Item 12

Resource Generation Plan Overview

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Market Operations & Resource Planning

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Austin Energy and the ERCOT Market

Participation is Mandatory

Austin Energy is required to sell energy generated to the ERCOT wholesale market.

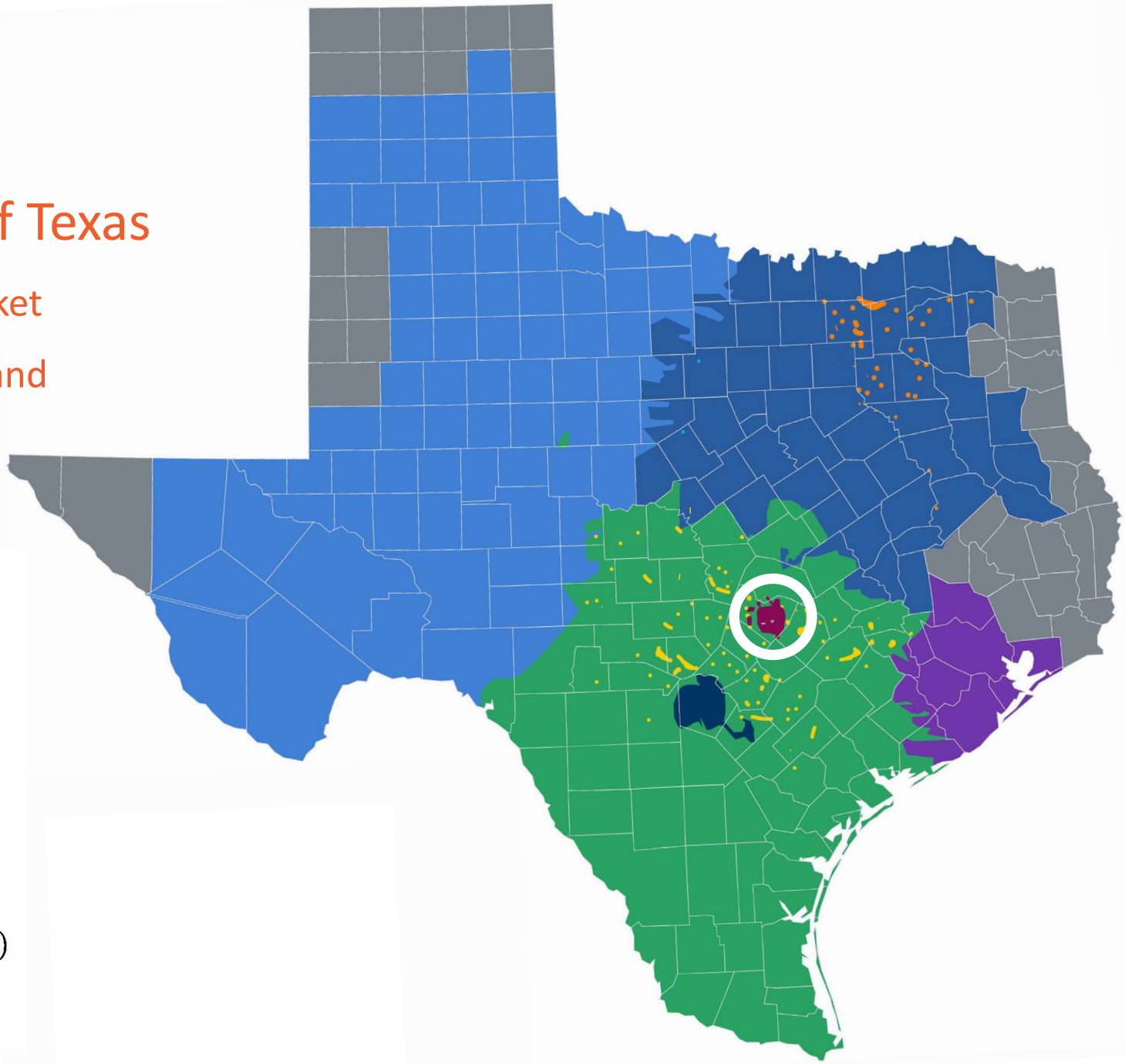
Austin Energy is required to purchase energy at its load-zone price from ERCOT market to serve customers.

Austin Energy Balances Dollars – Not Energy

What is ERCOT?

Electric Reliability Council of Texas

- Manages the Texas Wholesale Market
- Balance Electrical Supply and Demand



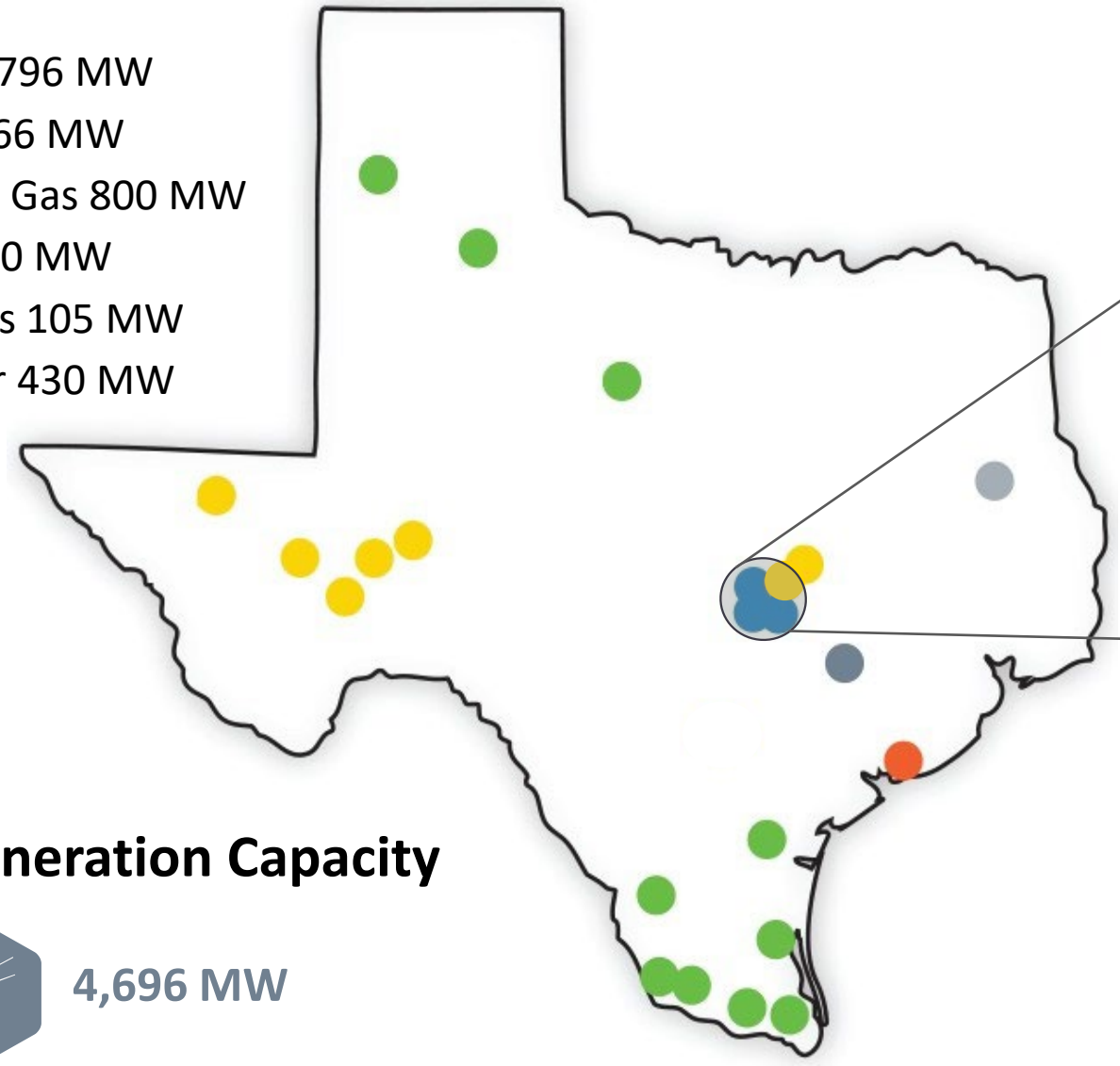
ERCOT Load Zones

- North
- West
- South
- Houston
- Austin Energy (AEN)
- CPS Energy (CPS)
- Lower Colorado River Authority (LCRA)
- Rayburn Electric Cooperative (RAYB)

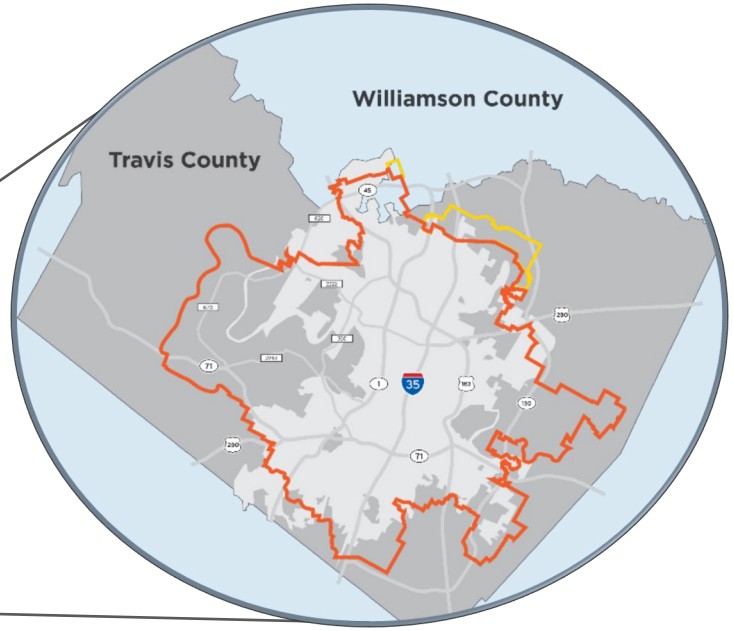
Austin Energy's Supply and Demand

Sell Generation to ERCOT Market

- Wind 1796 MW
- Solar 966 MW
- Natural Gas 800 MW
- Coal 600 MW
- Biomass 105 MW
- Nuclear 430 MW



Buy Electricity from ERCOT Market to serve Customers



Austin Energy Load Zone

Total Generation Capacity

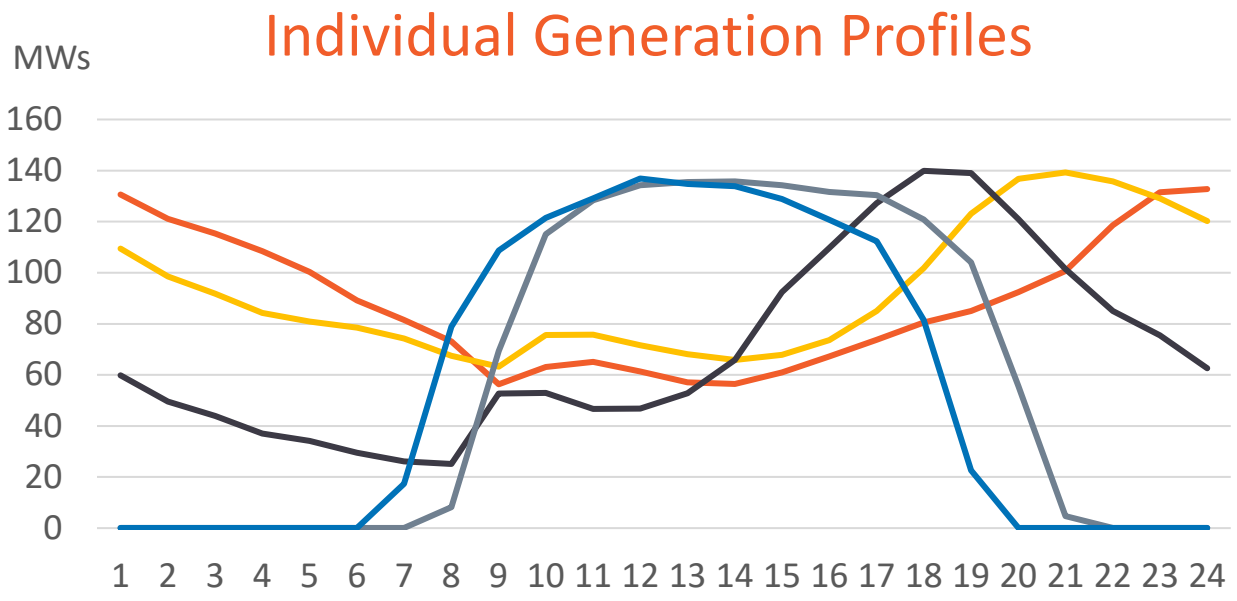
4,696 MW

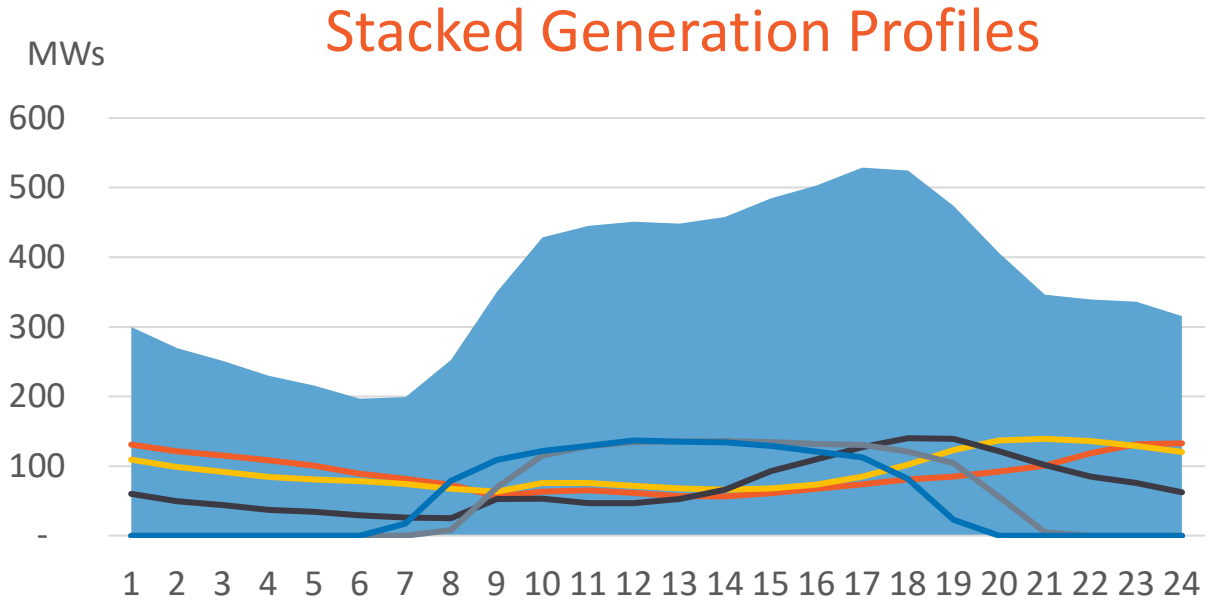
All-Time Peak Demand

3,004 MW – Aug. 2023

2,613 MW – Dec. 2022

Renewable Generation Profiles

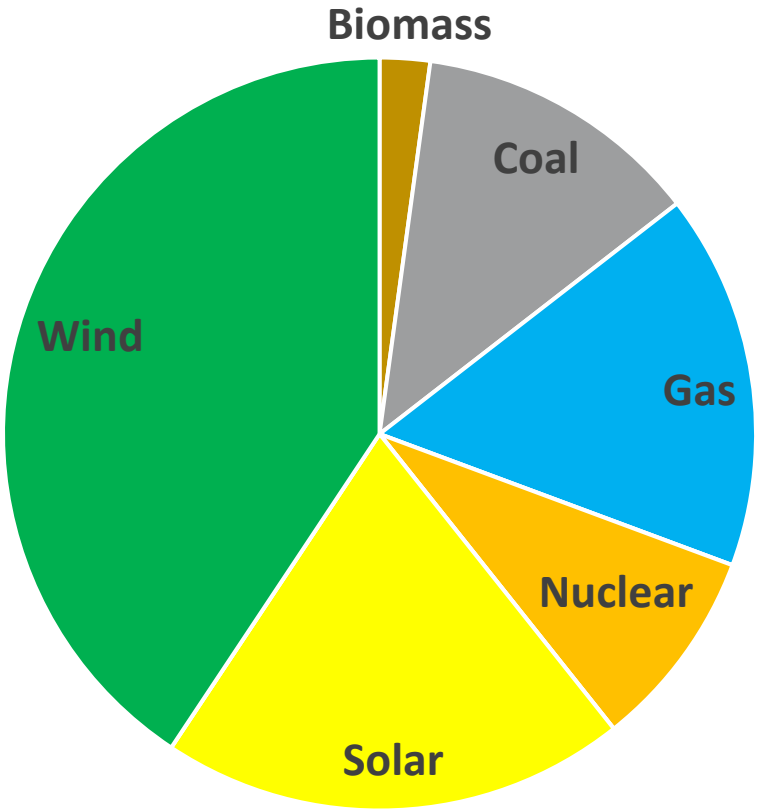




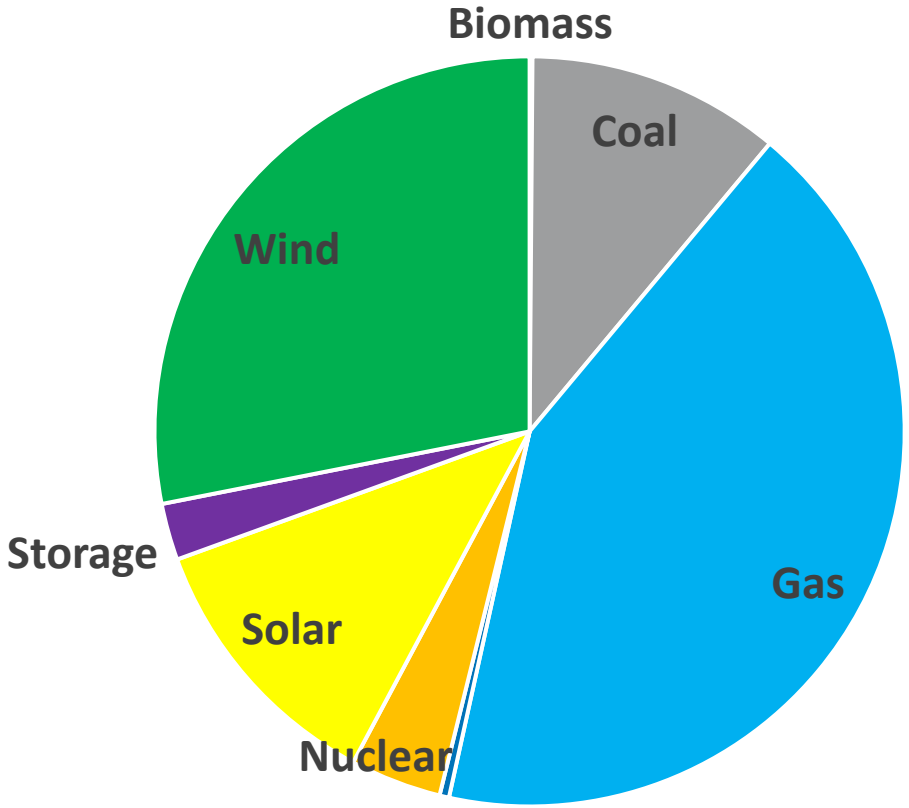
West Wind
South Wind
Coastal Wind
West Solar
Central Solar

Austin Energy vs ERCOT Generation Capacity

Austin Energy's Generation Mix



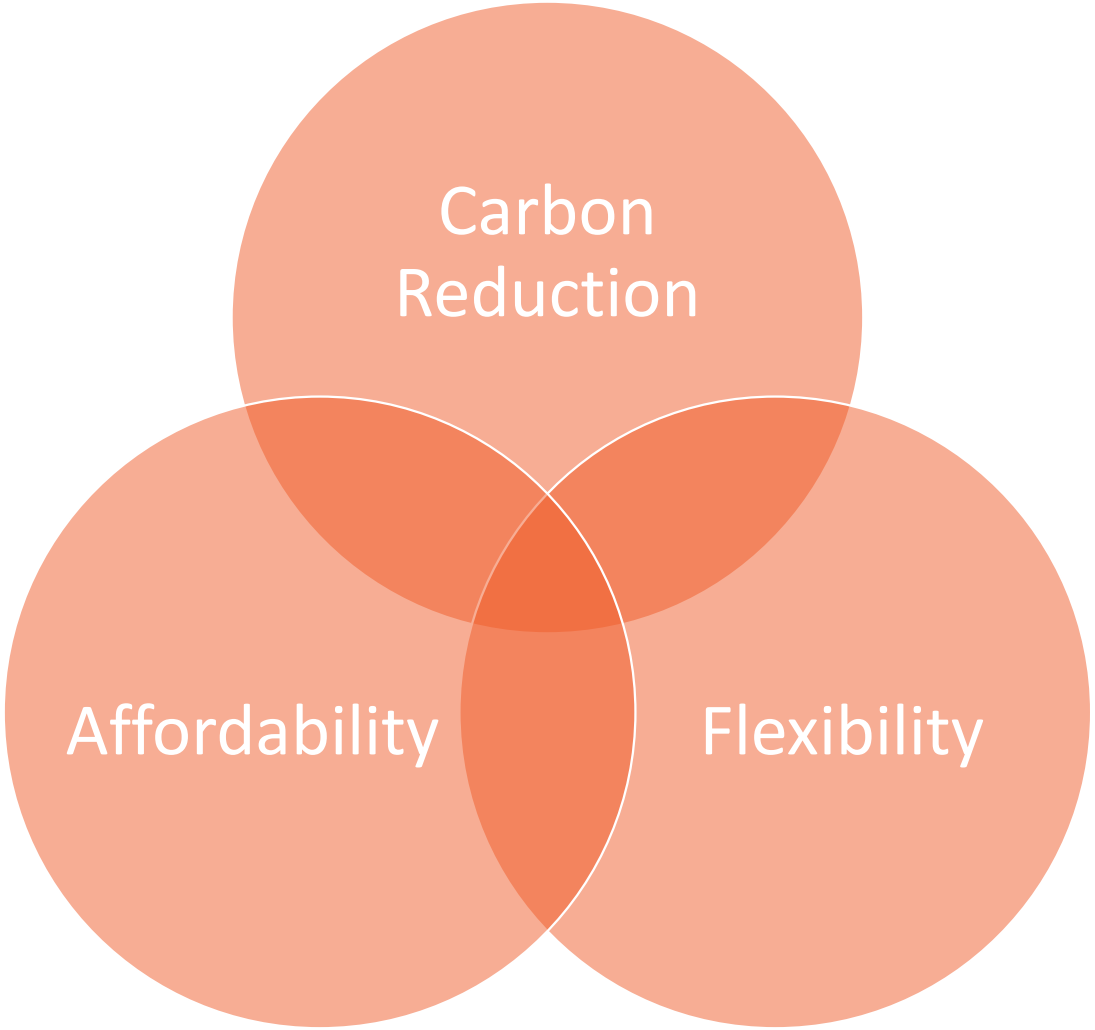
Statewide ERCOT Generation Mix



Resource, Generation & Climate Protection Plan to 2030

The **2030 Plan** commits **Austin Energy** to continue safely delivering clean, affordable and reliable energy sufficient to meet customer demands while pursuing the City of Austin's climate protection and sustainability goals.

Resource Planning Objectives



The 2030 Plan is intended to be flexible and dynamic in order to respond to changing circumstances, including customer electric load, economic conditions, energy prices and technological development, while strictly committing to firm carbon reductions.

The 2030 Plan

A Quick Overview of the Balance

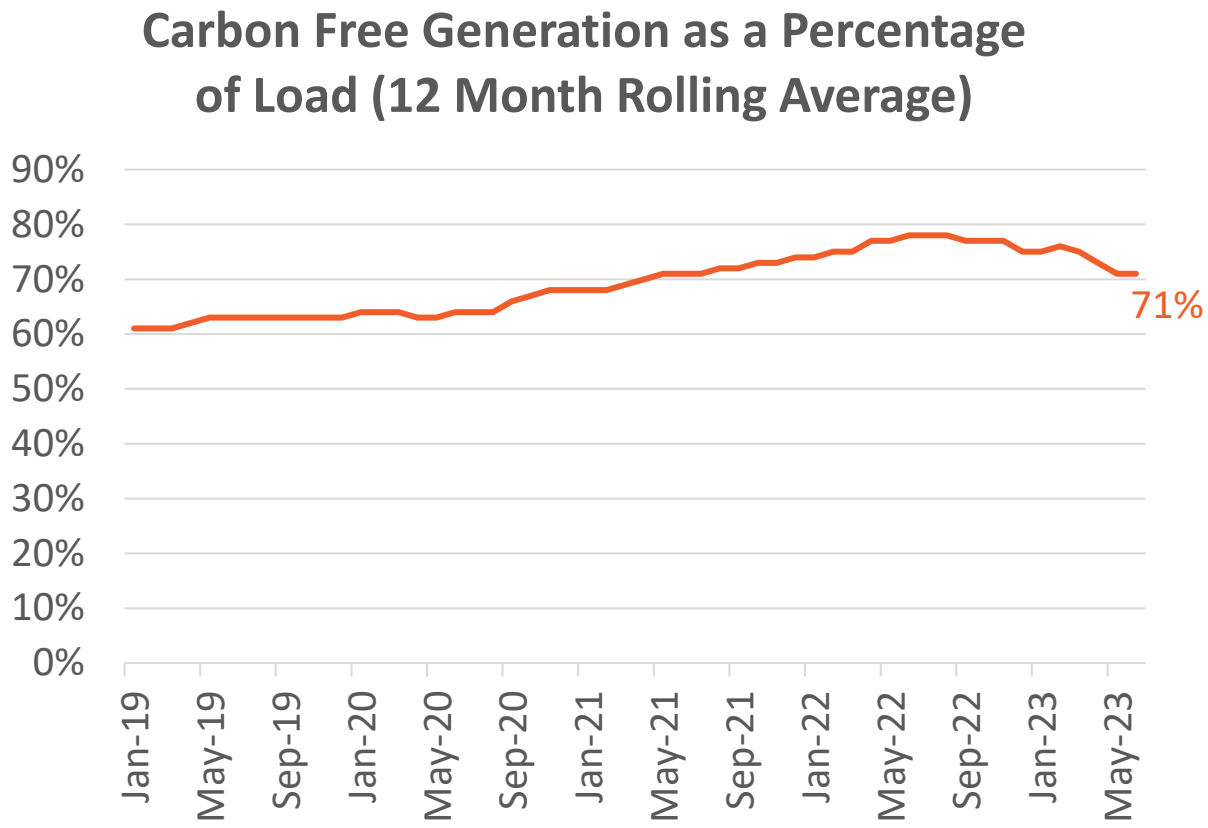
Environmental Sustainability ↔ Reliability ↔ Affordability ↔ Cost Stability

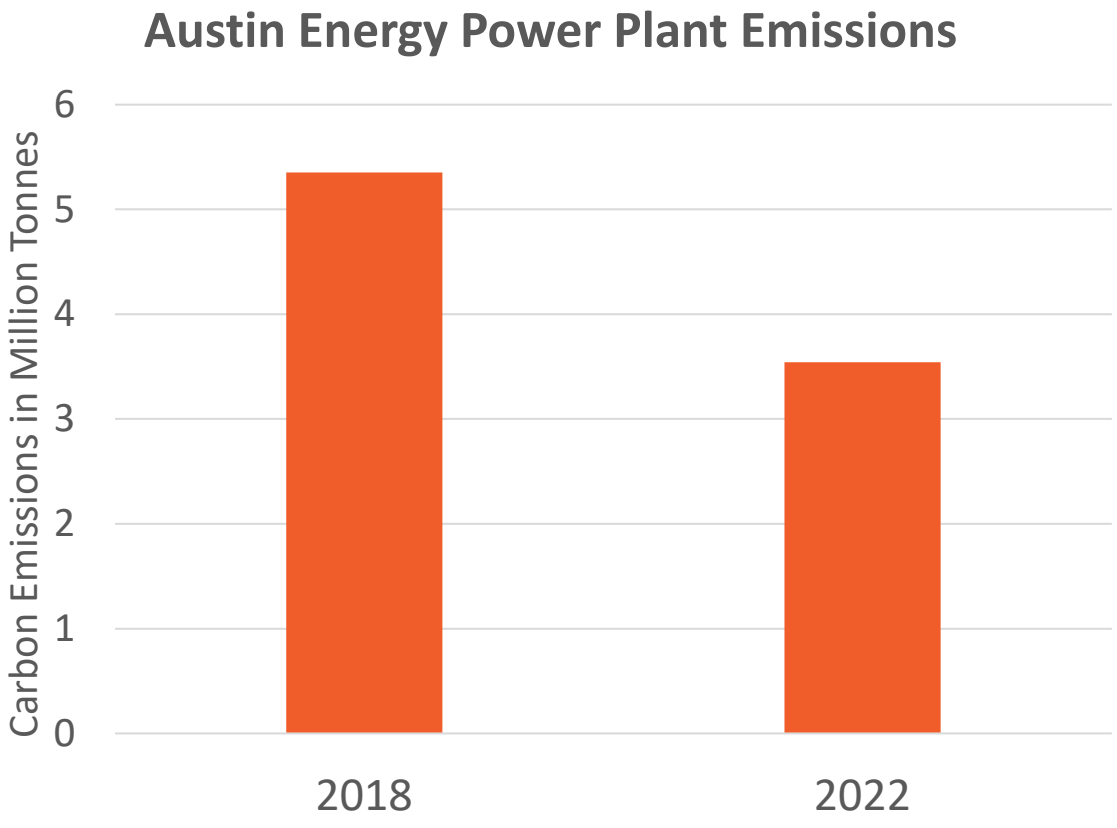
- Decker Creek Power Station
- Fayette Power Project
- No New Carbon Generating Assets
- REACH for Carbon Free by 2035

- Transmission Study
- Electric Transportation
- Local Thermal Storage

- Additional Renewable Generation Facilities
- Local Solar Resources
- Energy Efficiency and Demand Response
- Equitable Participation in Programs

How Are We Doing?





R E A C H

Reduce Emissions Affordably for Climate Health

Affordable

Protect customer rates

Flexible

Dispatch during higher prices

Reduction

4.12 mil tonnes saved to date

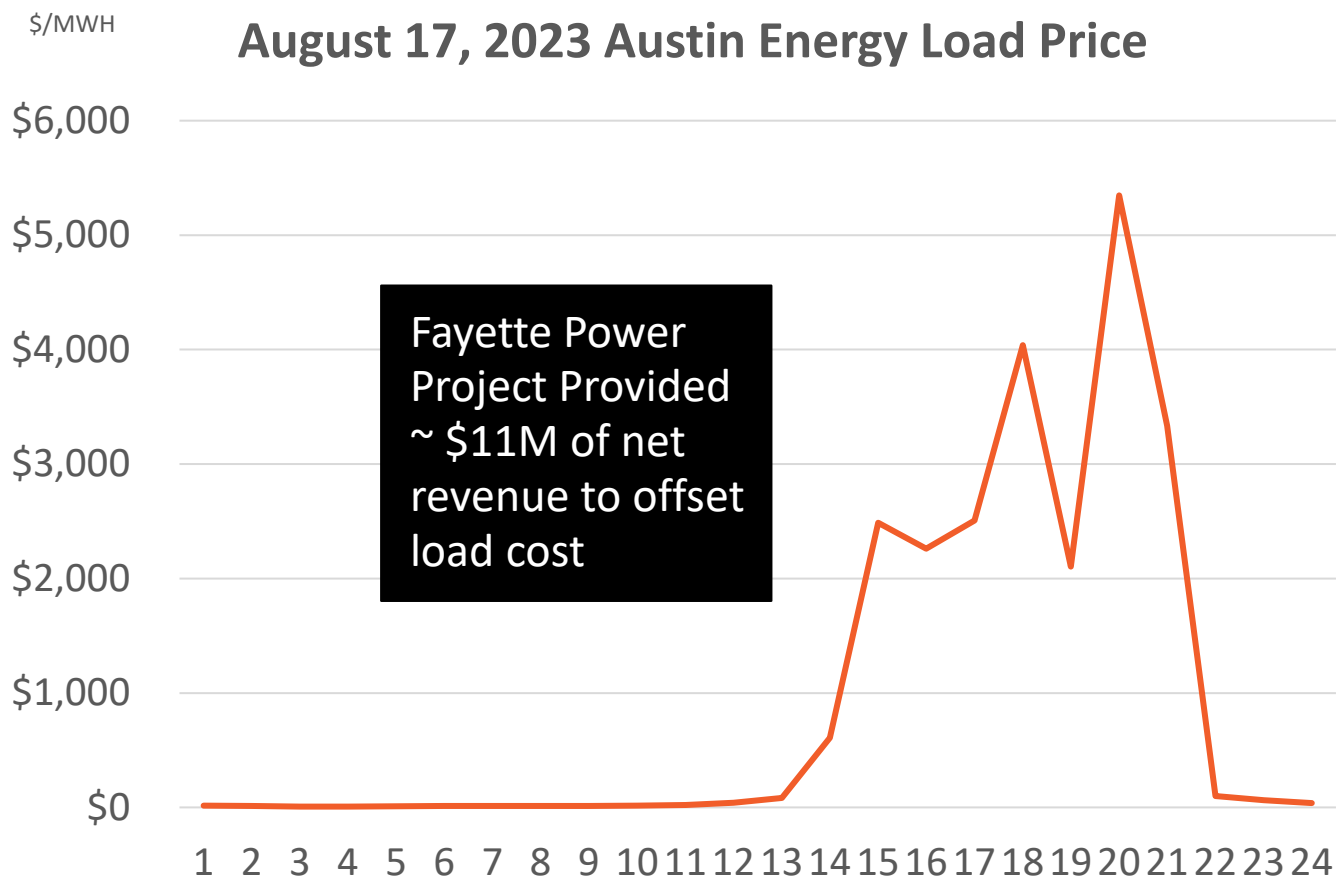
REACH is flexible and allows the utility to reduce emissions while at the same time protecting customers from rate increases arising from volatility in the ERCOT market

REACH Performance & Benefits

REACH includes a value of carbon in our generation dispatch costs to reduce emissions at lower margins but still provides rate protection during high priced periods

REACH Performance

- 4.12M tonnes of carbon emissions reduced
- $12.45 cost per tonne
- Highly cost effective compared to
  - California Carbon Mrkt ~$36 / tonne
  - North East Carbon Mrkt ~$14 / tonne



Resource Planning: It's a Process...

- Set Scope & Objectives
- Develop Inputs & Assumptions
- Modeling & Scenario Analysis
- Risk & Financial Analysis
- Select Preferred Strategy

Current Challenges

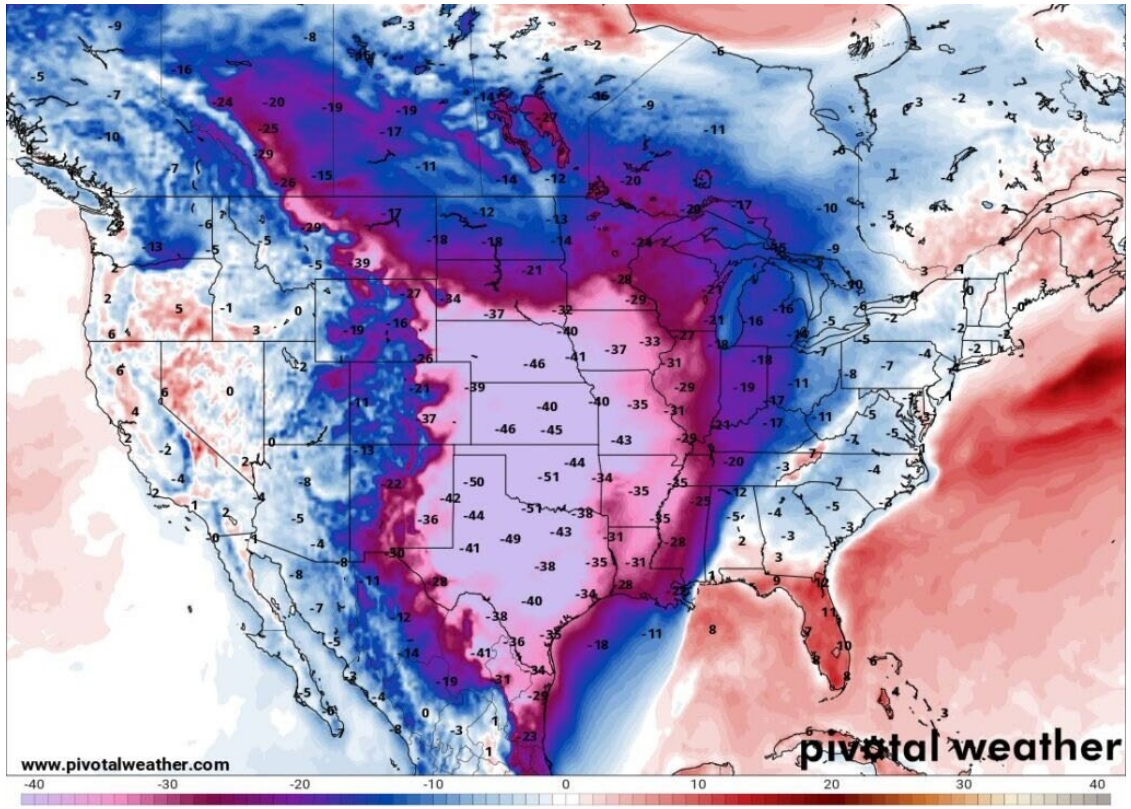
Retiring Fayette Power Project

Extreme Weather Events

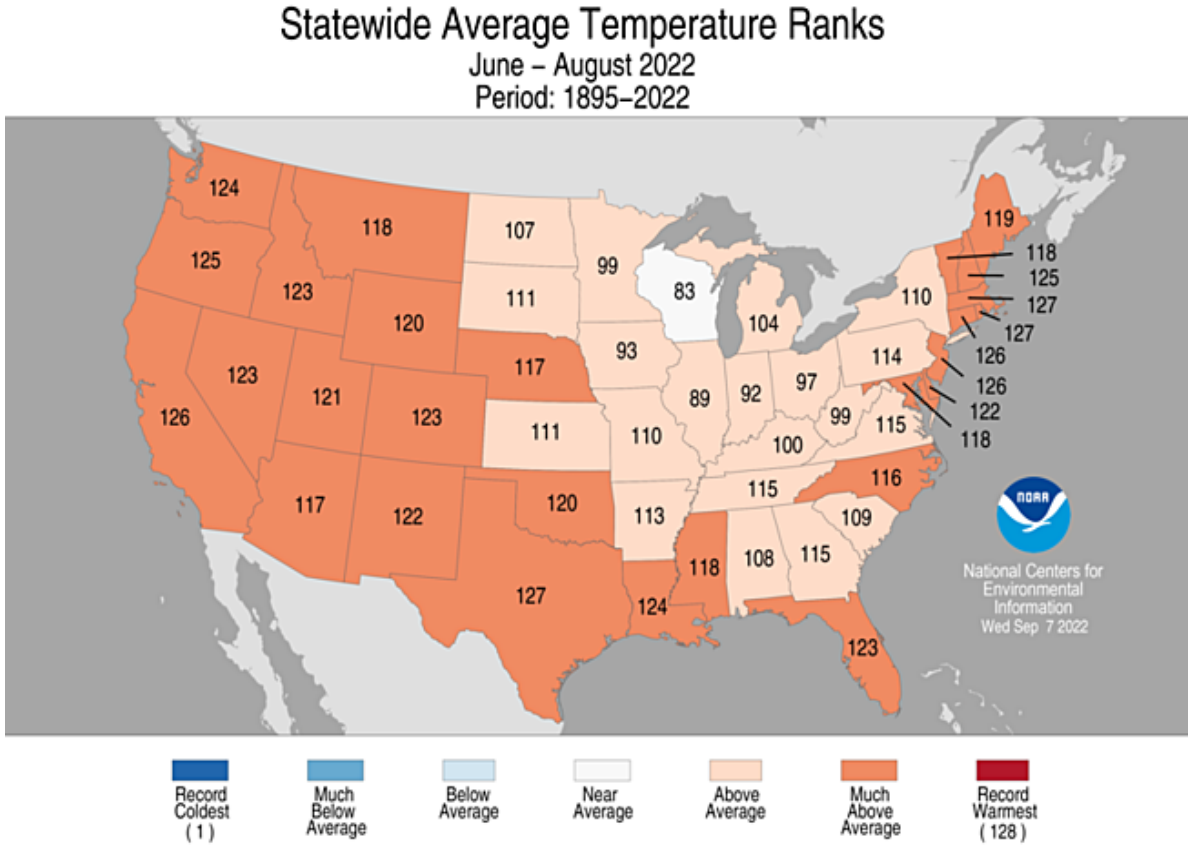
Regulatory / ERCOT Market Changes

Increased Market Volatility & Congestion Costs

Extreme Weather Events



Winter Storm Uri saw temperatures
30 to 50 degrees below normal



Last year was 2nd hottest summer on record, we are looking to beat that this year

Regulatory Risk and ERCOT Market Rule Changes

ERCOT Market Changes

In response to Winter Storm Uri, changes now optimize for reliability in the market

Higher Costs to Serve Customers

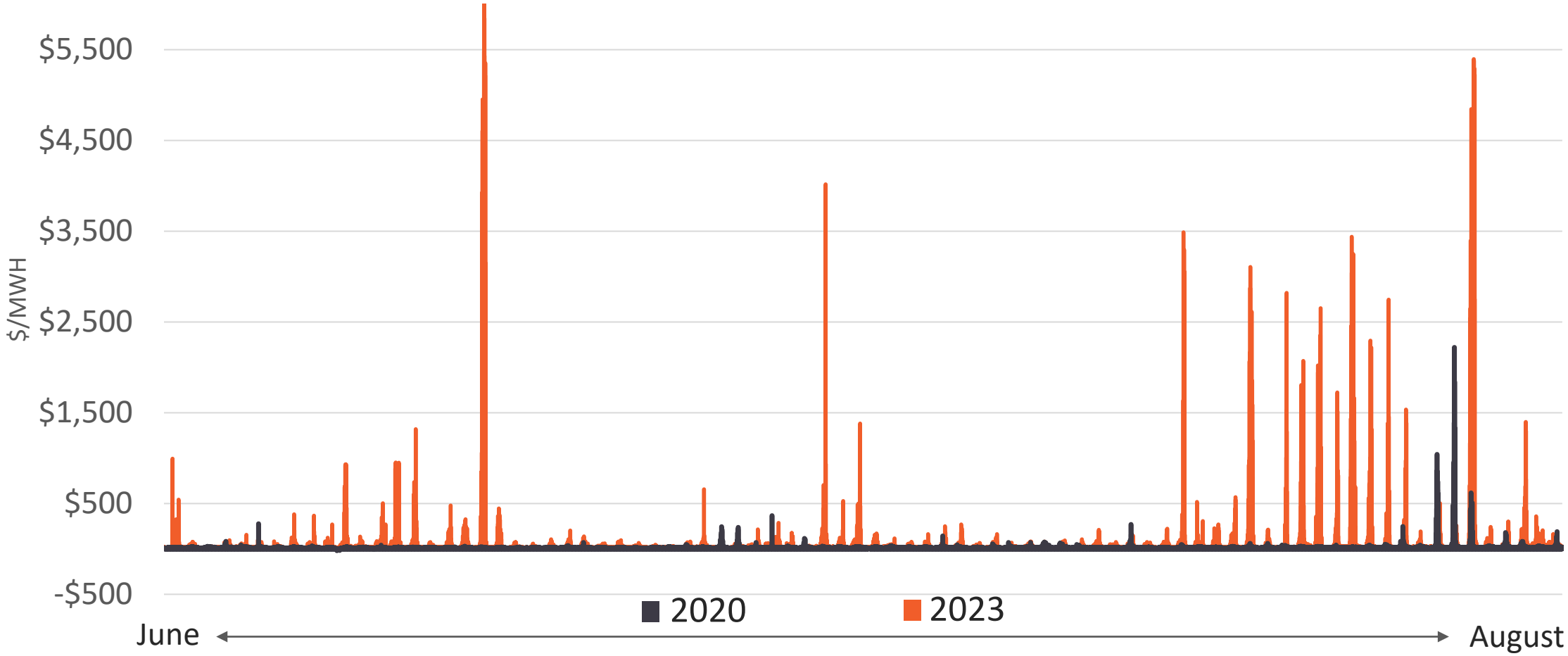
Changes have resulted in higher costs for Load (consumption)

Value Changes for Generation Types

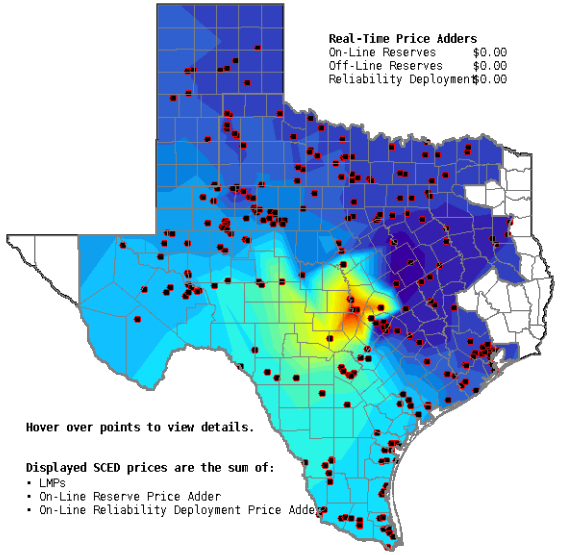
Changes have resulted in higher revenues for some types of generation supply

Increased Market Volatility

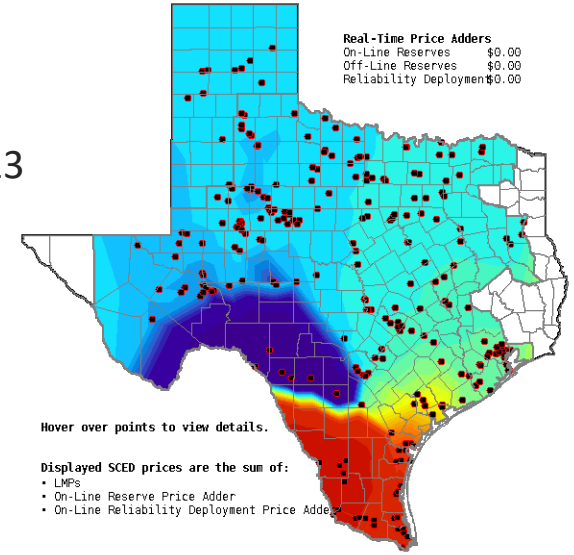
Austin Energy Service Territory Market Settlement Price



Market Congestion



August 16, 2023



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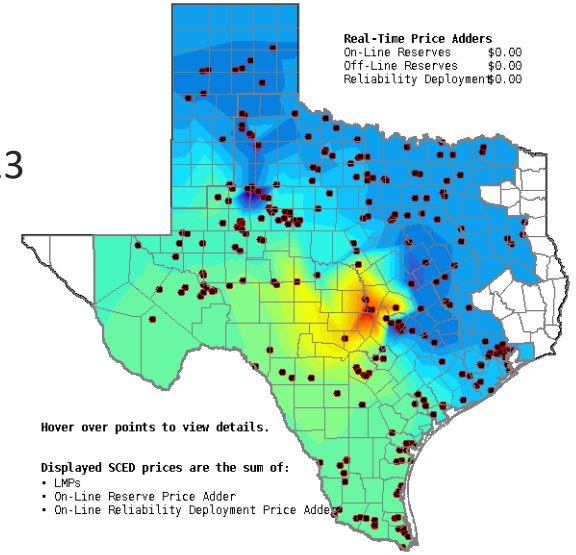

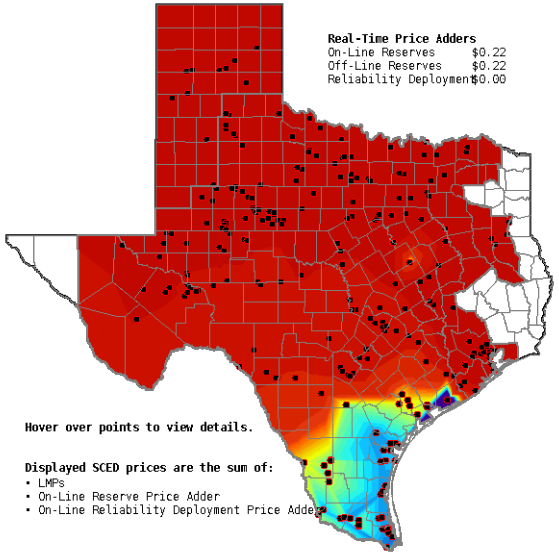

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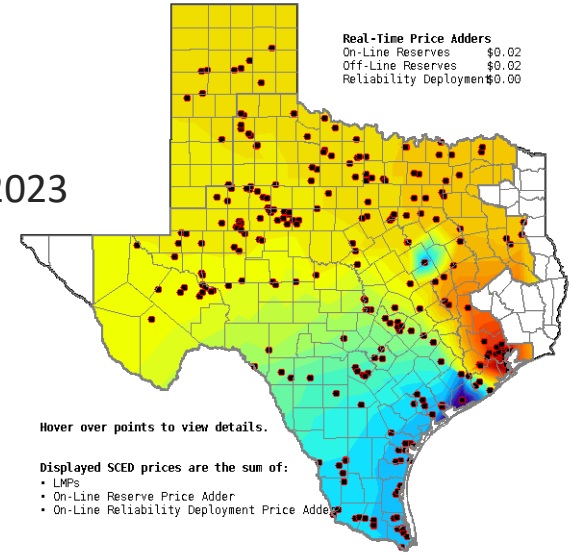

Congestion

System-Wide Prices

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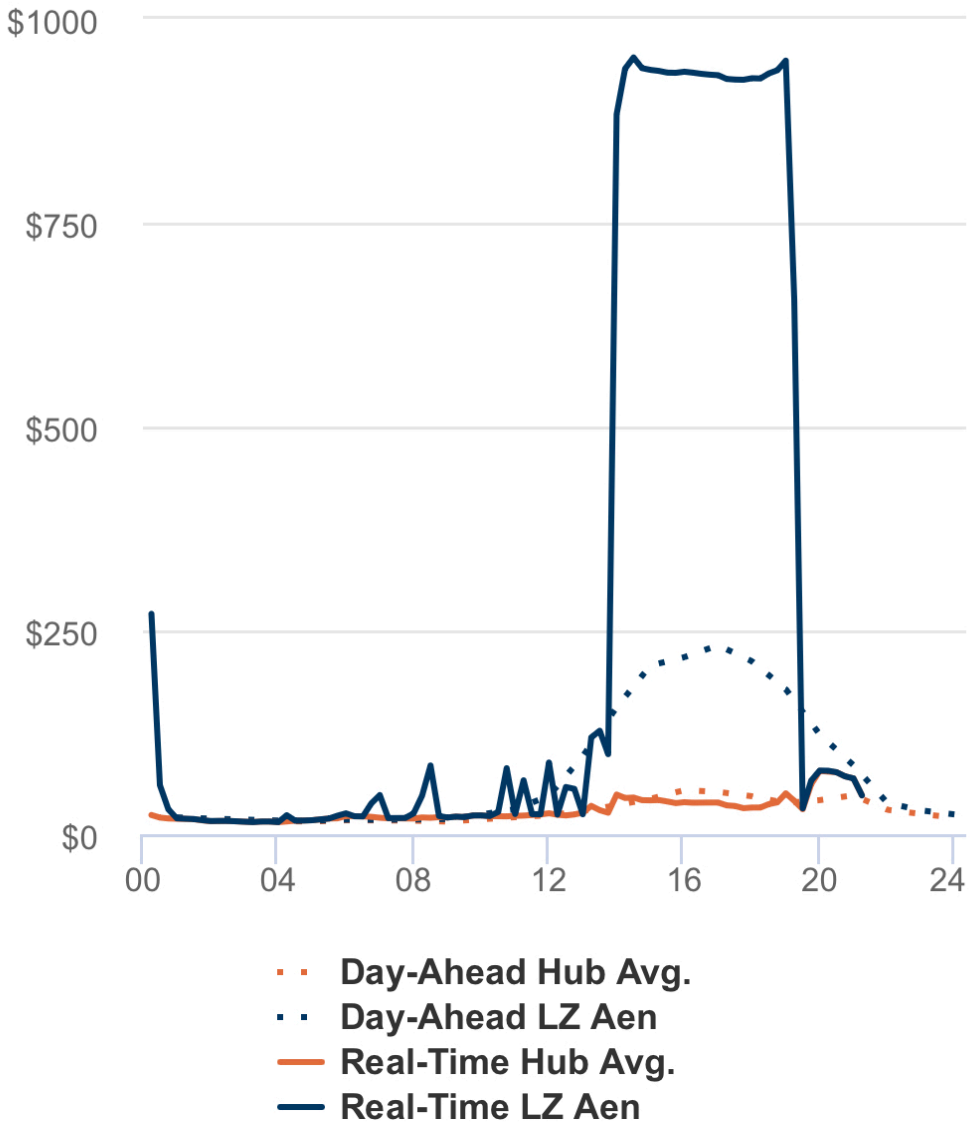
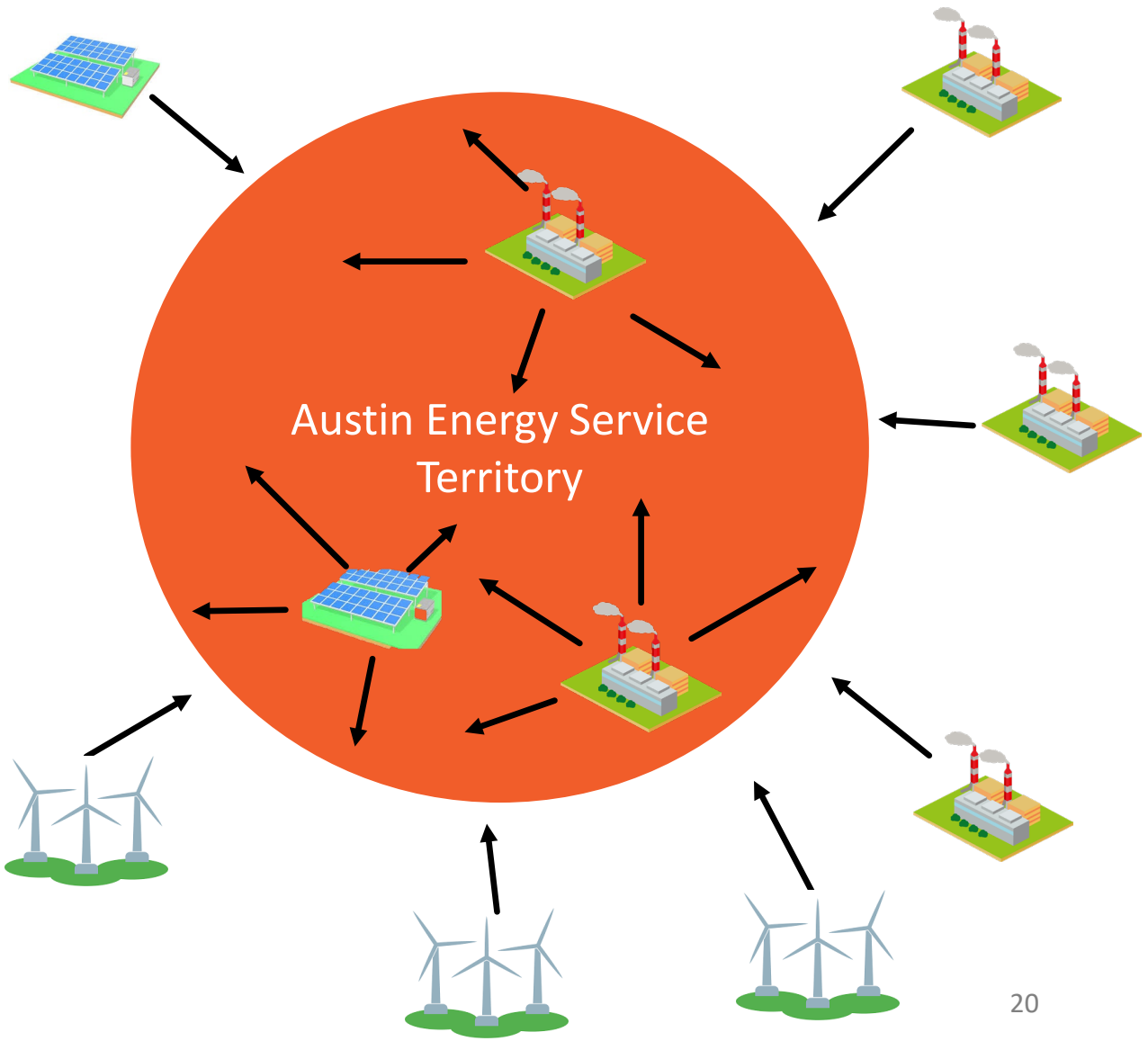


Local Congestion
Load Zone Price Separation



System-Wide Prices

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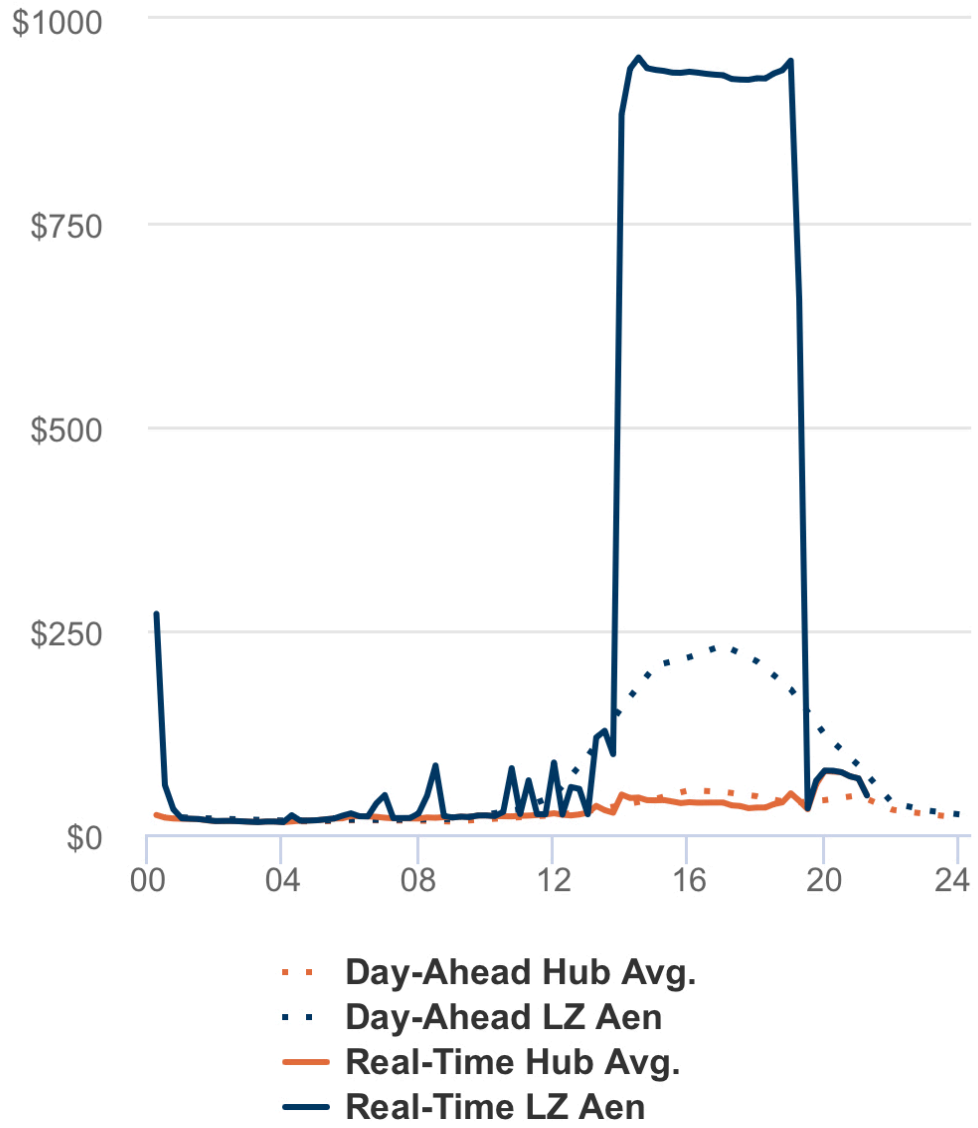

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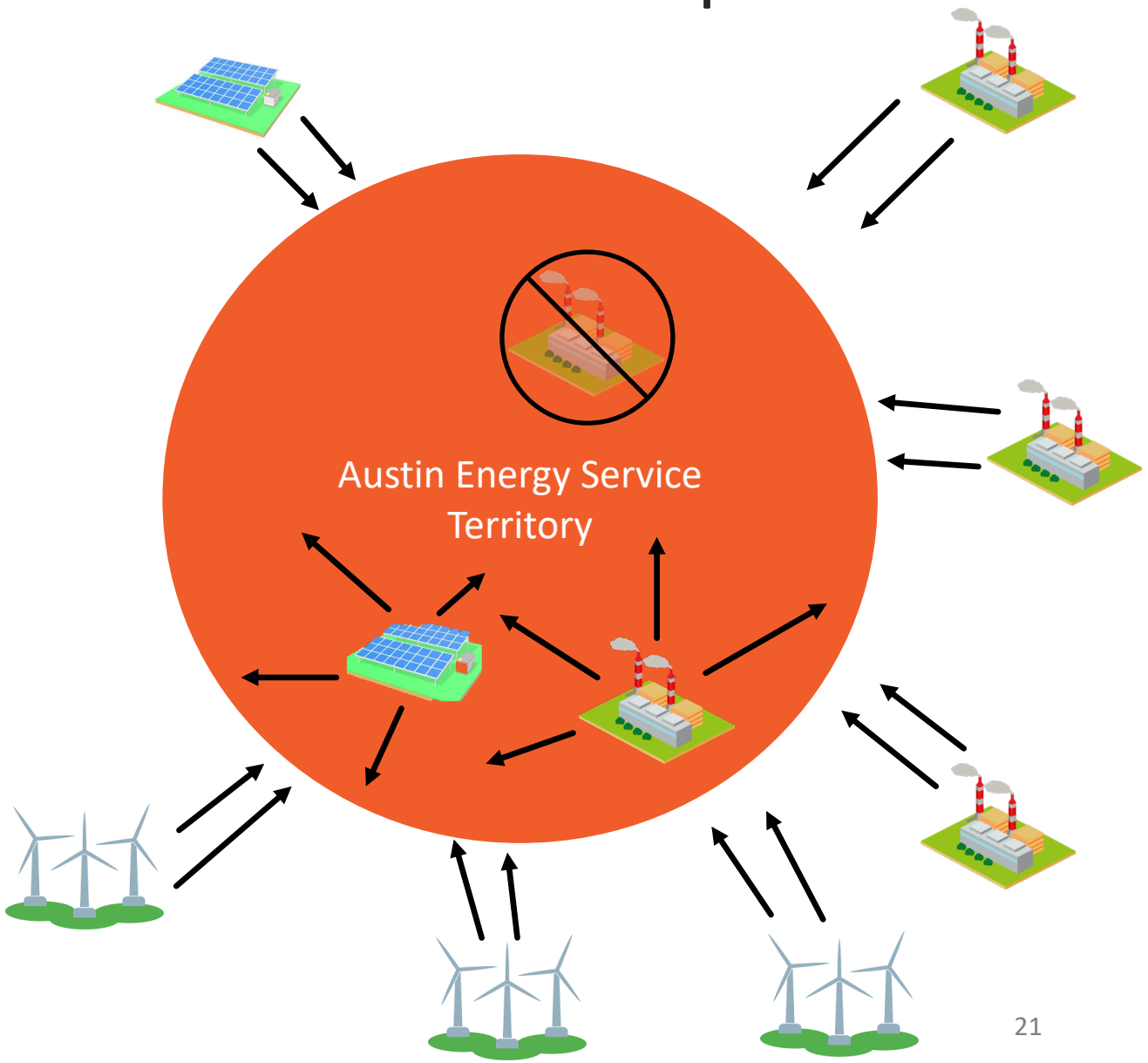

New and Emerging Opportunities

Infrastructure Investment and Jobs Act

New and Emerging Technologies

- Green Hydrogen
- Longer Duration Storage
- Advanced Nuclear Reactors
- Carbon Capture and Sequestration

Inflation Reduction Act

What's Next?

Solicit Feedback

Customer Driven
Community Focused

Evaluate Existing and Emerging Technologies

Carbon Reduction
Affordability
Reliability
Rate Stability

Update Plan

Resource Portfolio mitigates current and future challenges with a focus on achieving goals.