

CCET Technology Solutions for Wind Integration

Project Description

The Center for Commercialization of Electronic Technologies (CCET) is demonstrating approaches to better manage wind reliability, improve wind generation capacity, and enhance response. This will be achieved through the demonstration of three Smart Grid applications: use of a "Smart Meter Texas" control portal to help match intermittent large-scale wind generation to load; deployment of synchrophasor technology to improve grid reliability; and a state-of-the-art Smart Grid community with the latest high-efficiency construction, smart demand response appliances, energy storage, and distributed generation Smart Grid technologies. The 1,150-acre Smart Grid community will be located at Discovery at Spring Trails, north of Houston.

Goals/Objectives

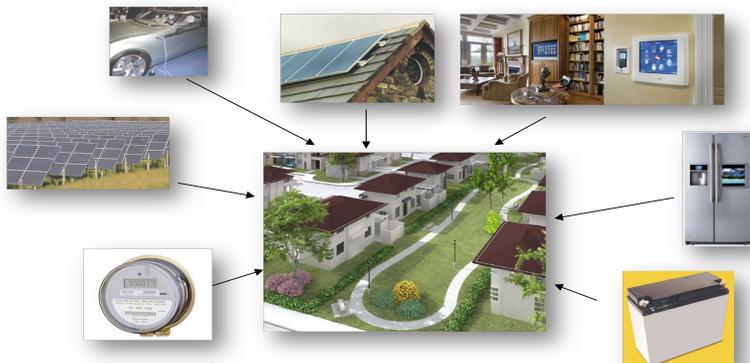
- Improve grid reliability
- Create a template for an advanced demand-responsive Smart Grid community
- Refine a process for selecting the best location to monitor wind energy transmission
- Develop a suite of regional-level electric grid monitoring and load management systems for wind power
- Enable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

Key Milestones

- Complete final design (May 2011)
- Produce testing documentation (November 2011)
- Complete performance analysis (December 2013)
- Smart Grid community demonstration results (November 2014)
- Synchrophasor results (November 2014)

Benefits

- Green home construction and Smart appliances promoted
- Fossil fuel emissions reduced
- Lower electricity costs
- Power interruptions reduced



CONTACTS

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PARTNERS

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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
- Solar panels
- Batteries
- Electric vehicles
- Smart appliances
- Home energy monitoring
- Smart meters

DEMONSTRATION STATES

Texas
CID: OE0000194

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





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American Recovery and Reinvestment Act
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Smart Grid Demonstration Program

