Austin Energy Workshop #2 Workshop Summary

Austin Energy Headquarters (4815 Mueller Blvd. Austin, TX 78723)
Friday, July 26, 2024 | 11:15 a.m. to 1:30 p.m.

Workshop Overview

Austin Energy hosted their second in a series of monthly workshops on Friday, July 26, 2024, from 11:15 a.m. to 1:30 p.m. at the Austin Energy Headquarters (4815 Mueller Blvd. Austin, TX 78723). The goals of Workshop #2 were to have the participants have a general understanding of ERCOT and its relationship to Austin Energy and to hear from Dr. Michael Webber with the Webber Energy Group from the Cockrell School of Engineering at UT Austin regarding Texas and Austin-area energy markets and trends, resource options, and potential risks and tradeoffs. Stakeholders representing local organizations who provided a voice to Austin Energy's mission pillars of clean/sustainability, affordability and reliability attended along with members of the public and those who joined online via a Webex link. The workshop was also streamed and recorded live on ATXN.

Workshop participants were given a brief overview of the feedback heard from Workshop #1 and a presentation on how that feedback is being shared with the Electric Utility Commission and incorporated into the Resource Generation Plan 2035. An ERCOT 101 presentation was given to show the relationship between Austin Energy and ERCOT and how Austin Energy is not only responsible for its service area but is also affected by levers in the larger ERCOT/Texas energy market landscape. After the ERCOT 101 presentation, Dr. Michael Webber gave a robust presentation covering topics such as energy transition, electrification, broader ERCOT trends, load growth, resource options, demand management and more.

The remaining time of Workshop #2 was dedicated for a general questions and answers session where workshop participants could engage with Dr. Webber and Austin Energy representatives. Like Workshop #1, workshop participants were divided into four groups. The members of each group had access to these handouts: Webber's presentation slides with room to take notes, a general notetaking document, and a document to capture any questions that weren't addressed in the questions and answers session. Workshop participants were instructed to either leave their handout capturing any unanswered questions on the group tables or to leave them at the sign-in station. The meeting concluded with Austin Energy and Rifeline sharing details of Workshop #3.

Top Themes & Takeaways

ERCOT 101 Presentation

- Austin Energy is bound to the ERCOT market and its rules and constructs.
- The ERCOT market, like any market, has both benefits and risks. Decisions made in the marketplace have tradeoffs. For example, a decision made to maximize reliability could reduce affordability or vice versa.

- Decisions we make for the Resource Generation Plan will affect the tools available in the future to minimize risk and maximize benefits in the ERCOT market in terms of affordability, sustainability, reliability and equity.

Dr. Webber Presentation

- Utilities, including Austin Energy, need 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 it 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.

Q&A General Session

Recording Link: *https://austintx.new.swagit.com/videos/311156*

In Person Questions

Q: What do you think Austin Energy should do to build more capacity for renewable energy?
Response: Timestamp 1:07

Q: Talking about net zero versus carbon free – carbon management is a big topic. How do you talk to people about carbon capture? What do you say to critics of it? People say it's too expensive.
Response: Timestamp 1:09

Q: Why were batteries not listed on the slide? Could we use a utility scale battery, charge it at night, and dispatch it during peaks?
Response: Timestamp 1:16

Q: How does hydrogen fit in in the future?
Response: Timestamp 1:20

Q: How is equity being measured between net zero and actually getting to zero?
Response: Timestamp 1:25

Q: In your opinion, is the cost of producing a power plant that would combust hydrogen in the long term, after combusting natural gas for some time, would that offset the cost and the benefits of solar?

Response: Timestamp 1:28

Q: How do you feel about Austin Energy installing something small, like a 20 kilowatts battery, at each meter and then using it for demand respond – they keep the money until the system pays for itself – and then after that customers will get the money?

Response: Timestamp 1:33

Q: How will the burden of pollution be accounted for and factored into the modeling?

Response: Timestamp 1:35

Q: What is the role of big corporations that contribute more to power usage?

Response: Timestamp 1:40

Online Chat Questions

Q: Do you have a lot of flexible demand response to help with keeping costs down?

Response: Timestamp 1:12

Q: On electrification, how does Austin Energy forecast how much additional electricity will be needed with EVs and transitioning from gas heaters to electric heat pumps?

Response: Timestamp 1:15

Q: How much demand response can Austin Energy play with on 'EV' and other 'DERs'? What is Austin Energy doing to prepare for controlling devices?

Response: Timestamp 1:13

Additional Context: Austin Energy programs like Power Partner℠ Thermostats and EV are examples of ways Austin Energy controls devices to manage demand.

Q: What impact will the ADVANCE ACT have on accelerating adoption of nuclear?

Response: Timestamp 1:32

Q: Do you know if Austin residents and businesses are purchasing back-up generators?

Response: Timestamp 1:38

Q: I'd be interested to hear how involved Austin Energy gets into R&D and how they are going to scale up software to control the grid within their territory or program design. Are there other options they can employ before resorting to building new generation or are we already past that? Does the public get to weigh in on load forecasting which is going to drive how much new generation Austin Energy thinks they need?

Response: Timestamp 1:52

Q: Austin Energy is buying and selling on the market and producing electricity. Has anybody looked at why Austin Energy is in the production business anymore? Buy from the grid and let somebody else build it and manage it and not be in the production business.

Response: Timestamp 1:54

Unanswered Questions

The following questions were submitted by participants in writing for response after Workshop #2.

Q: Could Austin Energy hypothetically build transmission too and get cost recovery for it?

Austin Energy can build transmission and recover costs, though there are specific requirements around that. To build transmission, the utility must have approval from the Electric Reliability Council of Texas (ERCOT), the Austin City Council and, in some cases, the Public Utility Commission of Texas (PUCT). Also, the transmission has to connect to existing Austin Energy equipment on at least one end. The utility cannot build transmission just anywhere. Locally, Austin Energy has several transmission projects underway that meet these requirements.

Cost recovery for transmission is not guaranteed as transmission costs within ERCOT are spread to all ratepayers. To recover costs for transmission build, Austin Energy must submit a transmission cost of service (TCOS) rate request to the PUCT. The PUCT reviews the request to ensure that all costs are reasonable and necessary.

Q: With green hydrogen, you start with electricity and then lose a lot of energy as you hydrolyze, compress, transport, and finally re-generate electricity. How could hydrogen ever be cost-effective for electricity generation?

There is a lot to consider when looking at green hydrogen, especially if one entity is handling the whole process — from hydrogen production to electricity generation. Another way to look at it, though, is to separate that process and have a different entity produce the green hydrogen. The entity generating electricity does not have to also produce the hydrogen. If hydrogen production is the main purpose of the business, there would be different ways to manage and offset costs. Especially when taking production scale into consideration, we see examples where green hydrogen could be cost-effective for electricity generation.

Q: Transmission buildout in ERCOT:

- When will more transmission be built to reduce congestion and costs to Austin Energy customers?

  The Electric Reliability Council of Texas (ERCOT) continuously looks at the electric system and evaluates needed transmission projects. It publishes all planned or approved transmission projects on its Planning webpage under Transmission Project for Information Tracking (TPIT). This tracker includes Austin Energy projects.
  Planned projects have to go through an ERCOT approval process (including ERCOT Board approval) before going to the Public Utility Commission of Texas (PUCT) for approval.
  ERCOT publishes TPIT three times per year: March 1, July 1 and Oct 15.

- What specific transmission lines need to be upgraded to reduce congestion costs?

  In general, upgrading and building transmission lines throughout ERCOT will help reduce congestion costs. ERCOT's 2023 Report on Existing and Potential Electric System

Constraints and Needs provides the latest published outlook on congestion costs and related transmission projects.

Congestion specific to Austin Energy is caused by two main factors:

- Limitations around how much power can be brought into the Austin service area.
- Limitations implemented to ensure grid stability when voltage support is weak or insufficient.

As Austin Energy continues its transition to cleaner technologies, addressing these transmission conditions is critical. Last year, the energy services consulting group 1898 & Co. completed a third-party transmission study for Austin Energy assessing several improvements to support reliable service with no local gas generation. Austin Energy already has many of those transmission projects underway. However, while transmission can relieve some local congestion, additional changes in the electric landscape — such as growth in demand — make this a dynamic problem. It often requires additional supply and demand-side solutions to protect customers and Austin Energy against future risks. In short, transmission alone does not solve the problem.

- What is the process where ERCOT assesses the need for transmission upgrades and prioritizes them?

  There are two different ways ERCOT assesses and prioritizes transmission projects:

  1. Congestion Rent is a measure used by ERCOT to identify overloaded elements and recommend transmission improvement to relieve congestion. Here's how ERCOT uses it:
     - ERCOT tracks the monthly historical Congestion Rent to identify overloaded transmission lines.
     - It then proposes a transmission system improvement need in the Regional Transmission Plan.
     - The transmission operator that owns the infrastructure where the new transmission equipment would go takes on the project and develops a plan to address the required transmission improvements.
     - The transmission operator's plan becomes a project that is then submitted to the Regional Planning Group (RPG) for review.
     - After RPG review, ERCOT performs an independent review of the project and additional scenarios to recommend the project that meets the evaluation criteria at the lowest cost.
     - With ERCOT's approval, the transmission operator further develops the plan and goes to the PUCT for final approval.
  2. Transmission operators (like Austin Energy) can also submit projects based on potential future needs to the Regional Planning Group (RPG). Potential future needs can look like additional growth expected in the service area or retirement of generation. After RPG review, ERCOT performs an independent review of the project and additional scenarios to determine if the project should be approved. With ERCOT's approval, the transmission operator further studies the route, involves the community and landowners in the project and goes to the PUCT for final approval.

Regardless of the way, it typically takes a minimum of four to six years to build a new transmission project in ERCOT.

Q: What are the easiest ways for Austin Energy to locally increase generation to reduce price impacts from congestion?

Austin Energy recently retired about 800 MW of thermal generation in its service area as it continues to efficiently manage its power assets. Those retirements, coupled with limitations around how much power can be brought into the Austin service area, make it difficult for Austin Energy to manage price spikes in the ERCOT market. On one level, a simple solution is increasing local generation through permitting, siting and deploying peaker generation units, which can be built in two to four years. This is a complex issue, though, and any solution needs to align with community values and priorities while protecting against future risk.

Q: Aside from demand-side management and energy efficiency, what is the quickest, most affordable way for Austin Energy to meet resource adequacy?

Aside from demand-side management and energy efficiency, the quickest and most affordable way for Austin Energy to meet resource adequacy is to have locally sited generation. A full solution, though, has to address broad considerations. That's why the resource generation planning process further studies costs, emissions and outages to fully assess tradeoffs and effects to the community values of affordability, environmental sustainability and reliability.

Q: What is the value of switching from a carbon free model to a net zero model?

A carbon-free model does not allow for any thermal, dispatchable generation that emits carbon. A net-zero model allows for carbon emissions as long as they are captured or removed from the atmosphere. Very high wholesale market prices in the ERCOT market tend to occur when there is limited generation and demand for energy is high. The net-zero model allows for thermal, dispatchable generation during these periods, while offsetting those carbon emissions. This can significantly reduce costs to Austin Energy customers. If the thermal generation is owned by Austin Energy, then we have the ability to run that equipment and manage emissions in a meaningful way while promoting reliable service. If thermal generation is owned by others, they are likely to run the resources without regards to the emissions impact.

Q: Is it an option for Austin Energy to expand its service territory? Are there options in a reasonable radius for medium-large scale solar/wind farms?

Austin Energy's service area was set by the PUCT in 1976. Austin Energy alone does not have the authority to expand it, but it is possible. In very specific circumstances, a case for expansion can be brought to the PUCT through a Certificate of Convenience and Necessity. The other utility serving that area also has to agree. Historically, these adjustments have been minor boundary amendments and not large-scale service area changes.

The Austin area is generally not considered a prime development spot for wind energy. There are large solar farms close to the City of Austin such as East Blackland in Pflugerville or Big Star Solar just east of Austin. There are fewer options for wind near Austin, but we are seeing some wind developments in areas like Llano County.

Q: Is Austin Energy/City of Austin considering regulation/policy to prevent large electricity consumers, like data centers, from affecting our load?

Austin Energy is required to provide electric service to customers within our service territory regardless of the type of customer. However, there is a robust planning process to ensure readiness for large changes to the grid. When a customer with a high demand wants to connect to the electric system, Austin Energy has an evaluation process to explore needs and requirements. First, Austin Energy would go through a preliminary analysis of the request. If the request passes that initial screening, Austin Energy would do a full interconnection study with the customer to fully determine the impacts and needs of providing power. If everyone agrees with the results of the interconnection study, then the construction process begins.

Generally speaking, large customers tend to invest in energy efficiency measures, which helps to reduce their load. Some large customers participate in demand response.