



Austin Energy Resource, Generation and Climate Protection Plan to 2027

Introduction and History

The Austin Energy Resource, Generation and Climate Protection Plan to 2027 (2027 Plan) outlines the City Council's strategic goals for the utility's environmental and economic leadership and represents a combined, extensive effort of the Austin community. The 2027 Plan is flexible and dynamic in order to respond to changing circumstances including economic conditions, customer load, fuel prices, infrastructure build-out, technological development, law and regulations, policy direction, rate structures and customer needs. It involves extensive analysis of risks, costs and opportunities to meet future demand for electricity.

The 2027 Plan is built on the foundation of previous actions and plans including:

- The Austin City Council adopted the Austin Climate Protection Plan in 2007 to build a more sustainable community. Austin Energy developed the Resource, Generation and Climate Protection Plan to meet these objectives. The first plan, approved by City Council in 2010 and further refined in 2010 by adding affordability metrics, addressed resource plan options through 2020.
- In April 2014, City Council passed [Resolution No. 20140410-024](#) which recognized the need to further accelerate the reduction of greenhouse gas emissions and set a goal of reaching net zero community-wide greenhouse gas emissions by 2050 or earlier if feasible. Council then approved an updated Resource, Generation and Climate Protection Plan in December 2014, addressing resource options through 2025 (2025 Plan).

In November 2016, the City of Austin's Electric Utility Commission formed a Working Group to make recommendations on the most recent update to the Plan, which addresses resource plan options through 2027. The Electric Utility Commission Resource Planning Working Group ("Working Group") was composed of 14 community members representing the Electric Utility Commission and Resource Management Commission; advocates for the environment, low-income customers and small businesses; and representatives of large commercial customers. The Working Group held 13 meetings between November 2016 and May 2017. It received analytical briefings from Austin Energy staff and heard from invited speakers on various energy and environmental issues and current technologies. Public comments were accepted at each meeting, many of which highlighted the importance of reducing greenhouse gas emissions to reduce impacts on the environment and public health while balancing rate impacts on all classes of customers.

In addition to reaffirming the affordability goals approved in 2010, the Working Group made [recommendations](#) in the areas of Generation, Local Solar, Energy Efficiency and Demand Response, Electric Vehicles and Process.

The 2027 Plan: Goals and Directives

On August 17, 2017, the City Council approved [Resolution No. 20170817-061](#), adopting the Working Group recommendations and providing additional direction. The recommendations and Council directives are detailed in this 2027 Plan.

Vision

“The City Council affirms its continued interest in achieving the City’s climate protection goal of reducing emissions as quickly as possible.”

-Austin City Council, August 17, 2017

Affordability

Affordability is an overarching goal. The affordability goal¹ is an average 2% per year limit on rate increases system-wide and for rates to be in the lower 50th percentile statewide. The Working Group reaffirmed the affordability statement included in the 2025 Plan, which reads:

“Austin Energy must be financially sound, the cost of electric service must be affordable for all classes of customers (with particular attention to the low income and underserved customers), and rates must be competitive to ensure the retention and attraction of businesses for a strong local economy.”

Resource and Technology Objectives

The following goals are inclusive of the goals in the 2025 Plan. Where a study or modeling effort is indicated such items will be reported to the Electric Utility and Resource Management Commissions as well as the Austin Energy Utility Oversight Committee no later than September 30, 2019 unless a different date is indicated.

Renewable Energy

- Achieve at least 55% renewable energy by 2025, and commit to 65% renewable energy by the end of 2027 as a share of customer consumption. Under the Plan, installed solar capacity would increase to at least 950 MW by 2025, including 200 MW of local solar.
- Construct a model that achieves both a 75% and an 80% renewable energy goal by 2027, including a consideration of the costs, benefits, risks and potential rate impacts.
- Construct a model that achieves a 100% carbon-free energy goal by 2030, including a consideration of the costs, benefits, risks and potential rate impacts.
- Assess the feasibility of achieving 100% renewable energy by 2035.

¹ The affordability goal approved by City Council is composed of two metrics: a) Maintain system average rates at or below 2% annual compound growth rate that begin October 2012; and b) Maintain an average annual system rate in the lower 50% of all Texas utilities serving residential, commercial and industrial customers as measured by published data from the Energy Information Administration Form 861.

Decker Creek Power Station and Fayette Power Project

- Target ceasing operations and beginning retirement of Decker Steam units, assuming ERCOT approval, with Steam Unit 1 ceasing operations after summer peak of 2020 and Steam Unit 2 ceasing operations after summer peak of 2021.
- We reaffirm the previous goal, established in 2014, to begin the retirement of Austin Energy's portion of the Fayette Power Project (FPP), beginning by the end of 2022.
- Support creation of a cash reserve fund for Fayette Power Project retirement. Reserves would be approved through the budgeting process and targeted to cease operations of Austin's share of the plant beginning in 2022. Retiring Austin's portion of Fayette is contingent upon cash available to pay off debts and other costs associated with retirement while maintaining affordability.
- Austin Energy should study methane emissions associated with gas production and delivery and best practices to prevent methane and hydrocarbon leaks in the gas fields.
- Austin Energy and the City Council should support further regulations in gas fields to prevent leaks and vents of methane because of its severe impacts on climate disruption.
- Conduct an analysis of the community economic development impact of Austin Energy generation facilities and potential replacements.
- Conduct an analysis of the use of water by Austin Energy's generation facilities and its impact on the community.

Local Solar

- Achieve 110 MW of local solar by the end of 2020, including at least 70 MW of customer-sited solar. Achieve 200 MW by the end of 2025, with at least 100 MW to be customer sited.
- Commit to a local solar budget of \$7.5 million per FY 2018 and FY 2019 followed by \$5 million per year for FY 2020 thru FY 2027.
- Study and possibly pilot a utility-managed rooftop solar program that requires no investment from customer participants.
- Commit to enhanced incentives and/or programs for affordable housing projects by FY 2018.
- Reassess the costs and benefits of raising the local solar goals from 200 MW by 2025 to 250 MW by 2025 and to 300 MW by 2027, following the first year of implementation of the commercial value of solar.

Energy Efficiency and Demand Response

- Achieve 800 MWs of energy efficiency and demand response by 2020 and an incremental 100 MW of demand response to achieve a total of at least 900 MW of Demand Side Management (DSM) by 2025.
- Evaluate the Working Group's recommendation to achieve 1,000 MW of energy efficiency by 2027 upon completion of a measurement and verification consultant study, review of standards and technology, and an analysis of budget and progress-to-date. Reset the goal if necessary to reflect proportionate demand reduction savings given any new methodology

implemented.

- Assess the potential to reach a higher goal of 1,100 MW of energy efficiency and demand response by 2027.
- Continue to evaluate the potential for demand response and if viable and cost-effective, increase the demand response goal from 100 MW to 300 MW.
- Commit to accelerate Plug-In Electric Vehicle (PEV) based demand-response capabilities, including modifying the electric vehicle residential charging station rebate program to encourage the deployment of equipment that enables peak shaving for PEV's similar to Austin Energy's existing Power Partners demand-response thermostat program.
- Budget at least 2.5% gross revenues to DSM (recovered in the Community Benefit Charge and base rates) – Austin Energy will work with stakeholders to make future goals 'budget-based,' rather than MW-based, as has been done in the past.
- Commit to achieving a target of at least 1% of energy savings (as compared to energy sales) on an annual basis going forward.
- Commit to directing at least 20% of total DSM budget to existing and potential programs for low-income and hard-to-reach markets in the multifamily and single-family areas along with small businesses. A minimum of 5% of the 20% (one quarter of this allocation or 5% of the total DSM budget) will be dedicated to the low-income weatherization program each year.

Emerging Technology and Energy Storage

- Commit to achieving 30 MW of local thermal storage by 2027, and a minimum of 10 MW of electric storage by 2025. Austin Energy is currently developing 3 MW of electrical storage with the help of a grant from the [DOE SHINES](#) program. Using the lessons learned following completion and implementation of the SHINES project develop a roadmap for implementation of electrical storage to achieve the existing goal of 10 MW of electrical storage by 2025.
- Study the costs, benefits, risks and potential rate impacts of achieving a more aggressive electric storage goal, such as 50 MW of electrical storage by 2027 and of achieving 100 MW of electrical storage by 2027.
- Study the technical and economic feasibility of emerging technologies, including dispatchable renewable energy technologies, battery storage, compressed air energy storage (CAES), aggregated demand response, and Vehicle-to-Grid.
- Continue active participation in the development and deployment of smart grid technologies, and continue with an active and leadership role in the Pecan Street Project and other partnerships.
- Continue work to transform Austin Energy's basic business model to address and integrate increased deployment of distributed energy resources, including distributed energy generation. Among the issues that Austin Energy will address on an on-going basis are unbundled rate structures, service offerings that rely less on volumetric pricing structures, rationalization of fuel charge-related costs, modifications to GreenChoice® product

offerings and products and services demonstrated in the Pecan Street Project Energy Internet Demonstration Project. Work to reflect business model changes and opportunities in upcoming reviews of electric rates.

Electric Vehicles

- Initiate private public partnerships that promote, market, and provide electric vehicle support that will increase utility revenue while reducing air pollution and greenhouse gases. Expand current efforts and, as possible, utilize these vehicles as a valid distributed storage technology.
- Support the City of Austin Fleet Services' electrification plan through:
 - Support the deployment of EV charging infrastructure, including at least 330 new charging stations by 2020 and deployment of at least 8-10 Austin Energy owned and operated DCFast stations by FY 2018; and
 - Transitioning 65 Austin Energy retired internal combustion engine vehicles to new electric vehicles by 2020.
- Support growth of public and private charging station deployments by offering rebates, operational support, outreach, and special public charging rates to include support for low income populations.
- Complete the Austin SHINES project by FY 2019 that includes assessing the value and business case for integrating stationary distributed energy storage. Leverage findings to determine applicability to electric vehicle (EV) batteries. Before the FY 2019 generation plan update, Austin Energy should do an analysis of potential value streams for energy storage that may include demand charge reduction, peak load reduction, energy arbitrage, price responsive opportunities, voltage support, and congestion management and evaluate open standards and business cases that could be applied to a future state of feasible and affordable EV distributed storage. Additionally, identify potential load and storage resulting from aggressive EV development.
- Leverage the residential EV time-of-use rate pilot "EV360" launched in 2017 to develop lessons learned and best practices in FY 2018 for consideration in a wider roll-out of this service.

Process

- Conduct resource plan updates in advance of cost of service studies every five years, unless significant changes in technology or market conditions warrant more frequent updates. Austin Energy will rerun cost analysis for the existing plan and provide an update on progress towards reaching established goals every two years. Reports will be provided to the City Council, the Electric Utility Commission and the Resource Management Commission.
- With the exception of specific items set out elsewhere in this report and commitments already made, this plan does not designate the components of the renewable portfolio. Instead, Austin Energy should plan for least-cost and least-risk acquisition of renewable resources. Austin Energy should propose and develop the optimal renewable portfolio to

meet this plan's goals. The specific investment goals referred to here are for energy efficiency, demand response, local solar and energy storage and the utility's needs given existing generation assets, market conditions and the needs of the utility. Austin Energy should explore both long-term and flexible short-term renewable energy contracts to provide affordable renewable solutions for Austin Energy customers.

- Prior to taking action to acquire a generation resource of 10 MW or more, or an aggregate of 10 MW from a single program, and to the extent practicable and consistent with sound management and financial responsibility, Austin Energy will present such action for approval at least once to each applicable commission and twice to City Council.
- Promote robust community involvement in revisions to the Austin Energy business model.
- Ensure that future resource planning advisory or stakeholder groups include representatives of residential and low-income customer advocacy organizations.

Conclusion

In addition to meeting the goals of the Austin Climate Protection Plan, resource planning at Austin Energy is a continuous Strategic Initiative that supports several Strategic Goals for Austin Energy; including Financial Health, Business Excellence and Environment.

Resource planning also sets high level goals and strategies to manage customer demand. Reducing customer demand, especially during hours where prices are highest has the effect of lowering cost while lessening the environmental footprint of using energy. As a result, these programs allow the utility to maintain strategies that benefit a wide range of customers including vulnerable populations, i.e. low income customers.

The goals in this plan provide a means for Austin Energy to remain the leader amongst its peer utilities in achieving a clean generation portfolio and provides for sound business decisions around the retirement of aging assets in a highly competitive electric market. Austin Energy will continue to strive to strike a balance between both objectives – keeping rates affordable and environmental leadership.