Growth of energy storage resources in the ERCOT region

ERCOT is seeing an increase in the amount of energy storage resources being developed for a variety of grid and customer applications in the ERCOT region.

Currently, 89 MW of utility-scale battery resources, which are a type of energy storage, are registered with ERCOT. Most of the existing battery resources are used for Ancillary Services (operating reserves that are procured to respond to variability in load and/or generation output).

As of December 2018, approximately 2,300 MW of new battery capacity was under study in the ERCOT region. The recent increase in battery interconnection requests may be due to declining battery technology costs and the availability of Investment Tax Credits for qualifying energy storage systems.

Many of the battery projects under development are being co-located with solar facilities since batteries can be deployed when solar power is unavailable or at lower output levels to better match load ramps. Batteries also can effectively store wind power that is produced during off-peak hours.

How batteries can be used in ERCOT

In the future, batteries may be a significant resource type in the ERCOT market. They are a scalable resource that can be installed on the transmission or distribution grid, or at an end-use consumer's property. Batteries also can help improve system reliability since they are fast responding resources that can be strategically located and deployed during peak demand periods.

Batteries can serve multiple functions in ERCOT:

- Provide fast-acting operating capacity that helps balance generation and load
- Can withdraw energy from the grid when prices are low and inject into the grid when prices are high

Customer-focused batteries can serve other functions:

- Allow customers to reduce their peak demand, if the storage device is behind the meter
- Increase reliability at a customer site
- Enable micro-grid capability
- Provide fuel for electric transportation

Government Contact: Rob Orr, rob.orr@ercot.com
Media Contact: Leslie Sopko, leslie.sopko@ercot.com

Unique characteristics of energy storage resources

While energy storage can serve a variety of functions, they are limited duration resources. Whether they are putting energy onto the grid or taking energy off the grid, they can only perform these functions for a certain amount of time, depending on the size of the device. ERCOT staff currently has limited visibility into these resources and is working with energy storage owners and developers to improve how information is shared with ERCOT. The grid operator also will identify changes required in the ERCOT systems to model and use this resource more effectively.

Incorporating energy storage resources into the ERCOT resource mix

ERCOT, the Public Utility Commission of Texas (PUCT) and stakeholders are working to prepare for more energy storage capacity in the ERCOT region. This includes exploring ways to improve ERCOT's market design to better capture the unique features and capabilities of these resources.

The PUCT has a project open to review the use of non-traditional technologies in electric delivery services, and issues concerning electric storage resources are a key focus of this project (Project No. 48023). In the 2019 Report on the Scope of Competition in Electric Markets in Texas report to the Texas Legislature, the PUCT asked the Legislature for clarification surrounding the ownership and deployment of electricity from battery storage devices.

In February 2018, FERC issued Order No. 841, which requires the other Independent System Operators (ISOs) to provide more opportunities for electric storage resources to participate in energy, Ancillary Services and capacity markets. Since ERCOT is not under FERC jurisdiction for wholesale market issues, ERCOT is not obligated to comply with this ruling. However, ERCOT is monitoring the changes being considered and implemented by the other ISOs to help inform its own future processes related to the integration of electric storage resources.

Government Contact: Rob Orr, rob.orr@ercot.com
Media Contact: Leslie Sopko, leslie.sopko@ercot.com

ercot
Your Power. Our Promise.