

Resource, Generation and Climate Protection Plan to 2035

Austin Energy Utility Oversight Committee

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Deputy General Manager and Chief Operating Officer



November 19, 2024

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Building a Bridge to Our Energy Future



Mission for the 2035 Plan

We must meet **Austin's rising energy needs** while enabling an equitable **clean energy transition** reflecting our **community's values** of reliability, affordability and environmental sustainability.



Current Day Challenges

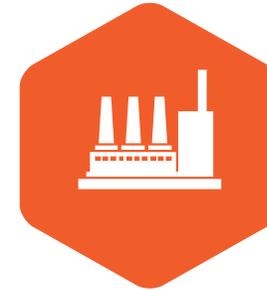
The problems we need to solve are immediate



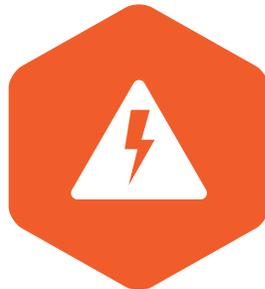
Increases in
extreme weather
& climate risk



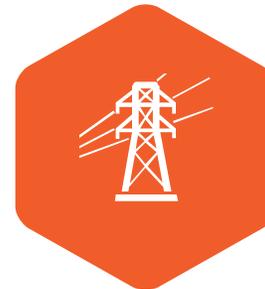
Growth in population
and energy
consumption



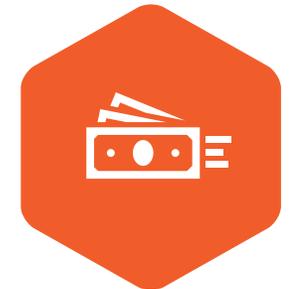
Replacing local
power generation
lost from plant
retirements



ERCOT market
changes and
increasing costs



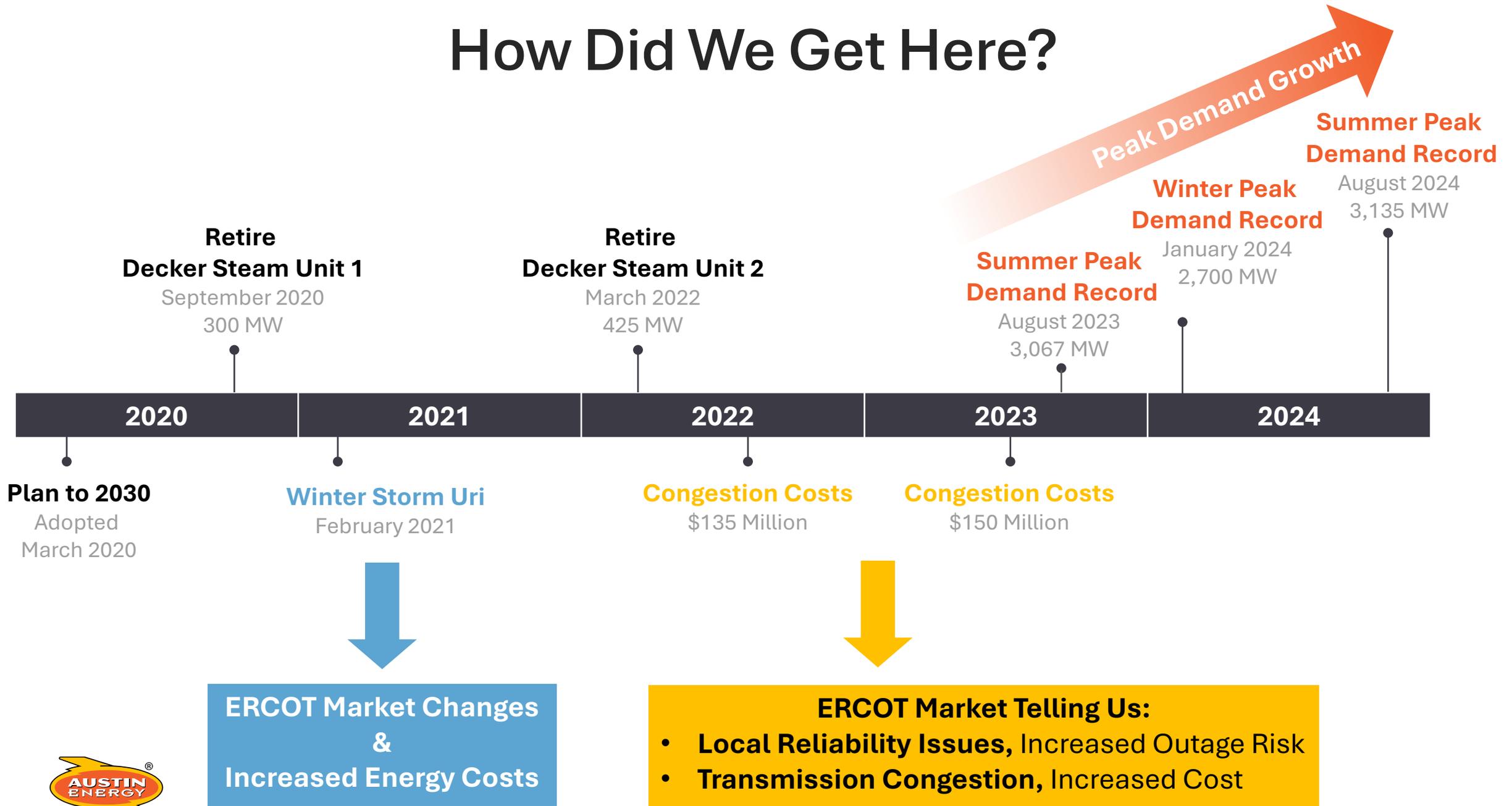
Transmission
congestion and
volatile pricing to
import energy



Financial Risk



How Did We Get Here?



Plan to 2030
Adopted
March 2020

Winter Storm Uri
February 2021

Congestion Costs
\$135 Million

Congestion Costs
\$150 Million

ERCOT Market Changes & Increased Energy Costs

ERCOT Market Telling Us:

- Local Reliability Issues, Increased Outage Risk
- Transmission Congestion, Increased Cost



Our Responsibility

Austin Energy must adapt to a changing energy landscape to expand achievements of previous resource generation plans and further our mission to **safely deliver clean, affordable, reliable energy and excellent customer service**



Austin Energy's Resource Generation Plan 2035 Workshops

Presented by Lynda Rife



5 Workshops with the Community

Goals: Ensure that Austin Energy hears from diverse voices concerning their values as it relates to AE's mission of reliability, affordability and environmental sustainability. Gather input on values, objectives, and the tools to support a growing customer base in the changing energy market in a responsive and responsible way.

- June 7, 2024
- July 25, 2024
- Aug. 22, 2024
- Oct. 3, 2024
- Nov. 13, 2024



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Ascension



ENVIRONMENT
TEXAS



TEXAS CLIMATE
JOBS PROJECT



Austin Area
Urban League | Empowering Communities.
Changing Lives.



HousingWorks
AUSTIN



HOUSING AUTHORITY
OF THE CITY OF AUSTIN
Bringing Opportunity Home

Tri-City Region

Solar and Storage
Coalition



City of Austin District 2
Residential Customers



UNIVERSITY DEMOCRATS
at the University of Texas at Austin



Greater Austin Hispanic
Chamber of Commerce



Citizens' Climate Lobby



SIERRA
CLUB



AUSTIN
Independent School District



RECA
REAL ESTATE COUNCIL
OF AUSTIN



Homeowners United for
Rate Fairness (HURF)



The University of Texas at Austin
Energy Institute



Key Takeaways from All the Workshops

- 👍 Reliability is the community's top priority.
- 👍 Equity continues to be a major theme.
- 👍 The impacts of outages disproportionately affect vulnerable communities.
- 👍 Decisions made for the Resource Generation Plan will need to minimize risks and maximize benefits for the ERCOT market.
- 👍 Austin Energy is facing a tough balance between all needs. The workshops have been a real eye-opener. Overall, a good process.
- 👍 Values, objectives, and flexibility of the plan and the toolkit concepts are the right approach.



Key Takeaways – Dr. Webber

- Austin Energy needs to prepare for an era of **unprecedented electricity consumption**.
- The challenge before us is to **simultaneously expand and decarbonize** the grid while the world is warming.
- Austin Energy is uniquely positioned, as a municipally-owned utility, to address load growth because we can **work on both the supply and demand sides of the equation**. Since the service territory is its own load zone, Austin Energy can avoid congestion costs by building generation close to where customers need it.
- **Do your best, clean up the rest** through a combination of efficiency, electrification, clean molecules and carbon management.
- Austin Energy has an opportunity to improve the overall financial health of the utility (and therefore provide **more benefit to the Austin community and customers**).
- The key lens through which energy options should be considered: **trade-offs**.

Updated Value Statements*

**Developed based on workshop discussions*

Reliability

Providing **consistent** and **predictable** electric service that will power our community as it **continues to grow**.

Affordability

Assessing the **impacts** and **promoting fairness** of costs for customers while continuing to provide the **public-power benefits** that enhance our community's quality of life.

Environmental Sustainability

Maintaining **flexibility** in support of **clean** and **innovative** technologies and programs while taking a **holistic assessment** of the community and environmental impacts.

Energy Equity

Evaluating and expanding **access to the services** Austin Energy provides so they can reach **those who need them most** while reducing any negative **impact of our operations on the community**.



Updated Objectives*

**Developed based on workshop discussions*

Reliability

Prioritize reliability and resilience. Mitigate the risk of long-duration statewide and localized system outage events and provide timely communications. **Limit the exposure of vulnerable populations to outages.**

Affordability

Limit the impact of bill increases to the most vulnerable customers, while allowing acceptable and predictable increases of greater than 2% for other customers in support of reliability and environmental sustainability.

Environmental Sustainability

Reduce emissions and other environmental impacts as much as possible. Mitigate any remaining emissions, while supporting affordability and reliability.



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AUSTIN ENERGY

Thank You

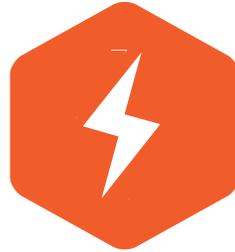


Community and Industry Expert Driven



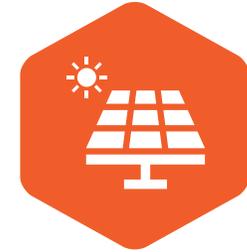
Community Stakeholders

Rifeline Facilitation



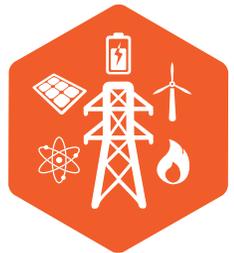
Energy Research

Webber Energy Group (UT)



Demand Side Mgmt. & Solar Study*

DNV Energy Insights



Portfolio Modeling*

Ascend Analytics & Austin Energy



Requests for Proposals

Carbon-Free & Renewable Developers



Industry Research Group Support

E Source & EPRI

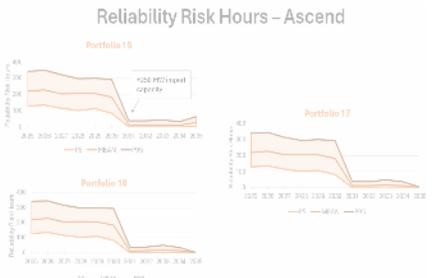


*Scope informed by EUC

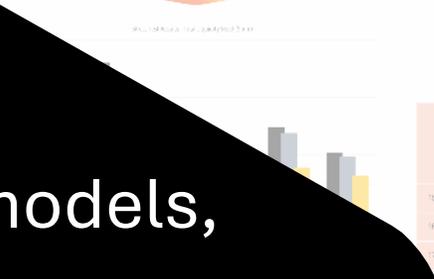
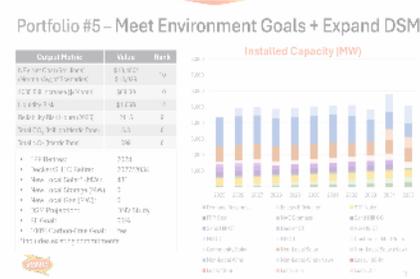
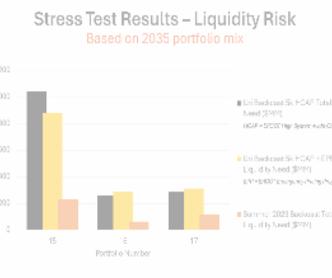
Modeling

So many models,
so much data,
so many hours ...
to understand
tradeoffs and
resource plan needs

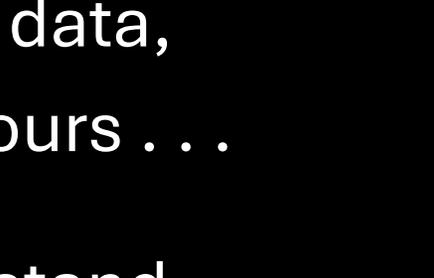
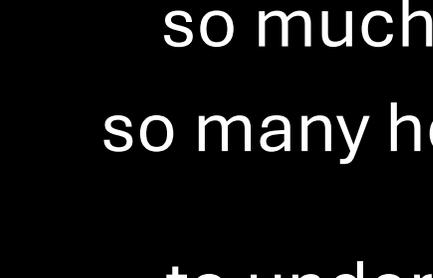
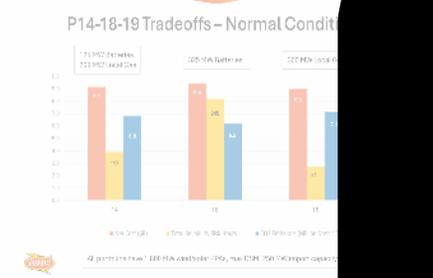
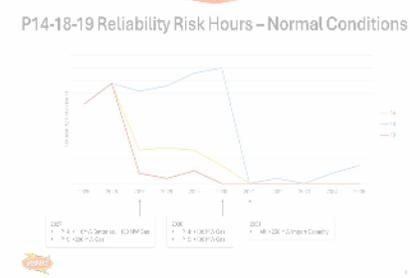
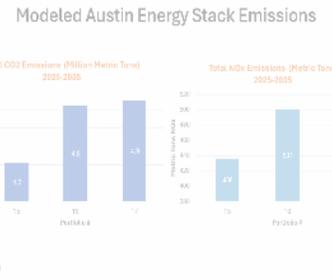
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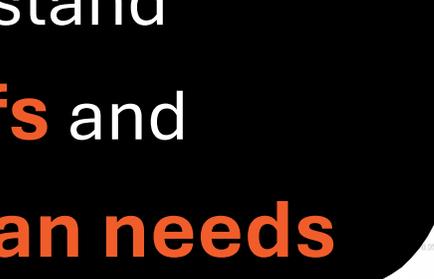
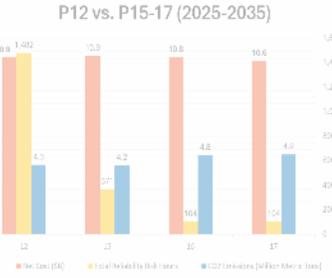
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71 MW Demand	100	100	100	100	100	100	100	100	100	100	100
125 MW Battery	0	0	0	0	0	0	0	0	0	0	0
122 MW Solar	0	0	0	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100	100	100



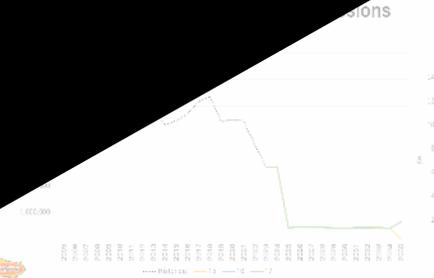
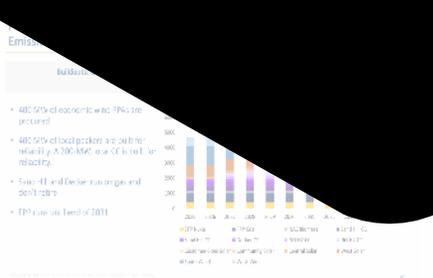
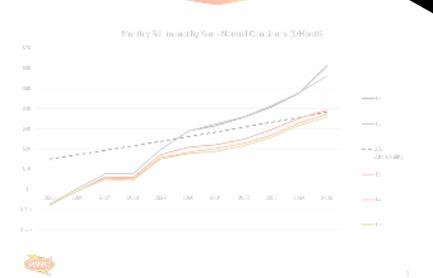
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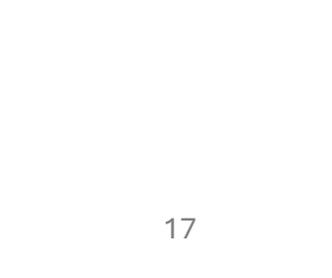
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Total	100	100	100	100	100	100	100	100	100	100	100



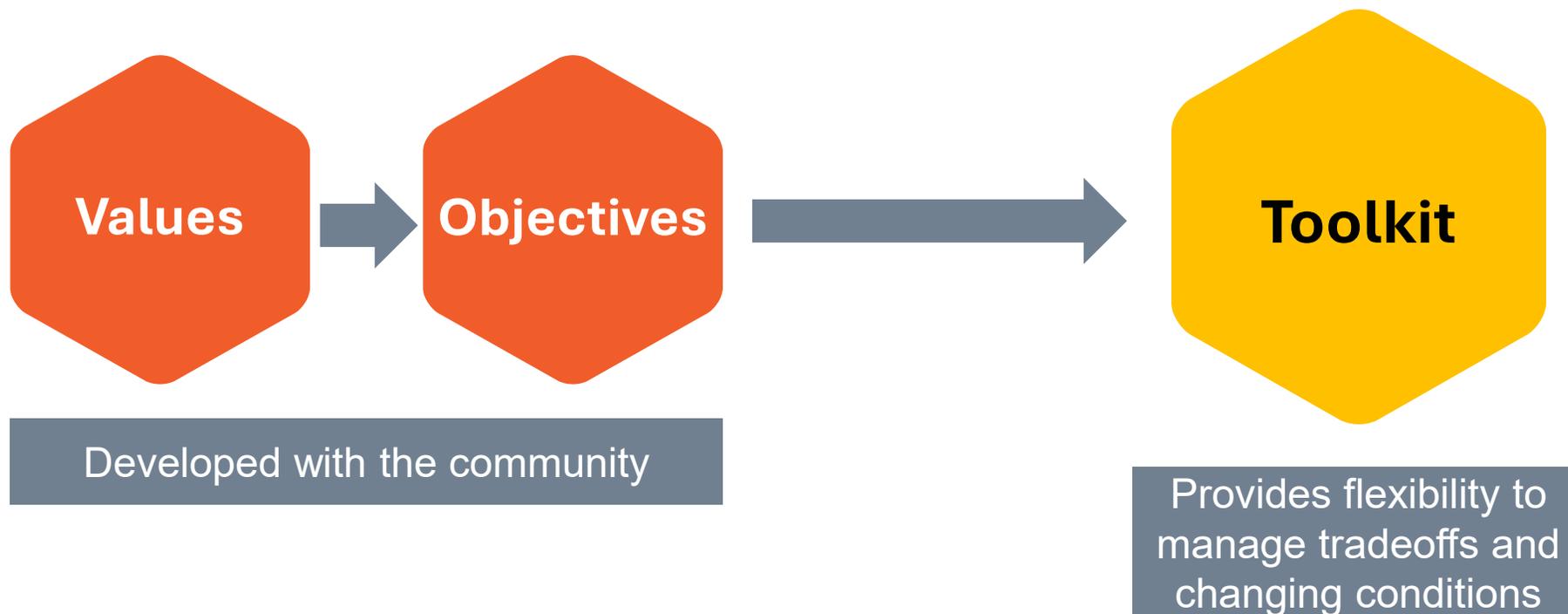
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122 MW Solar	0	0	0	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100	100	100



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71 MW Demand	100	100	100	100	100	100	100	100	100	100	100
125 MW Battery	0	0	0	0	0	0	0	0	0	0	0
122 MW Solar	0	0	0	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100	100	100



Developing the 2035 Plan

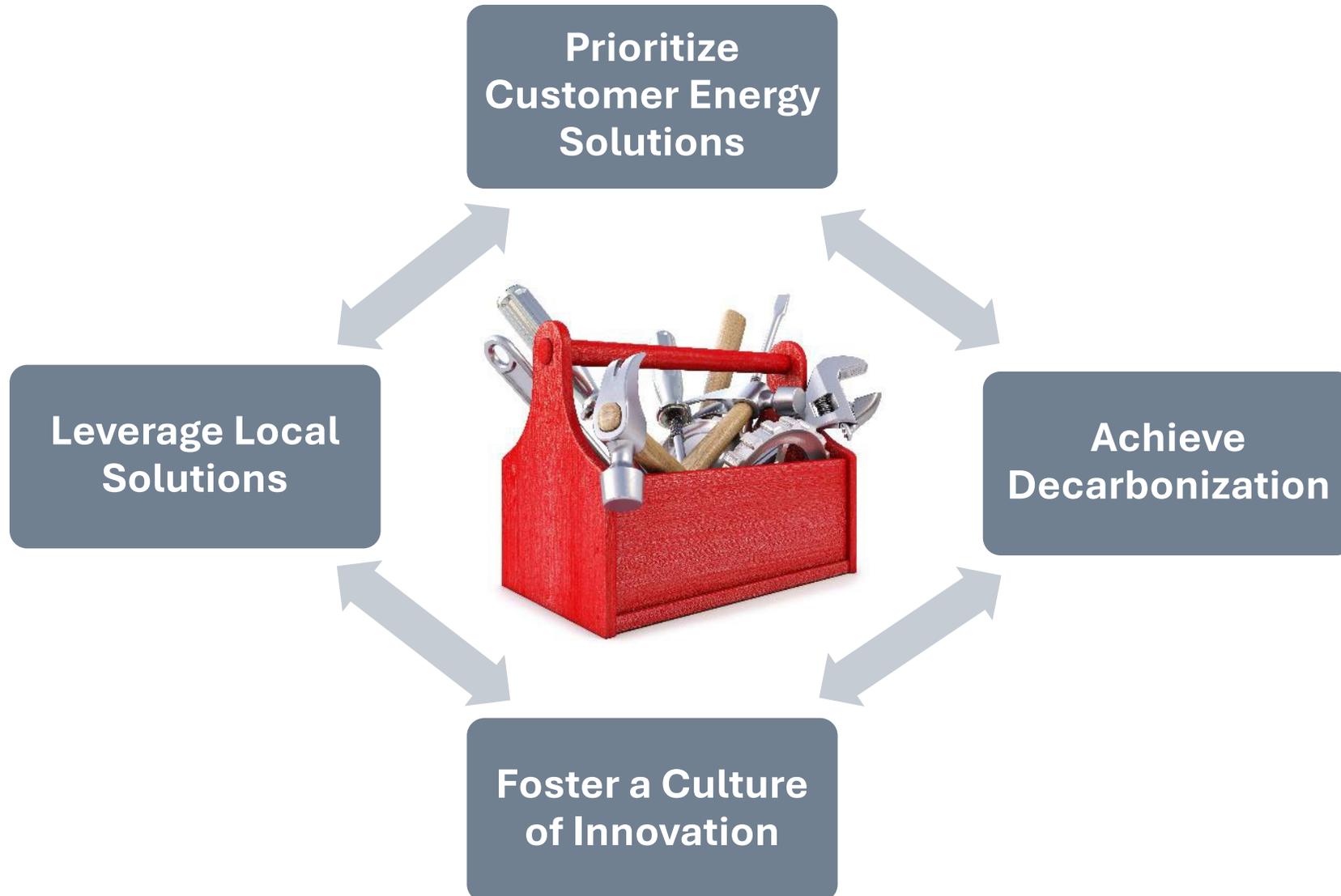


Effective policy design keeps **tradeoffs** in mind and is **outcomes based**, rather than prescriptive.

— *Observations from Dr. Michael E. Webber*



Managing Our “Toolkit”



Action Categories – Our “Toolkit”

Prioritize Customer Energy Solutions

- Energy Efficiency
- Demand Response
- Greenhouse Gas Avoidance
- Beneficial Electrification
- Customer-Owned Batteries
- Rooftop Solar
- Virtual Power Plants

Achieve Decarbonization

- Carbon Free by 2035
- Exit Coal and Reaffirm REACH
- Remote Wind and Solar
- Geothermal
- Nuclear
- Carbon-Free Technologies

Leverage Local Solutions

- Maximize Demand Side Management
- Transmission Import Capacity
- Utility-Scale Batteries
- More Efficient Peaker Units Used Only When Needed
- Maintain Black Start Utility Status

Foster a Culture of Innovation

- R&D Partnerships
- Grant Opportunities
- Solar for All
- Solar Standard Offer
- Pilot Geothermal Generation
- Nuclear Technologies
- Carbon Capture
- Vehicle to Grid



What Are These Tools?

Battery Storage



- Store and discharge energy (2-4 hours)
- Balance short fluctuations in energy supply & demand
- Utility scale or substation size installations

Natural Gas Peaker Units



Photo by: Jeffrey Phillips

- Small modular units to improve reliability
- Used when demand is high, minimizing emissions
- Ready to support during a grid emergency

Tradeoffs With These Tools

Batteries

- (+) Highly Dispatchable
- (+) Can be Cleaner
- (-) Duration Limited
- (-) Mineral Mining Practices
- (-) Regulatory Risks (Tariffs)

Peakers

- (+) Highly Dispatchable
- (+) Black Start Capable
- (+) Newer Units Produce Less Emissions
- (-) Upstream Methane Leakage
- (-) Carbon & Other Emissions

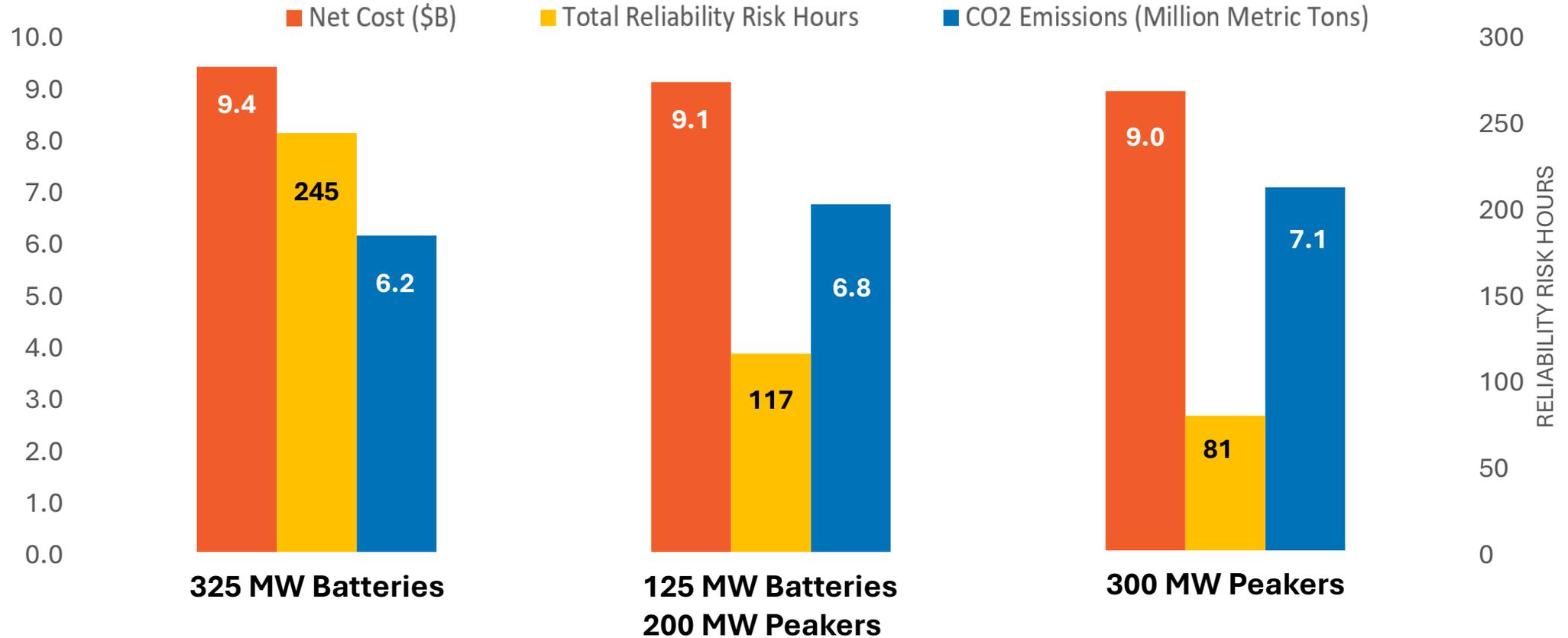
Both Batteries and Peakers

- (+) Batteries Used First to Minimize Emissions
- (+) Batteries Support Short-Duration Needs
- (+) Peakers Support Long-Duration Needs
- (+) Diversity of Tools in the Toolkit Improves Response
- (+) Less Vulnerable to the Disadvantages of a Single Tool



Tradeoffs – Normal Conditions

Over 10-Year Period



Baseline for all: maximum energy efficiency, demand response, local solar & customer-sited batteries, 1,800 MW wind/solar PPAs, 250 MW import capacity increase, do not retire existing gen



Final Steps to Adopting the 2035 Plan



The 2035 Plan – Powering Our Future

- ✓ Cleanest energy portfolio in Texas
- ✓ Industry-leading customer energy solutions
- ✓ Promotes reliability, affordability and sustainability
- ✓ Protects our most vulnerable
- ✓ Resilient to extreme weather
- ✓ Flexible and innovative
- ✓ Built to adapt to changing conditions
- ✓ Community-informed plan





**Customer Driven.
Community Focused.SM**

