

**EUC August 12, 2019 Agenda Appendix:**

**14 Studies Required by the 2017 Austin Energy Resource, Generation and Climate Protection Plan**

***Renewable Energy***

1. 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.
2. 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.
3. Assess the feasibility of achieving 100% renewable energy by 2035.

***Decker Creek Power Station and Fayette Power Project***

1. 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.
2. Conduct an analysis of the community economic development impact of Austin Energy generation facilities and potential replacements.
3. Conduct an analysis of the use of water by Austin Energy's generation facilities and its impact on the community.

***Local Solar***

1. Study and possibly pilot a utility-managed rooftop solar program that requires no investment from customer participants.
2. 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***

1. 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.
2. Assess the potential to reach a higher goal of 1,100 MW of energy efficiency and demand response by 2027.
3. 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.

***Emerging Technology and Energy Storage***

1. 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.
2. 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.

***Electric Vehicles***

1. 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.