville, FL and Seattle, WA




Represent utilities with over 30,000 MW of Peak Demand and 25,000 MW of generation

Trade over 250 Bcf of NG/year and 75 Million MWh/year

**>60 Public Power Clients**




Over 200,000 transactions per year

#1 in volume among community-owned entities

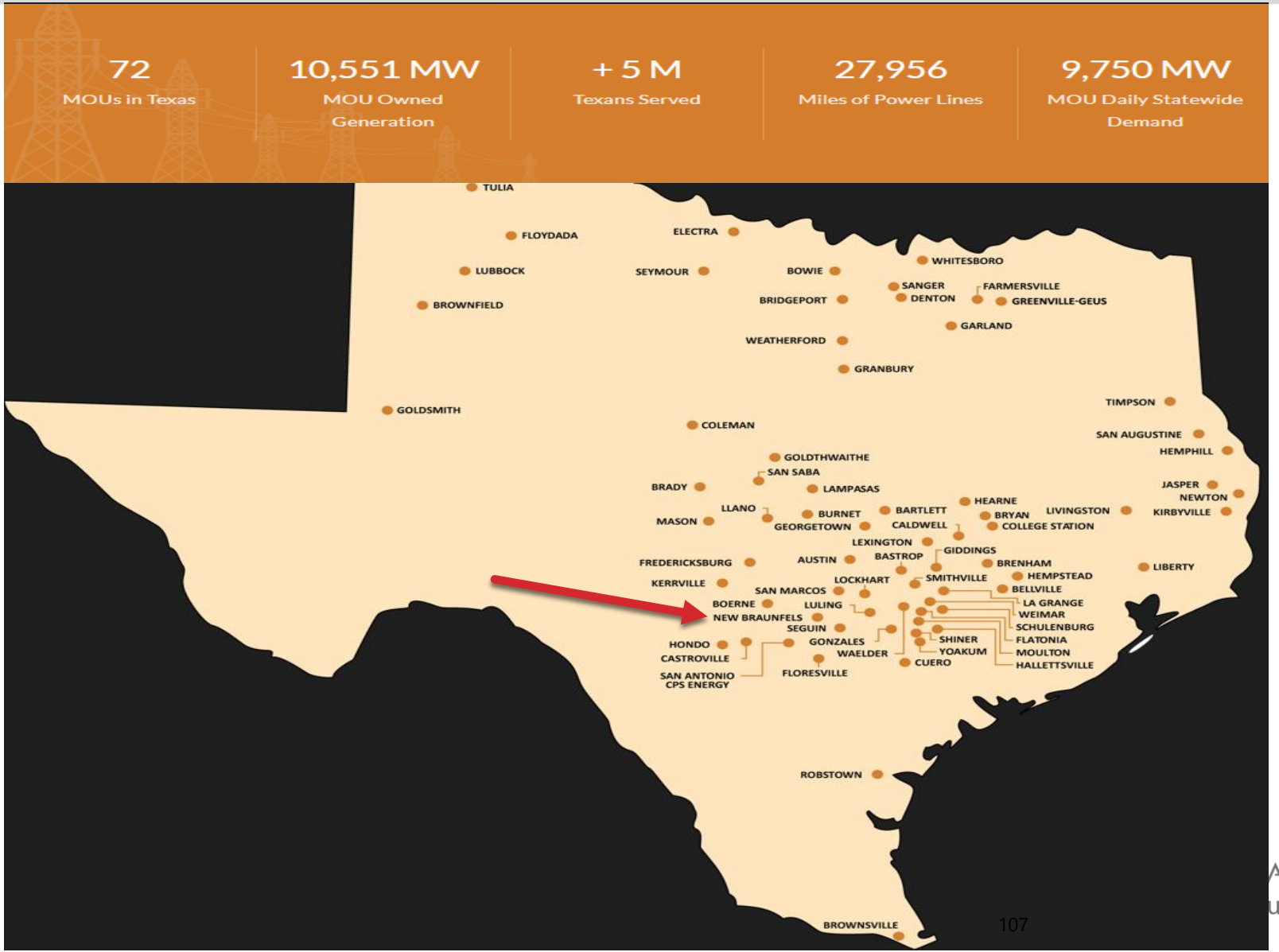
Trade across 40 states

# STRATEGIC SOLUTIONS

# MUNICIPALLY OWNED UTILITIES IN TEXAS

# MUNICIPALLY OWNED UTILITIES IN TEXAS

- MOUs provide affordable, reliable power to community owners
- MOUs invest in Texas and its communities
- MOUs play a stabilizing role in the ERCOT market
- MOUs are leaders in local economic development



# EXECUTIVE SUMMARY

- **TEA was selected through an RFP solicitation to provide Energy Risk Management Consulting Services to NBU**

- **TEA reviewed multiple facets of NBUs business, and the process included:**
  - **Reviewing data and models provided by NBU staff**
  - **Interviews between NBU staff and TEA SMEs to understand NBU's current processes, strategies, and metrics**
  - **Assessment of NBU's business practices based on TEA's own experience and its knowledge of other Public Power utilities' practices**

- **Our assessment is that NBU's approach & methods in the business areas we reviewed (which included Front, Middle, and Back Office) represent a sound approach to Risk Management and are generally consistent with common utility practice. NBU would benefit from increased scale and sophistication that is difficult for a utility of NBU's size to achieve on its own**

# MANAGING POWER SUPPLY RISK

## Full Requirements

- Contract for services with a generating utility
- Power supply obligations reside with the supplier
- May reduce volatility and smooth cash flows but is not risk free and expensive

## Managed Portfolio

- Build a power supply portfolio from different providers
- May include some owned generation
- Utility may self-manage or partner with others

## Self-Supply

- Build and operate generation to meet needs of the city
- Most physically complex option
- Reduces counterparty risks but increases operational risks

# OBSERVATIONS OF NBU'S APPROACH

## Managed Portfolio

**Build a power supply portfolio from different providers**

**May include some owned generation**

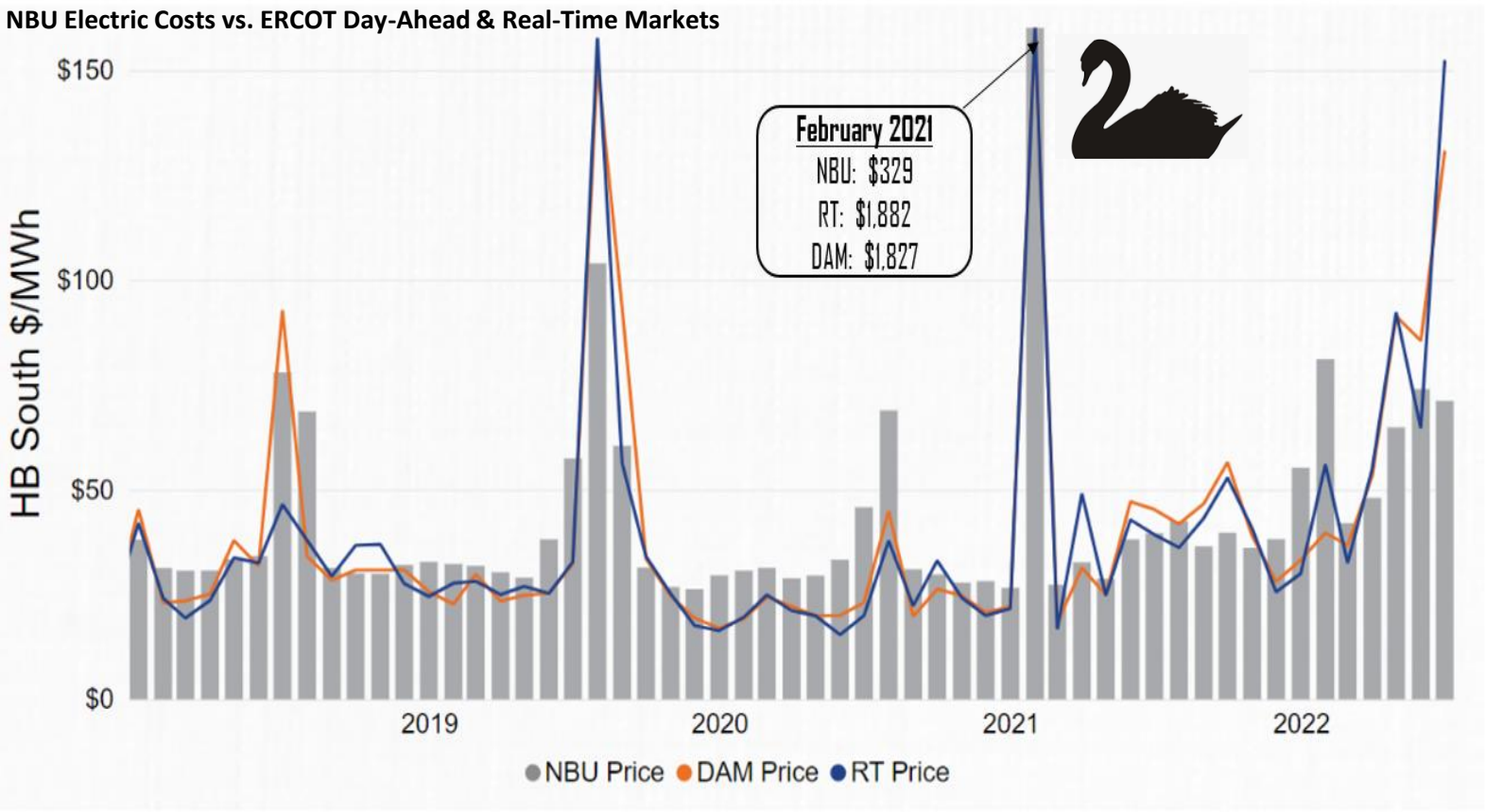
**Utility may self-manage or partner with others**

- **NBU has built a diversified power supply portfolio that includes wind and solar resource contracts, power purchase agreements, and shorter-term purchases from counterparties**
- **NBU has an effective risk management program in place to manage and mitigate risk to the utility and its customers. The program includes:**
  - **Suitable risk control, credit, and hedging polices**
  - **Proper separation of duties between Front, Middle and Back Office**
  - **NBUs processes and systems are serviceable but we have identified some gaps and opportunities for improvement**
- **NBU has a knowledgeable and effective power supply group**

# NBU'S HEDGING IMPACTS AND STORM URI

- **Having a hedging program has benefited NBU's customers over the years**
- **Energy losses from Storm Uri could have been worse if not for NBUs hedging activity**
- **Almost impossible to plan for a Black Swan event such as Uri**
- **Many utilities aside from NBU were majorly impacted and had to increase rates**

**NBU Electric Costs vs. ERCOT Day-Ahead & Real-Time Markets**




Note: Costs on slide are strict energy costs and do not include transmission, delivery, ancillary services, other power-related costs, or service charges

A year's worth of power costs in one week.

Week of February 14-20, 2021 Power Costs

~$87,993,263

FY 21 Annual Power Cost Budget

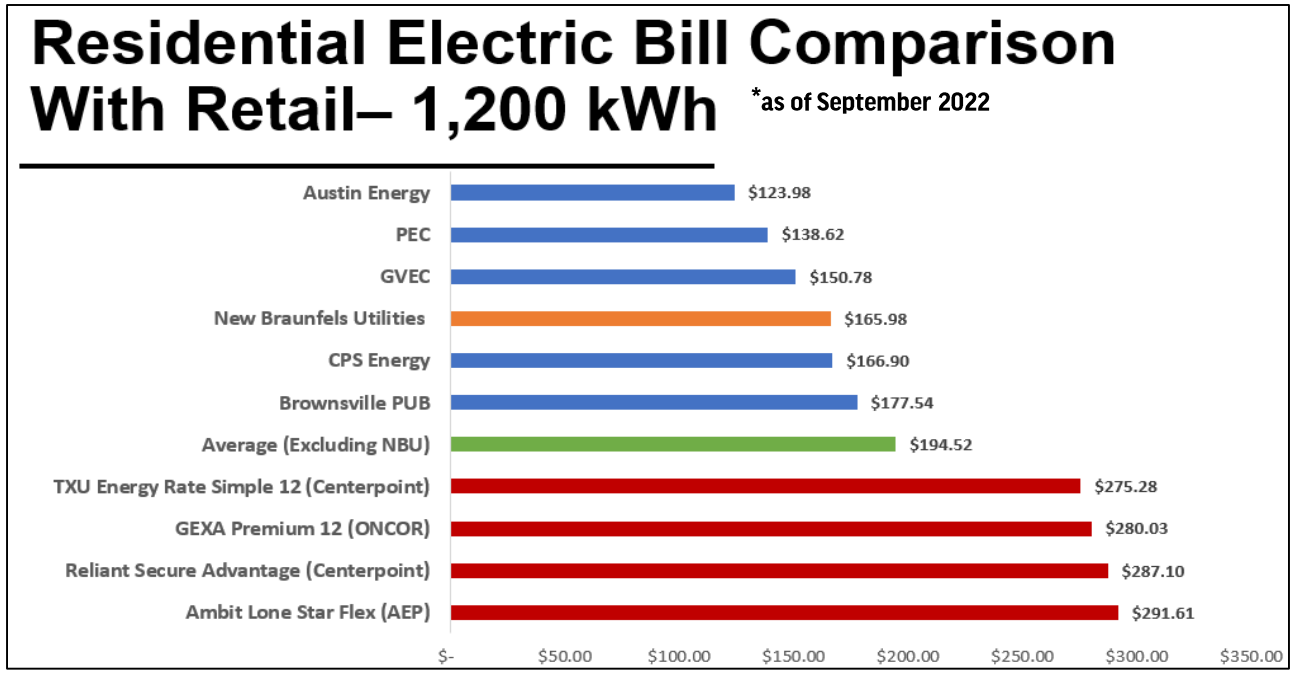
~$86,600,000

Excess energy costs for the ERCOT market are estimated between $16 – $26 Billion. Forbes 6/21



TEA THE Energy Authority

# NBU REMAINS COMPETITIVE WITH ITS PEERS




| | 2015-2021 Average $/kWh | 2015-2021 Average Bill |
|---|---|---|
| New Braunfels Utilities | $ 0.090 | $ 108.00 |
| Austin Energy | $ 0.095 | $ 113.52 |
| PEC | $ 0.095 | $ 114.12 |
| GVEC | $ 0.099 | $ 118.80 |
| CPS Energy | $ 0.100 | $ 119.64 |
| Direct Energy Services | $ 0.120 | $ 144.00 |
| Just Energy | $ 0.130 | $ 156.00 |
| TXU Energy Retail Co LP | $ 0.130 | $ 156.00 |
| Reliant Energy Retail Services | $ 0.130 | $ 156.00 |

| | August 2022 $/kWh | August 2022 Average Bill |
|---|---|---|
| Austin Energy | $ 0.103 | $ 123.60 |
| PEC | $ 0.115 | $ 138.00 |
| GVEC | $ 0.126 | $ 150.72 |
| New Braunfels Utilities | $ 0.138 | $ 165.96 |
| CPS Energy | $ 0.141 | $ 169.08 |
| Just Energy | $ 0.175 | $ 210.00 |
| TXU Energy Retail Co LP | $ 0.222 | $ 266.40 |
| Direct Energy Services | $ 0.269 | $ 322.80 |
| Reliant Energy Retail Services | $ 0.279 | $ 334.80 |

Assuming 1,200 kWh usage

# NBU MAINTAINS SOLID CREDIT RATINGS

## NBU's Credit Ratings

| Agency | Pre-Summer Rating | Pre-Summer Outlook | Current Rating | Current Outlook |
|---|---|---|---|---|
| S&P | A+ | Negative | A+ | Negative |
| Fitch | AA | Negative | AA- | Stable |
| Moody's | Aa1 | Negative | Aa1 | Negative |

**S&P**: "We believe that ERCOT's demand and price volatility, and NBU's growth pressures necessitate extraordinary levels of liquidity, and so we view the prospective improvement in liquidity as necessary to maintain the current rating."
**Moody's**: "A return to stability is dependent on the utility's ability to return to pre-storm liquidity and debt service coverage levels."

- **NBU having the right structure and Risk Management program aids in their strong credit quality**
- **NBU can identify corporate goals/metrics and works towards achieving those goals via their Risk Management program (i.e., building cash reserves, debt-service coverage, etc.)**

# INDUSTRY COMPARISON

## Managed Portfolio

- Build a power supply portfolio from different providers
- May include some owned generation
- Utility may self-manage or partner with others

- TEA partners with over 60 public power utilities across the United States
- Sizes vary from 20 MW to 5,000 MW (peak demand)

- Most utilities NBU's size that take the Managed Portfolio approach partner with someone to access broader scale and sophistication than a utility can typically maintain on its own

- Partnering (not outsourcing) allows utilities to:
  - Keep local control over power supply decisions
  - Manage risks to a standard of best practices
  - Keep skilled jobs at home
  - Allow for closer alignment between Board and City's goals and utility's execution
  - Access deeper pool of knowledge and skills

# RECOMMENDATIONS FOR NBU

## Managed Portfolio

**Build a power supply portfolio from different providers**

**May include some owned generation**

**Utility may self-manage or partner with others**

- **Refresh and regularly update an Energy Resource Plan (last completed in 2018)**
  - **Incorporates community goals**
  - **Ensures local control**
  - **Add resources to hedge against energy and ancillary service cost risk**
- **Improve risk management and energy procurement processes**
  - **Clear goals and associated KPIs to ensure alignment of Board, Management, and Staff**
  - **More sophisticated modeling of future scenarios to help identify and mitigate risks to the portfolio**
  - **Robust systems to capture activity and provide necessary reporting**
- **Consider expanding internal capabilities by partnering with a provider to**
  - **Alleviate workforce risks**
  - **Ensure best practices**
  - **Adapt to changing market conditions**