

Generation Resource Plan Update Progress

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Resource Generation Plan Update

Process
Progress



Technology Readiness

Evaluating technologies to align with Scenario Modeling options, including:

Carbon-free
generation

Long-duration
storage

Direct-air
capture

Local solar

Locally
distributed
storage

Demand-side
management

Transmission



Analysis expected in November



Resource Generation Plan Update Schedule

Electric Utility Commission (EUC) Meeting

- Survey results
- Modeling framework
- Community Energy Solutions goals

EUC Meeting

- Technology readiness analysis
- Generation Resource Plan proposed amendments

EUC Presents

Working Group recommendations

City Council Consideration



Working Group Feedback

Austin Energy considers / incorporates Working Group's feedback to date

EUC Meeting

- Austin Energy presents proposed final plan
- EUC votes



Resource Generation Plan Update

Community Engagement and Outreach Survey Results

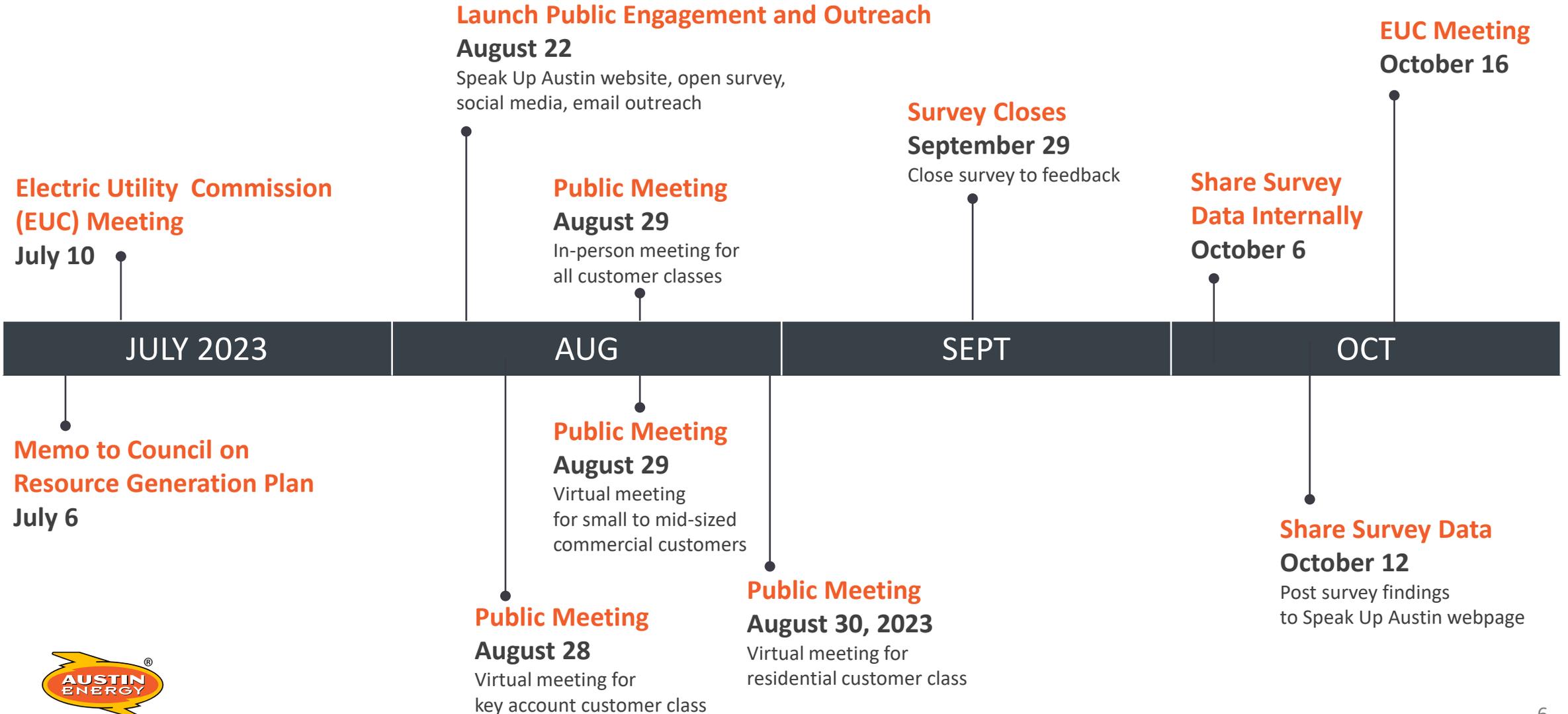
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Resource Generation Plan Update

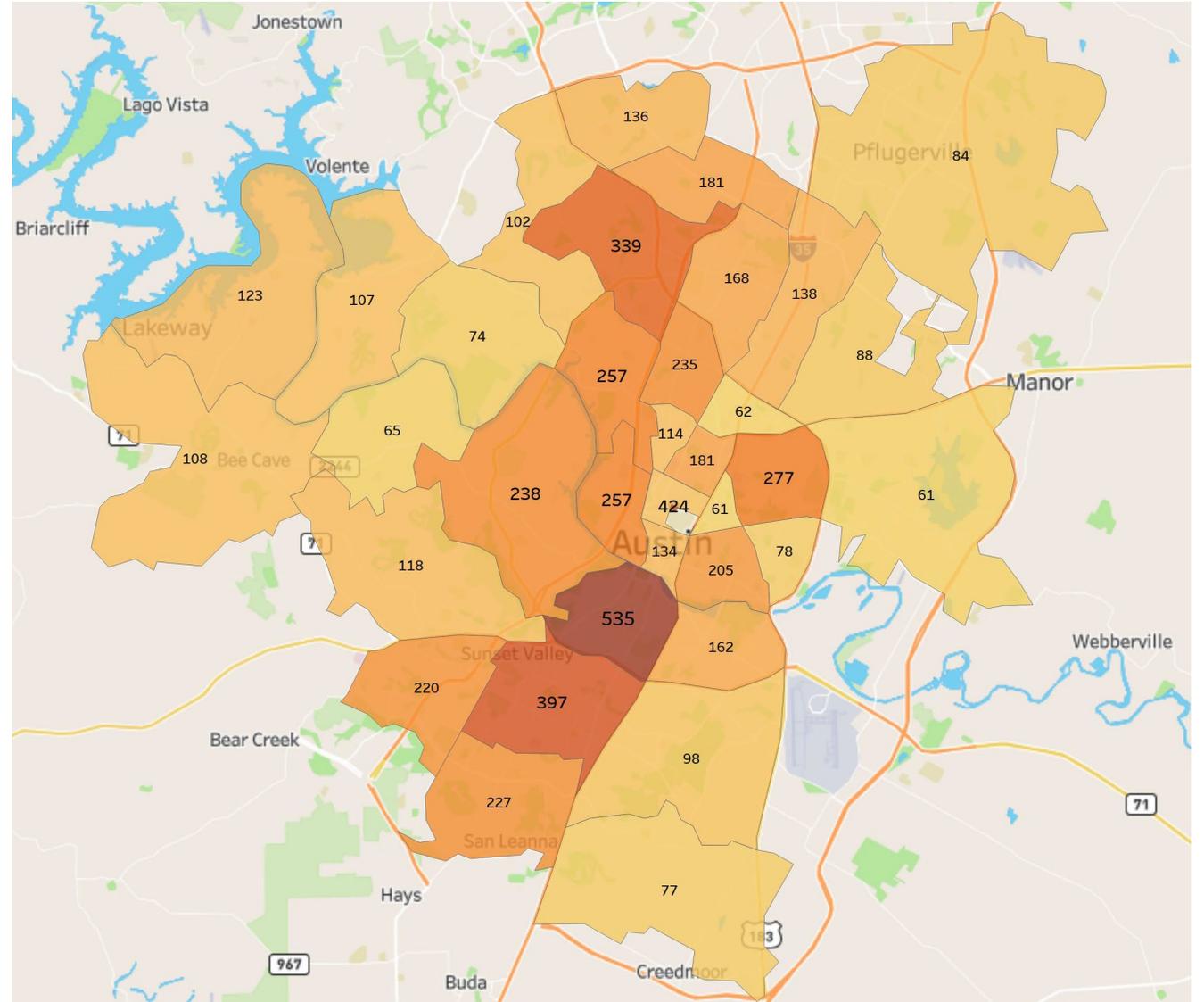
Community Engagement and Outreach To Date



Survey Responses

by ZIP Code

by Customer Type



Respondent Prioritization

% of respondents who ranked each item as #1

38%

Reliability: Power is generated from resilient sources that can operate in a variety of conditions.

28%

Affordability: Power costs are kept as low as possible for customers.

28%

Environmental Sustainability: Power is generated with a reduced carbon footprint.

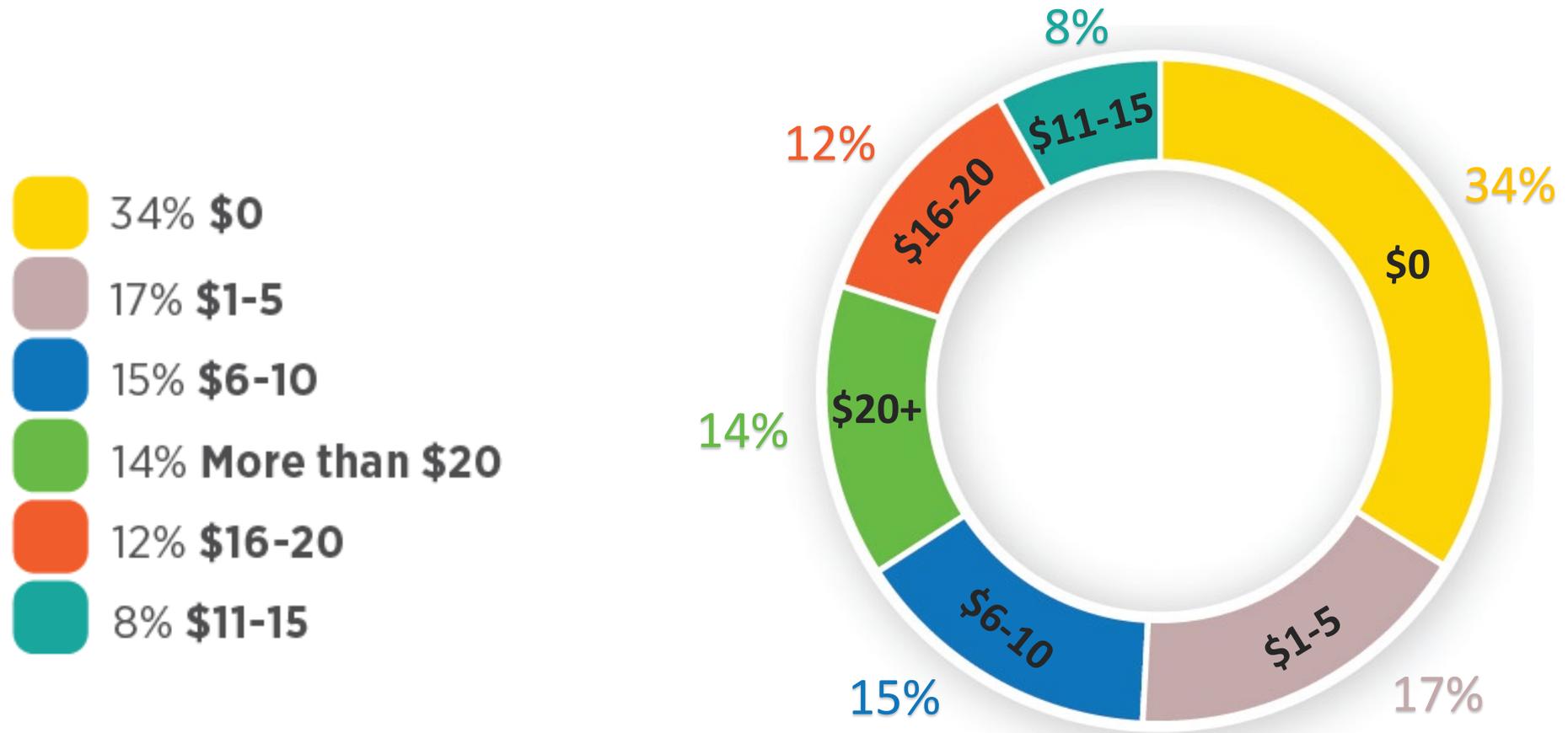
6%

Cost stability: Provide customer protections from price swings in energy costs.



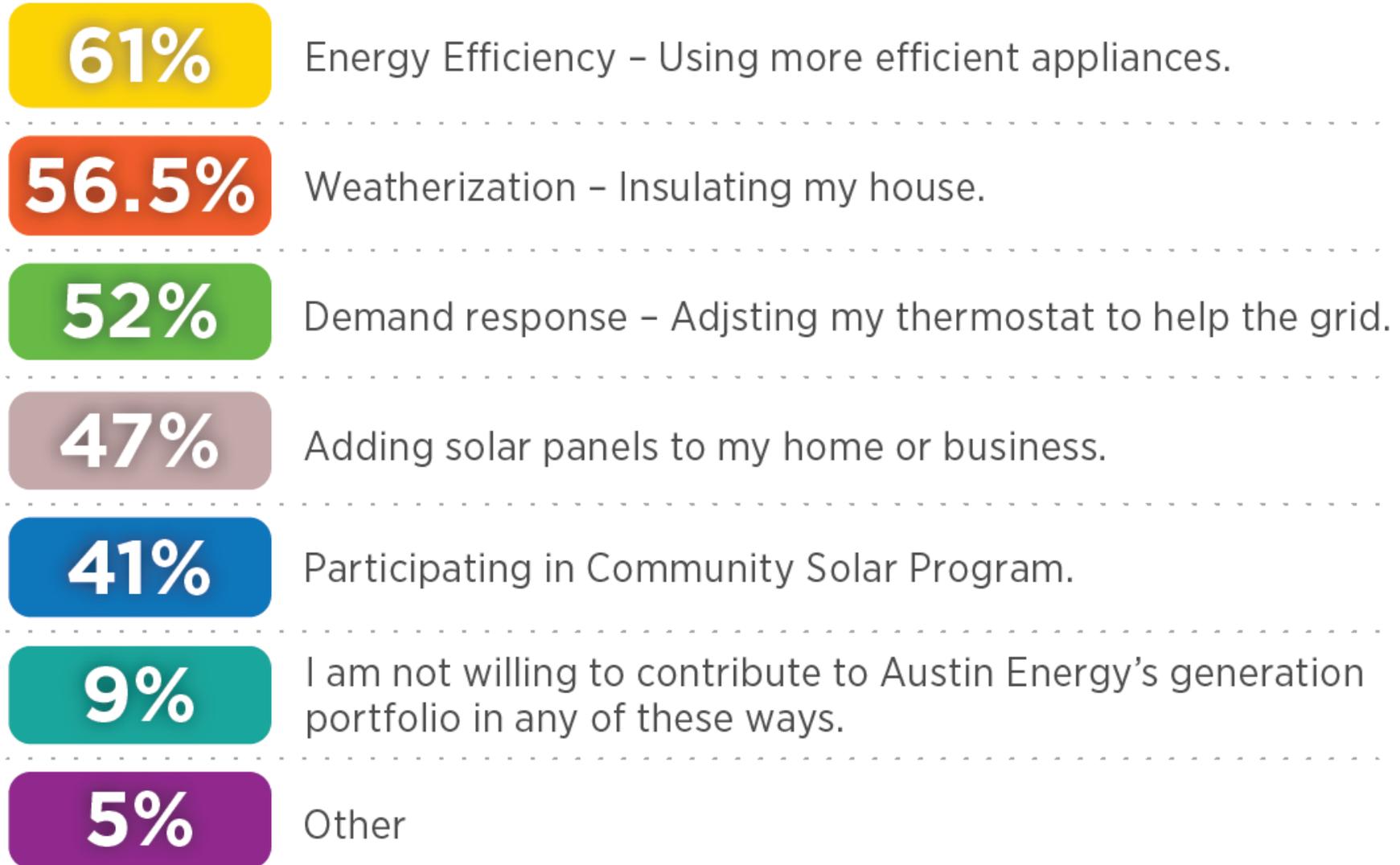
Respondent Cost-Benefit

Residential customer willingness to pay more per month for increase in percentage of carbon-free generation



Respondent Willingness to Act

Ways respondents are willing to contribute to Austin Energy's generation portfolio



Open Feedback Comments

Reliability

910

- Diversify supply
- Use most reliable energy sources in extreme weather
- Yes to coal, gas, nuclear
- Less renewables
- Build more power plants

Environmental Sustainability

498

- No coal, no nuclear
- Close Fayette
- More renewables
- Environment is a priority
- Reduce fossil fuels

Affordability

394

- Keep costs low
- Prioritize affordability

Cost Stability

106

- Time of use
- Demand response
- Congestion costs



Summary

Relatively high
response rate

Reliability is a
clear priority

Distribution of
respondents
across service
territory



Contact us:

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Publicinput.com/generation



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Community Focused.SM**



Resource Generation Plan Update

Scenario Modeling Framework

S. Babu Chakka

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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.



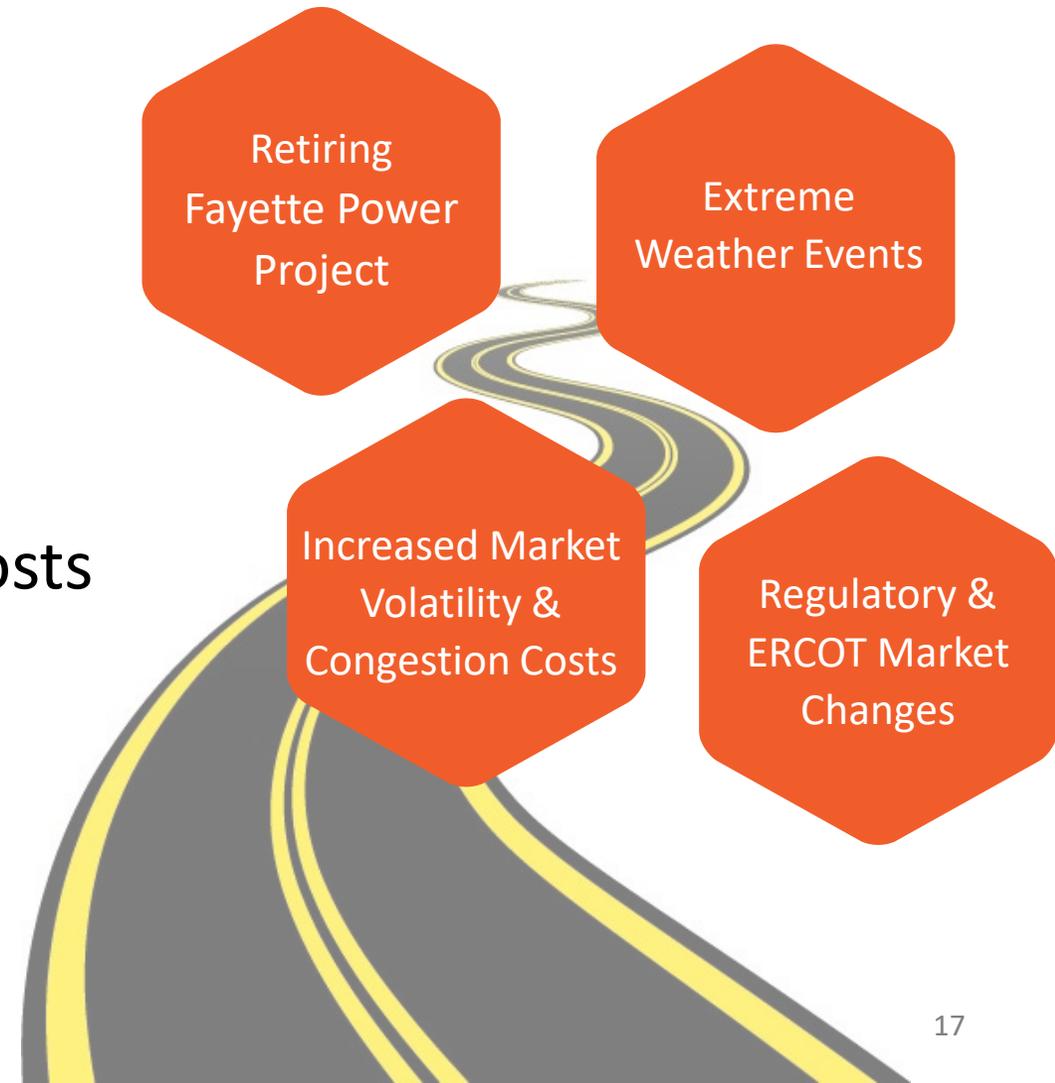
The 2030 Plan

A Quick Overview of the Balance



Current Challenges

- Multiple changes at ERCOT and local level
- Extreme weather events resulted in
 - Higher prices
 - Increased risk to utilities
 - More emphasis on reliability
 - Higher value for some types of generation supply
 - Regulatory uncertainty and ERCOT rule changes
- Increased market volatility & congestion costs
- Local Congestion due to
 - Change in internal generation
 - Increased load levels



2023 – 2024 Resource Planning Considerations

Goal Remains
Carbon Free
by 2035

Steps needed to
mitigate current
risks and achieve
goal in a reliable,
affordable way

Planning
Horizon
2025-2035

Portfolio &
Market Design
Changes

Local
Congestion

Steps needed to
mitigate the risk

Extreme
Weather &
Price Events

New & Emerging
Opportunities

Inflation Reduction
Act & emerging
technologies

Incorporate
Distributed
Generation &
Resilience

Incorporate
Demand Side
Management
& Impacts

Include Virtual Power
Plants, Demand
Response, etc.



Modeling Approach – Key Terms

Scenarios “Environments”

- Describe various environments or future states Austin Energy will need to navigate
- Help develop a broad understanding of impacts of generation transitions and load changes inside Austin Energy and across ERCOT

Technologies “Portfolios”

- Various types of supply and demand resources used to meet the goals and objectives of the plan
- Technologies in various combinations are called portfolios

Sensitivities “Risk Analysis”

Help broaden understanding of risks as they relate to Austin Energy’s power supply cost and system performance

OBJECTIVE: identify the least cost, carbon free, reliable, affordable, optimal path forward for Austin Energy considering risks and uncertainties that might unfold in the future



Modeling Approach – Scenario Environments

To maintain reliability and affordability while still driving toward carbon free, Austin Energy must course correct to navigate several risky environments (scenarios)

Extreme Weather

Weather events comparable to Winter Storm Uri, Mara, hot Summer and extreme low wind power production

Local Congestion

Conditions that cause local bottlenecks due to import limitations, change in system conditions

Regulatory Changes

Focuses more on reliability using market design changes such as Performance Credit Mechanism or load serving obligations or creating requirements on generation (cost causation)



Modeling Approach – Technologies

Austin Energy will study a variety of technologies in various combinations (portfolios) to assess how they perform against the scenario environments

- Local Solar
- Distributed Storage
- Carbon Free Generation
- Direct Air Capture
- Long Duration Storage
- Local Long Duration Storage
- Demand Side Management



Modeling Approach – Sensitivities

Austin Energy will study stress ranges around key variables (sensitivities) to develop a robust understanding of the economic risks associated with them

LOAD



CONGESTION



**IMPORT
CAPABILITY**



**FUEL
PRICES**



**RESOURCE
RETIREMENTS
IN ERCOT**



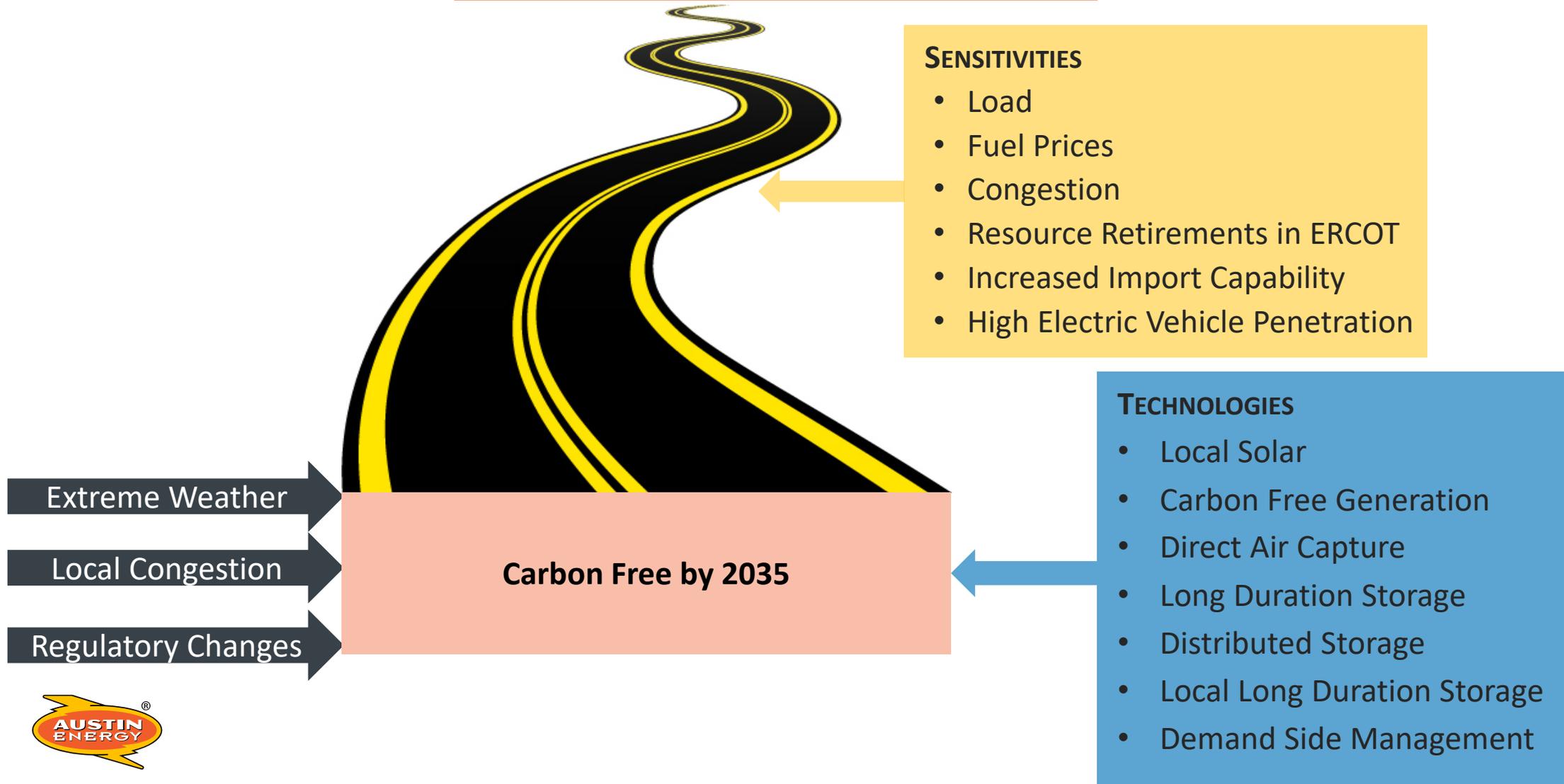
**HIGH ELECTRIC
VEHICLE
PENETRATION**

The stressed variables will be studied for each scenario



Putting it all together

Reliable, Affordable, Carbon-Free Portfolio



Next Steps in November

Present
preliminary
findings

Update Demand
Side Management
goals and metrics



Resource Generation Plan Update

Re-examining Goals for
Customer Energy Solutions

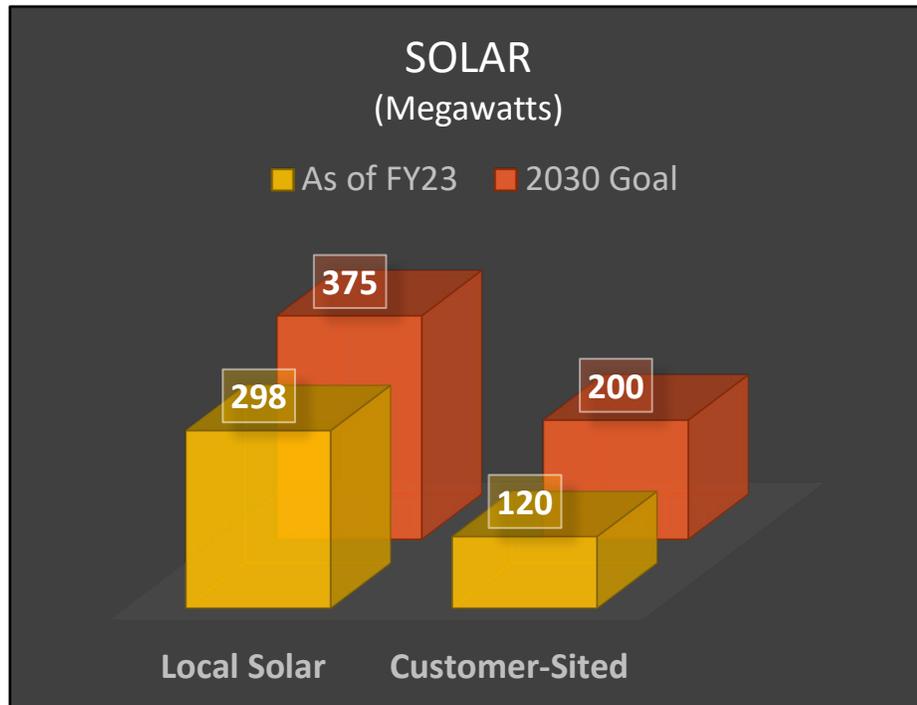
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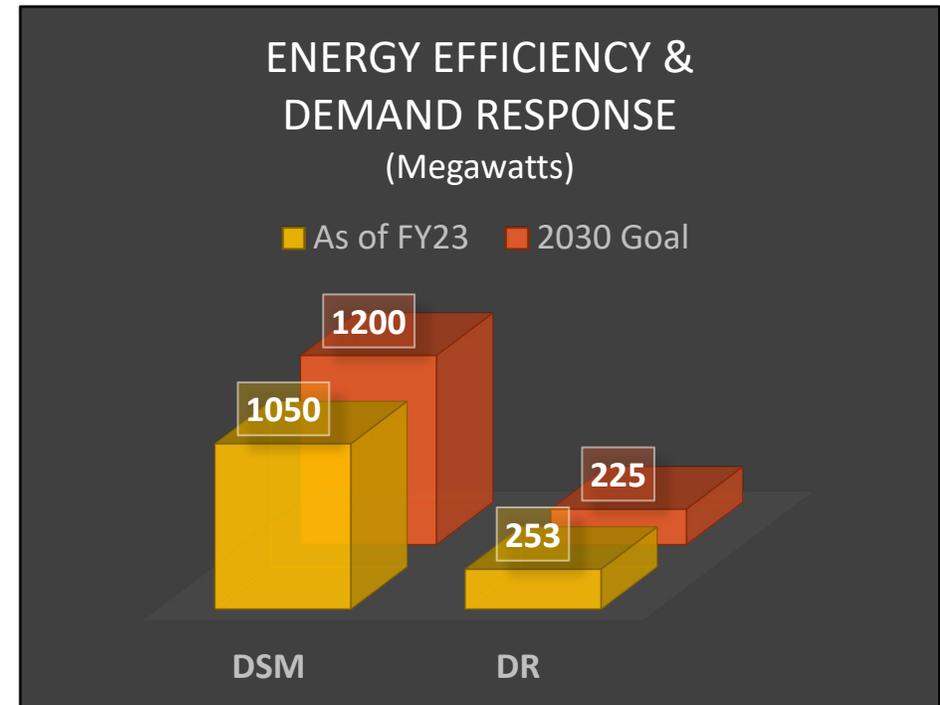


2030 Plan Demand Side Management Goals: Current Status

Demand Side Management (DSM) – the modification of consumer energy demand through various methods, such as financial incentives, and behavioral change through education. This includes Energy Efficiency, Green Building, Demand Response and Solar/Storage.



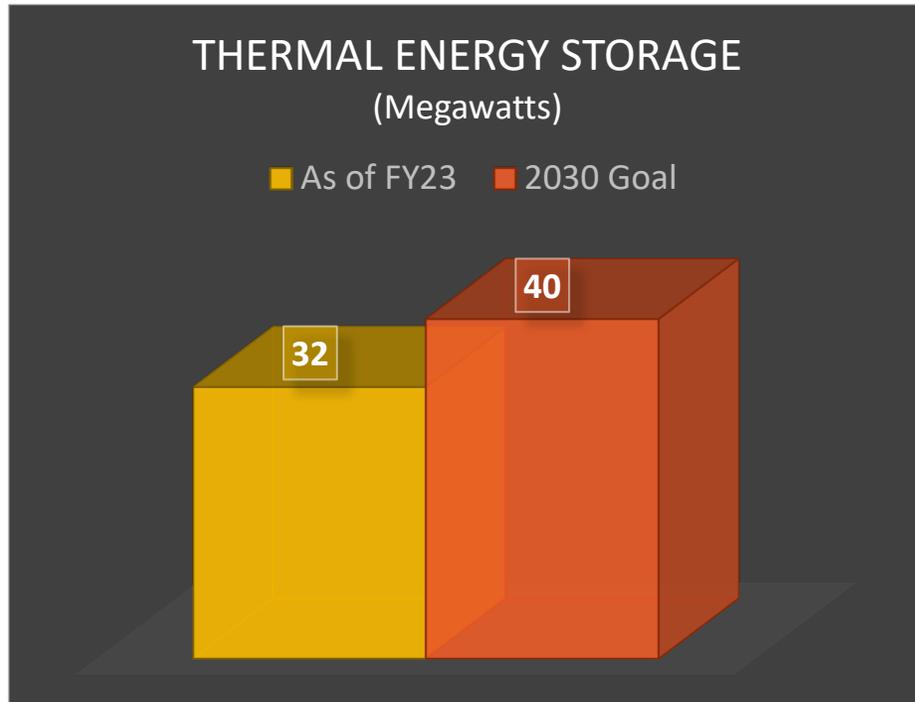
Program	2030 Goal	As of FY23	Percent of Goal
Local Solar	375 MW	298 MW	80%
Customer-Sited Solar	200 MW	120 MW	60%



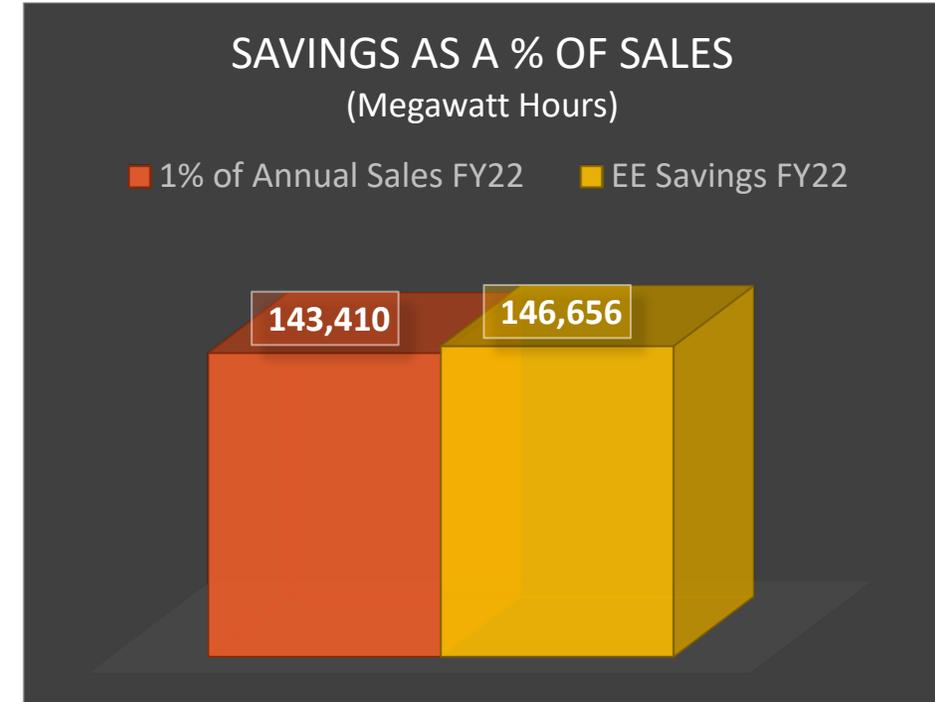
Program	2030 Goal	As of FY23	Percent of Goal
Demand Side Mgt (DSM)	1200 MW	1050 MW	88%
Demand Response (DR)	225 MW	253 MW	112%



2030 Plan Demand Side Management Goals: Current Status



Program	2030 Goal	As of FY23	% of Goal
Thermal Energy Storage	40 MW	32 MW	80%



Goal	1% Annual Sales FY22	Energy Efficiency (EE) Savings FY22	% of Goal
Energy Efficiency (EE)	143,409 MWh	146,656 MWh	102%

Demand Side Management Goals	Annual Goal	FY23 as of June 2023
Customer Participation	25,000	35,020
Low Income	25% (6250)	15% (5371)



Demand Side Management Future Goals Outline

Sustainability: Transition from Megawatts → Greenhouse Gas

- Capture broader Demand Side Management program value (electrification, Electric Vehicles, refrigerant leakage, etc.)
- Align with leaders in the industry (Maryland, San Francisco, Sacramento, etc.)

Equity: Baseline, Metrics, Key Performance Indicators, Action Plan

Leverage Dept. of Energy Fellow to identify key metrics, establish current program baseline, develop key performance indicators with milestones

Reliability: Demand Response Goals

- Clearly define Demand Response expectations and goals
- Match Demand Response goals to Austin Energy Generation Planning needs

Affordability

- Expand access of low-income populations to programs
- Increase energy efficiency for all customer classes, including hard to reach populations



Questions?



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