## Change Log for Austin Energy Resource, Generation and Climate Protection Plan to 2035

12.6.2024 Change Log for Draft Resource Generation Plan 2035\_Version 2

- <u>Green</u> Added
- Red Deleted
- Page 3-6; Executive Summary; Key Actions: Made applicable changes to items based on changes below.
- Page 5; Executive Summary; Key Actions; Continue our commitment to decarbonization section; Second bullet:
   Exit Coal and Reaffirm REACH — Austin Energy will continue our efforts to move away from coal power generation at the Fayette Power Project (FPP) by shutting down Austin Energy's portion of FPP or converting it to run on a carbon-free and emissions-free energy source.
- 3. Page 19; Current Energy Landscape; Austin Energy's Energy Landscape; Generation Retirements; Fourth paragraph; Fourth sentence:
  "As we continue to work toward that goal, we must also consider how ceasing operations adds new financial and market risks and make a plan to mitigate those risks and consider the economic value of avoiding additional greenhouse gas emissions."
- 4. Page 21; Current Energy Landscape; Austin Energy's Energy Landscape; Environmental Leadership; Fourth paragraph; first sentence:
  "As renewable resources continue to increase in the ERCOT system, we're seeing new operational challenges. One example is curtailment for these resources when too much power is produced and the system can't handle it. This makes that resource less valuable to our customers.

Local renewable energy, energy storage, energy efficiency and demand response investments avoid these challenges and will be especially important going forward.

Austin Energy will continue our leadership in this area, finding creative ways to reduce <u>our contribution to the effects of</u> climate change and provide an equitable

clean energy transition."

- Page 25; Current Energy Landscape; Austin Energy's Energy Landscape; Voltage Support; Second paragraph; Seventh sentence:
   "There are other-potential sources of voltage support, including batteries and synchronous condensers, which Austin Energy may use to replace existing generators. Existing generation has the additional benefit of also providing power, and batteries and synchronous condensers are emissions free."
- 6. Page 30; Guiding Light; Collaboration; Stakeholder Workshops: Remove the Public Citizen logo.
- 7. Page 50; Powering Austin's Clean Energy Future; Key Actions; Prioritize Customer Energy Solutions; Lead with Energy Efficiency: "Lead with Energy Efficiency Austin Energy will lead with energy efficiency as the first priority to reduce energy needs during peak times. With more than 40 years of industry-leading experience, we will continue to expand award- winning programs and promote energy efficiency that lowers customer energy use, sustains customer comfort and reduces electric bills. Austin Energy plans to save 975 MW by 2027. In 2027, we will shift to tracking avoided greenhouse gas for our energy efficiency programs. Austin Energy will continue to report on the MW and megawatt hours reduced from energy efficiency programs in all sectors. Greenhouse gas avoidance is a more holistic measure, allowing us to broaden our reach and capture the value of beneficial electrification.

Austin Energy commits it will remain an industry leader on energy building codes and green building development, including facilitating adoption of the 2024 International Energy Conservation Code, as well as specific solar-ready, EV-ready, electric building-ready and net-zero requirements for commercial and residential construction, in current and future codes.

Austin Energy commits to maintaining the current goal of 40 MW of local thermal storage by 2030."

 Page 50; Powering Austin's Clean Energy Future; Key Actions; Prioritize Customer Energy Solutions; Lead with Demand Response:
 "Lead with Demand Response An equally important priority is leveraging demand response programs to shift electricity use away from high-demand times. With decades of experience creating and promoting innovative demand response programs, Austin Energy will expand our offerings, planning to reach <u>at least 270</u> MW and strive for 470 MW of achieved summer reductions by 2035 if economically feasible, including at least 78 MW and strive for 102 MW by 2027 if economically feasible. This includes customer-sited batteries and managed electric vehicle charging. Looking ahead, Austin Energy will analyze our winter energy use and develop a demand response goal for that season as well."

- 9. Page 50; Powering Austin's Clean Energy Future; Key Actions; Prioritize Customer Energy Solutions; Move from Megawatt Reduction to Greenhouse Gas Avoidance: "Move from Megawatt Reduction to Greenhouse Gas Avoidance For decades, earlier than much of the U.S., Austin Energy developed and managed cost-effective energy efficiency and high-efficiency building code programs. Because of that early adoption and success, there is no more "low-hanging fruit" in this area. Progress toward megawatt reduction goals is harder with less return for each effort. To open up new opportunities and measures, Austin Energy will transition to tracking avoided greenhouse gases as the primary goal for many of our DSM programs. This change will support our decarbonization and beneficial electrification progress. For example, shifting from natural gas heating in a home to electric heat pumps would increase electricity use. If we track avoided greenhouse gases instead, we will be able to measure how that same shift reduces pollution and supports the clean energy transition."
- 10. Page 51; Powering Austin's Clean Energy Future; Key Actions; Prioritize Customer Energy Solutions; Incentivize Customer-Sited Batteries:
  "Incentivize Customer-Sited Batteries Austin Energy will develop and provide incentives for <u>customer-sited</u> battery storage to maximize benefits to customers and the electric grid, including adoption of a program that allows all customers to provide the utility access to customer-sited batteries."
- 11. Page 52; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Prioritize Customer Energy Solutions:

**Option 2**— **"Prioritize Customer Energy Solutions** A holistic approach to addressing the need for local solutions begins with reducing or managing demand. As a public power utility, we are uniquely positioned to manage all sides of the supply and demand equation. Austin Energy exists to serve the community, and part of that service is making the most of DSM opportunities and benefits. Continuing from the previous resource generation plan, Austin Energy will continue

to take the lead with other City departments to maximize DSM and load shifting opportunities within City of Austin operations.

12. Page 52; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Include Local Utility-Scale Batteries:

"Include Local Utility-Scale Batteries With our experience from Austin SHINES, Austin Energy will incorporate utility-scale batteries to provide another type of local, dispatchable resource. Batteries offer flexibility and are <u>currently</u> well-suited to solve short duration events — two to four hours. <u>Longer duration batteries are also</u> <u>being developed which may be a useful tool in the future.</u>"

13. Page 53; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Avoid Retiring Local Generation Prematurely:

"Avoid Retiring Local Generation Prematurely Following through on a commitment reaffirmed in the 2030 Plan, Austin Energy successfully retired two older, gas-powered steam generators at Decker. Decker Steam Unit 1 (300 MW) retired in September 2020, and Decker Steam Unit 2 (425 MW) retired in March 2022, reducing local energy supply by 725 MW. In summer 2022, Austin's service area saw load-zone price separation significantly increase, leading to congestion costs exceeding \$135 million for the year. In 2023, congestion costs exceeded \$150 million. The combination of retiring a significant amount of local generation without local replacements, market changes in the aftermath of Winter Storm Uri and transmission constraints across Texas and into the Austin Energy service area, creates significant reliability and affordability risks for the Austin community. To avoid increasing the risks, Austin Energy will not prematurely retire existing generation capacity at Sand Hill and Decker while seeking opportunities to increase efficiencies, reduce emissions and reduce costs for customers. Decker has four peakers, and Sand Hill has six peakers and a combined cycle unit. As the energy landscape evolves, Austin Energy will regularly assess our generation needs and will seek to replace these polluting resources with clean energy resources potential retirements where possible. by 2035."

14. Page 53; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Additional, More Efficient, Natural Gas Peaker Units; Second paragraph; starting at second sentence:

"The resource planning analysis shows .... When compared to our <u>Austin</u> <u>Energy's</u> peakers at Decker – installed in the 1980s – a newer peaking unit is approximately twice as efficient. That means it would use about half as much natural gas to produce the same amount of power, thus <u>the reducing</u> emissions <u>would be</u> <del>by about</del> half as much <u>per MWh produced</u> <del>as</del> <del>well</del>."

- 15. Page 53; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Additional, More Efficient, Natural Gas Peaker Units; new paragraph after the one beginning "This type of generation ...": Austin Energy will continue to support utility industry organizations working to develop best practices to prevent methane and hydrocarbon leaks in natural gas fields and in pipelines, and support implementation of the adopted EPA 2023 methane rule intended to reduce methane emissions by more than 80 percent from oil and gas infrastructure.
- 16. Page 53; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Additional, More Efficient, Natural Gas Peaker Units:
  "Pursue Additional, More Efficient Natural, Gas Peaker Units The resource planning analysis shows the local solutions listed above are not enough to solve the local reliability risks and load zone price separation we currently experience, especially for events lasting longer than a few hours. Peakers are smaller, modular power units that only run to meet peak electricity needs.

This type of generation has become more and more efficient over time. When compared to Austin Energy's peakers at Decker — installed in the 1980s — a newer peaking unit is approximately twice as efficient. That means it would use about half as much natural gas to produce the same amount of power, thus the emissions would be half as much per MWh produced.

Austin Energy will continue to support utility industry organizations working to develop best practices to prevent methane and hydrocarbon leaks in natural gas fields and in pipelines, and support implementation of the adopted EPA 2023 methane rule intended to reduce methane emissions by more than 80 percent from oil and gas infrastructure.

Austin Energy should build or contract for more efficient local peaker units. In support of reliability and affordability, the 2035 Plan allows Austin Energy to consider adding natural gas generation, only as that relates to more efficient, local peaker units. As part of the implementation process, City Council approval is required before any new utility-scale resource could be developed. This process has four phases — feasibility, pre-development, development and construction. These phases will incorporate regular updates to City Council, gathering their feedback, and incorporating community input, prior to bringing a project forward for approval.

These New peaker units will significantly reduce load zone price separation risk and provide voltage support for reliability. We would use these units only when needed, and we will run our most efficient (least emissions) units first. The older, existing peakers will be used as a last resort. Having peaker units acts like an insurance policy for events that would last beyond battery durations and aligns with the community's objective of prioritizing reliability and resiliency.

Once these additional units are placed in service, Austin Energy will apply guardrails to the operations of all our peaker units to reduce the negative effects on the environment. More on this below.

17. Page 54; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Protect Local Air Quality:

**"Protect Local Air Quality** Austin Energy works to minimize emissions from our local generating units and improve local air quality. For example, our existing units at Decker and Sand Hill have NOx emissions controls — with the Sand Hill peakers using Selective Catalytic Reduction (SCR) technology to reduce those emissions by 80% to 95%. Austin Energy will also assess the use of other pollution control technologies <u>including combustion controls and low NOx burners</u>. Austin Energy will use SCR technology on any new peakers, and we will continue to assess emerging pollution control technologies to further reduce local emissions. In addition, we will look for innovative partnerships and opportunities to support our progress in this area. As part of these efforts, we will seek to leverage state and federal grant funding."

18. Page 54; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Focus Customer Programs to Support Neighborhoods; Second paragraph; Starting with first sentence:

"Further, Austin Energy will work with impacted communities to find creative ways to implement their energy <u>and environmental</u> priorities. For example, in District 1, the community is working to implement the vision of the Northeast Planning District. As we develop local generation resources, Austin Energy will <u>seek to</u> <u>include programs <del>of</del> for direct investment and leverage local and regional</u> partnerships to deliver innovative and sustainable solutions to the affected community."

\*Changes in blue reflect additional edits that were not properly captured in Version 2.

19. Page 54; Powering Austin's Clean Energy Future; Key Actions; Develop Local Solutions; Maintain Black Start Utility Status:

**"Maintain Black Start Utility Status** Concerns about black start in ERCOT have grown since the system came minutes away from a complete blackout during Winter Storm Uri in 2021. To help bring the grid back online in a blackout emergency, Austin needs black start resources. Black start is the process for restoring the electric grid after a full or partial blackout. It is a worst-case event low probability but very high impact — that grid operators must plan for. There are strict requirements to be certified as a black start resource in ERCOT, and only certain units can meet these standards. Black start resources must be able to start without an external power source, and they must always be available and ready to start. Natural gas peaking units can meet these requirements. Batteries, on the other hand, have the potential to be partially or fully discharged at any time, preventing them from meeting ERCOT's current availability requirements. Austin Energy will monitor developments at ERCOT if and when those requirements change such that batteries could provide this black start capability, Austin Energy will consider implementing batteries for that purpose if economically feasible. Austin Energy will maintain black start capabilities in its generation portfolio to be part of the solution in a statewide grid blackout emergency."