

# Austin Energy Operational Update Q4 FY20

Electric Utility Commission

Elton Richards

Interim Chief Operating Officer, Austin Energy



November, 2020

© 2018 Austin Energy

# Austin Energy Operational Update

## Safety Report



# Austin Energy Five Year Incident Data

Data	2016	2017	2018	2019	2020
Annualized Employee Count	1,676	1,708	1,722	1,758	1,748
Sum of Hours	3,051,505	3,150,952	3,174,841	3,391,819	3,417,309
Sum of Near Misses	87	63	117	125	123
Sum of Injuries (First Aid/Precautionary Reporting)	51	46	48	42	54
Sum of Recordable Cases	40	45	34	48	26
Sum of Medical Costs	\$ 177,461	\$ 154,009	\$ 182,614	\$ 70,106	\$ 24,531
Sum of Total Vehicle Accidents	75	85	69	91	67
Sum of Preventable Accidents	24	38	32	33	27
Sum of Total Backing Accidents	11	9	4	10	9

- Increased employee numbers
- Increased hours worked
- These numbers indicate the Recordable injury reduction was not a result of a reduced workforce/hours
- Increased Near Miss reporting
- This number indicates a strong culture of awareness and communication w/o fear of retaliation
- Levelized Injury (First Aid/Precautionary) Reporting
- This number indicates a healthy injury reporting culture
- Also indicates the Recordable injury reduction was not a result of less reporting



# Contributing Factors

- Overall improvement of culture and employee engagement. It wasn't one single project or program but rather an overall cultural shift
- Overall re-establishment of safety as a core principle and bringing safety to the forefront
- Visible and transparent safety attitude and attention from leadership
- Assignment of liaison between Electric Services Field Operations and Austin Energy OH&S Department to focus on process improvements
- Improved safety meetings
  - Relative content
  - Focus on human performance
- Successful projects from Grass roots teams. Employees feel valued, respected and can make a change
- Strong root cause analysis program with actionable and responsible correctable opportunities to prevent reoccurrence
- Keen focus on reduction of soft tissue injuries (sprains/strains) with proactive and preventative programs
- Incident/injury notification provided increased transparency and communication for awareness



# Austin Energy Operational Update

## Discussion Topics



Performance

On-Site Energy  
Resources



Carbon Footprint

Future State



# Austin Energy Operational Update

## Performance



# Commercial Availability & Start Success

## Commercial Availability

Generation Resource	Target Seasonal Commercial % Availability (July-Sept)	Commercial Availability Actuals (%)	
		Q3 FY20 AVG	Q4 FY20 AVG
Decker Steam Units	95	88	89
Sand Hill Combined Cycle	95	98	95
Fayette Units	97	89	100
South Texas Project	100	90	100

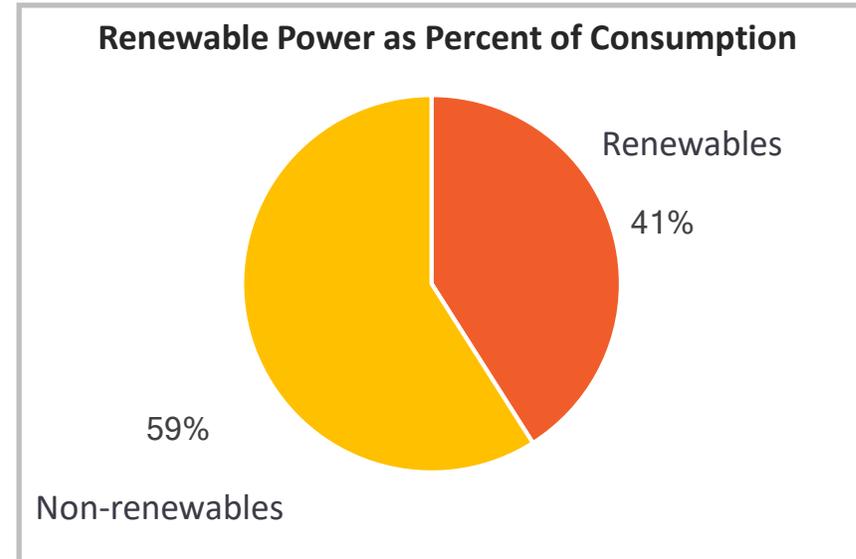
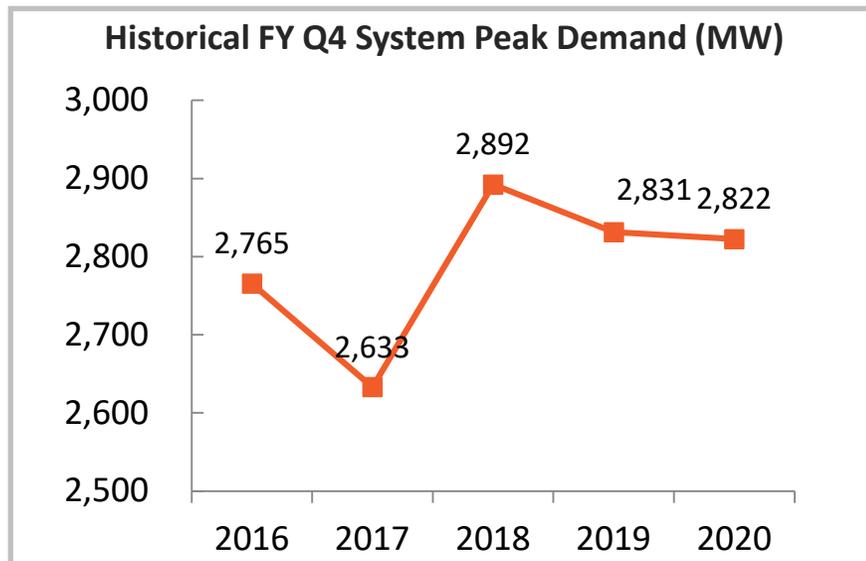
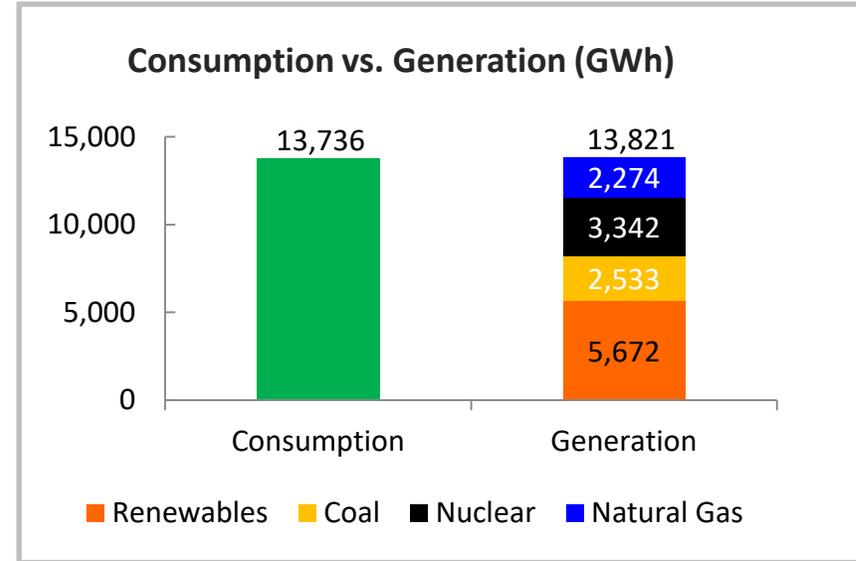
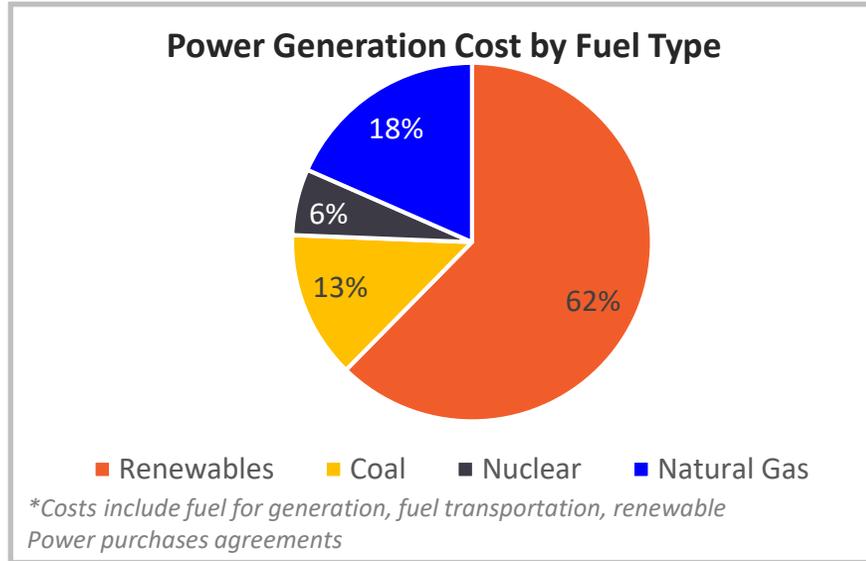
Commercial Availability values reflect maintenance or refueling outages typical for this period

## Start Success

	Start Success Target(%)	Start Success Actuals (%)	
		Q3 FY20 AVG	Q4 FY20 AVG
Simple Cycle Start Success	99	100	100



# Net Generation and Load Analysis FY 2020 Q4



# System Reliability Metrics

**CAIDI = Customer Average Interruption Duration Index**

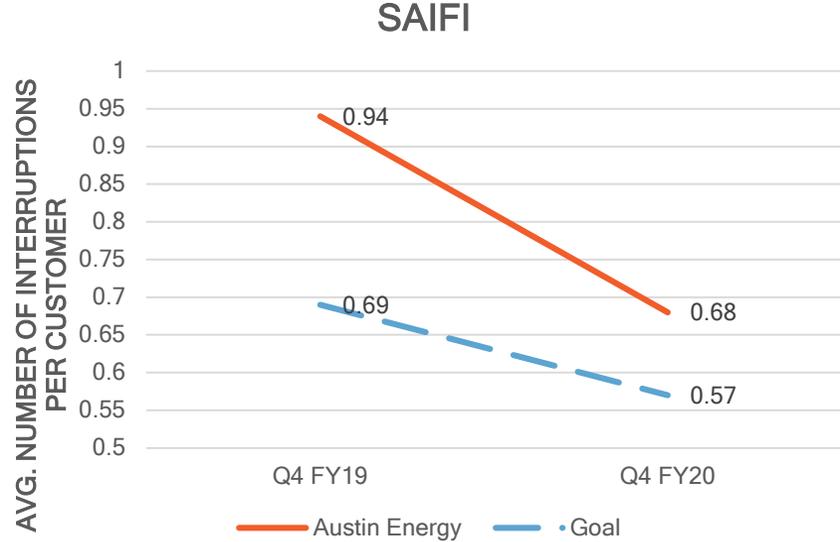
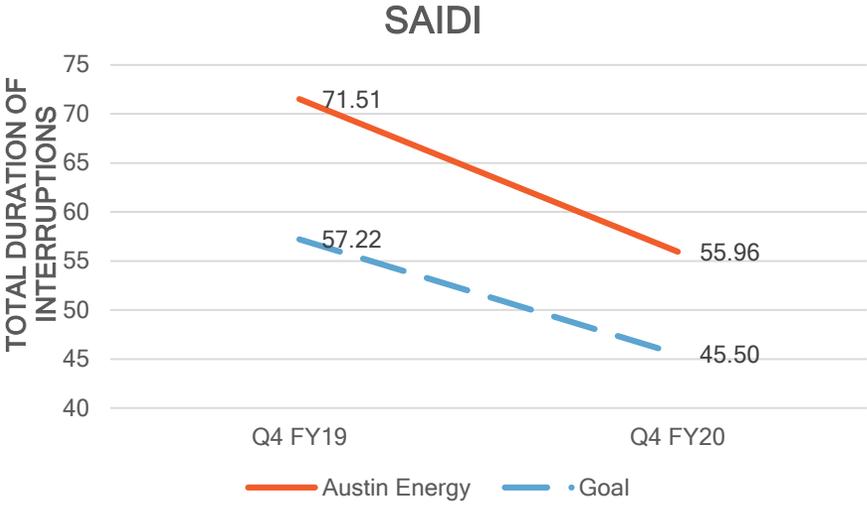
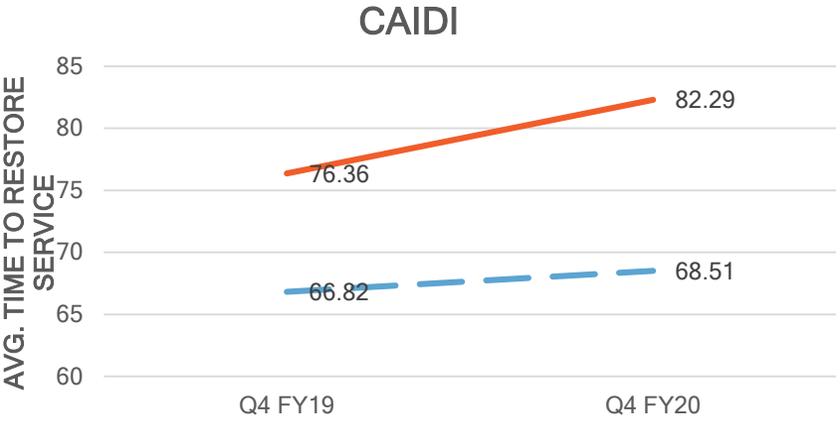
*Average time to restore service.*

**SAIDI = System Average Interruption Duration Index**

*Total duration of interruptions for the average customer, during a period of time.*

**SAIFI = System Average Interruption Frequency Index**

*How often the average customer experiences a sustain interruption, over a period of time.*

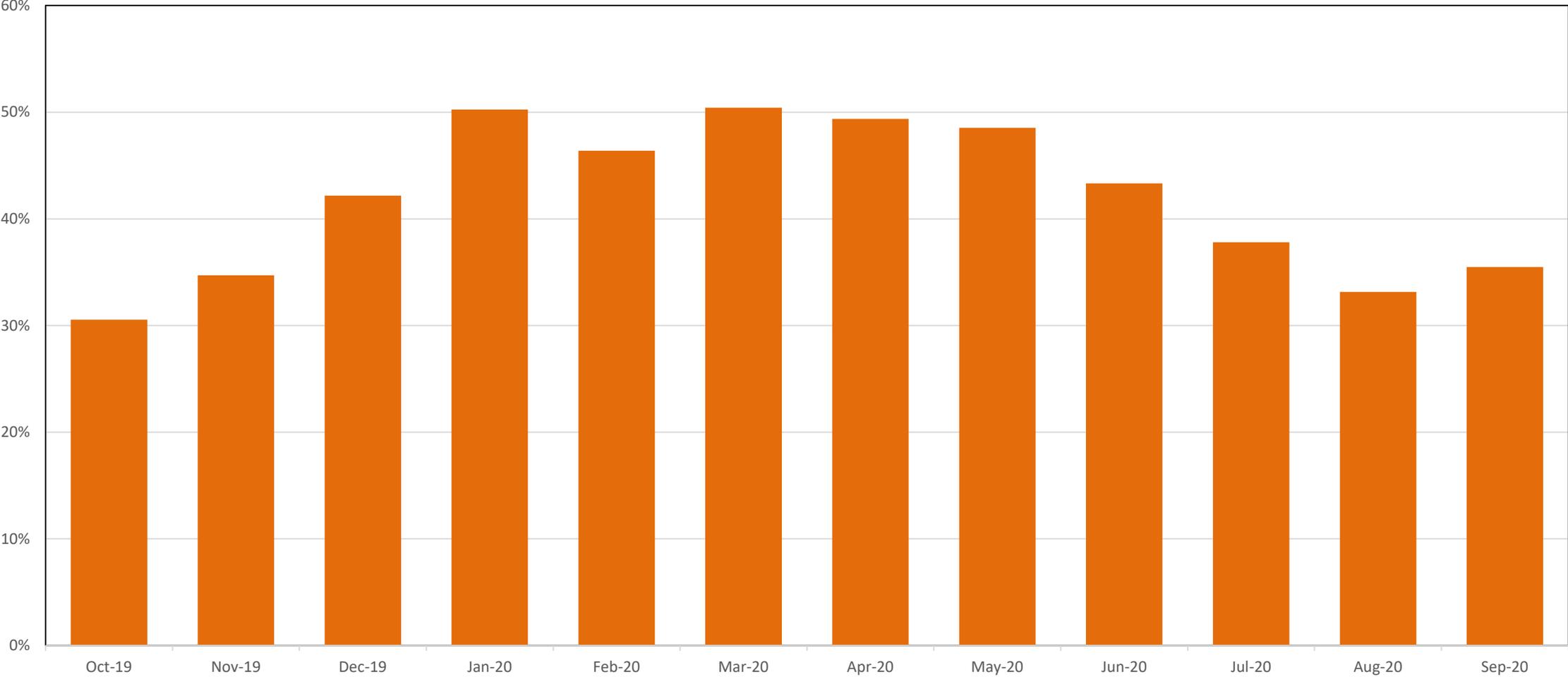


# Austin Energy Operational Update

## Carbon Footprint



# Renewable Generation as a Percentage of Load



# Austin Energy Operational Update

## OSER Projects



# Key District Energy & Cooling Activities

## District Cooling Plant #3 (Downtown, Crescent Tract)

Constructing 10,000 ton chilled water plant for the Downtown System

- Major mechanical and electrical equipment has been installed and is being tested
- Finishing Chiller building and Cooling Towers exteriors and architectural facades
- Ongoing foundation work for the Art work as part of the Arts in Public Places Program
- On-Target for final completion by January 2021

## Austin Community College Highland Campus

Constructing a 6,000 ton chilled water plant with Thermal Energy Storage

- Cooling towers have been installed
- Air handling units, pumps, and other major equipment has been delivered and is on site
- On-Target for substantial completion in Q2 2021

## District Cooling Plant #4 (Downtown, Convention Center)

3,000 ton chilled water facility on roof of Convention Center

- Project Completed Q3 2020

## Mueller Energy Center #2 (Mueller Redevelopment Zone)

Constructing a 6,000 ton chilled water plant with Thermal Energy Storage

- Design/Build contracted selected
- City Council authorized us to negotiate contract with contractor
- Targeted for substantial completion in Q1 2022



# Austin Energy Operational Update

## Future State



# Our Focus

## Our Customers *(improving reliability and connectivity)*

- ↑ AMI Upgrades *(Residential & Commercial Meters)*
- ↑ Small Cell Deployment
- ↑ Customer Reliability Assessments

## Our Community *(ensuring the resiliency of the system)*

- ↑ District Cooling Plant Construction
- ↑ Chilled Water Plant Construction

## Environmental *(reducing our carbon footprint)*

- ↑ Reducing our fossil fuel
- ↑ Expanding Renewable Portfolio

## Grid Resilience *(innovating to a smart future)*

- ↑ SHINES Deployment  
*(Sustainable and Holistic INtegration of Energy Storage and Solar PV)*
- ↑ Advanced Metering Infrastructure
- ↑ Grid Automation
- ↑ Distributed Energy Resource Integration
- ↔ Asset Management



# Grid Resilience

## AE Strategic Goals 2020

### Grid Resilience



#### Improve Distribution System Reliability

Identify, Rank, and Address feeder maintenance needs in areas historically beset by outages. Identify, Rank and Address system hardening needs in areas most susceptible to wildfire risk.

**Phase I - Top 10 Feeders in both Performance and Wildfire Criticality addressed (CY/2021)**



#### Improve Substation Reliability

Evaluate substation equipment operation and address legacy equipment needs. Project starts with Fiskville substation, upgrading electro-mechanical relays to microprocessor based equipment.

**Phase I - Fiskville Substation Upgrades (Q1/2021)**



#### Improve Underground Network Reliability

Starts with enabling greater Visibility to our downtown network through the integration of our network model into our Advanced Distribution Management System

**Phase I - Network Modeled in ADMS – (Q1/2021)**



#### Transmission System of the Future

As part of the 2030 generation plan, Austin Energy is commissioning a Transmission system study that will investigate ways to achieve our goals set forth in the plan while compensating for the loss of generation plants.

**Phase I - Development of evaluation criteria (Q1/2021)**



# Small Cell Deployment

- “Swap & Drop” continues toward goal to replace streetlight poles with “small cell friendly” streetlight poles that accommodate Small Cell and 5G antennae and equipment
  - The AE Standards group has accepted final engineered drawings for a standard small cell friendly streetlight pole foundation. Utilizing this new foundation will decrease street and side walk disruptions, decrease construction timelines and minimize truck rolls for civil inspections.
  - Pole Attachment Services is currently developing a standard Swap & Drop pole for the downtown area that is compatible with the City’s Great Street streetlight pole design.
  - In August 2020, the first streetlight pole replacement was completed by Verizon using a CommScope replacement pole.
- To date, Austin Energy has reviewed and approved applications to install small cell infrastructure to the following Austin Energy infrastructure:
  - Distribution poles: 218 poles
  - Streetlight poles: 166 poles





**Customer Driven.  
Community Focused.<sup>SM</sup>**

