



CCET Technology Solutions for Wind Integration

Project Description

The Center for Commercialization of Electric Technologies (CCET) is demonstrating new response mechanisms to help integrate large amounts of highly variable wind generation into the ERCOT grid by utilizing better system monitoring capabilities, enhanced operator visualization, and improved load management. Improved load management includes the use of smart grid technologies at Texas facilities: Reese Technology Center in Lubbock, Mueller Development in Austin, the Harmony solar community, north of Houston and residential consumers in the Dallas-Fort Worth and Houston areas.

Goals/Objectives

- Improve grid reliability
- Create a template for an advanced demand-responsive Smart Grid community
- Refine a process for selecting the best location to monitor wind energy transmission
- Test consumer response to different models for pricing home electricity consumption
- Develop a suite of regional-level electric grid monitoring and load management systems for wind power
- Enable consumers to better monitor and manage their energy usage and cost through Smart homes energy management systems

Key Milestones

- Complete final design (September 2011)
- Prepare post-testing analysis results (February 2012)
- Deliver Synchrophasor interoperability reports (October 2013)
- Complete performance analysis (December 2013)
- Smart Grid community demonstration results (November 2014)
- Deliver final technical report (December 2014)

Benefits

- Efficient use of renewable generation
- Fossil fuel emissions reduced
- Lower electricity costs
- Power interruptions reduced



CONTACTS

Donald Geiling

Project Officer
National Energy Technology Laboratory
3610 Collins Ferry Road
Morgantown, WV 26507-0880
304-285-4784
donald.geiling@netl.doe.gov

Milton Holloway

Principal Investigator
Center for Commercialization of Electronic Technologies
114 West 7th Street, suite 1210
Austin, TX 78701
512-472-3800
mholloway@electrictechnologycenter.com

PARTNERS

American Electric Power, Electric Power Group, Oncor, Southwest Research Institute, Frontier Associates, Sharyland Utilities, ERCOT, Golden Spread Electric Coop, Texas Tech University, Pecan Street Inc, CenterPoint, Group NIRE, South Plains Electric Cooperative, TXU Energy

PROJECT DURATION

1/4/2010–1/3/2015

BUDGET

Total Project Value
\$27,075,457

DOE/Non-DOE Share
\$13,516,546/\$13,558,911

EQUIPMENT

Synchrophasors
Smart meters
Batteries
Solar photovoltaic panels
Energy Management Systems
Plug-in Hybrid Electric Vehicles
Home Area Networks
Smart appliances

DEMONSTRATION STATES

Texas

CID: OE0000194

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability

