

CenterPoint Energy Smart Grid Grant Facts

Smart Grid Application Summary

In October 2009, CenterPoint Energy, Inc.'s electric distribution and transmission subsidiary, Houston Electric, LLC, was selected by the Department of Energy to receive a \$200 million "large project" grant to accelerate the completion of deployment of more than two million smart meters by almost two years to mid 2012 as part of its Advanced Metering System (AMS) and to install the first phase of its grid strengthening and automation project called the Intelligent Grid (IG).

Increasing the reliability and self-healing capability of the company's grid is a national objective because a significant portion of the nation's critical energy and petrochemical infrastructure is located in the company's hurricane-susceptible service area. Additionally, until our AMS is fully deployed, the 30 or more active Retail Electric Providers serving consumers in the company's deregulated electric distribution service territory may be hesitant to offer a full set of dynamic pricing options. However, the expected array of dynamic pricing and additional pricing programs that could be available in the company's service area in the future should provide benefits in a competitive market.

Fully completed, CenterPoint Energy's Smart Grid will serve as a leading example of an integrated, cyber-secure, scalable, and replicable Smart Grid. And the company will expand and use its Energy InSight technology center to test various Smart Grid components, to further evaluate security of new technologies, and to educate consumers, vendors and other key stakeholders about the benefits of Smart Grid Technology.

How much grant money was awarded for this project?

- CenterPoint Energy is one of six utilities to be awarded the maximum grant money that is available for any large project: \$200 million.

How much will it cost?

- The total cost of the AMS and IG projects between 2010 and 2012 is approximately \$640 million.
- The total cost of AMS implementation between 2010 and 2012 is approximately \$540 million, which has already been approved by the Public Utility Commission of Texas (PUCT).
- The total cost of Phase 1 of the IG implementation is approximately \$100 million, \$50 million of which will be funded by the DOE grant.

How will the grant money be used?

- \$150 million of the requested \$200 million will be used to accelerate the completion of our advanced meter deployment to mid-year 2012 from the original completion date of first quarter 2014. The remaining \$50 million will be used to implement the first phase of the IG system.
- The company has committed to pay approximately \$440 million or 69%.

Smart Grid Team

CenterPoint Energy's Smart Grid alliance includes **IBM, GE, Itron, eMeter, ABB, and Quanta Services**. These team members have subject matter expertise, first-hand knowledge of CenterPoint Energy's system, and the electric industry, and proficiency in the Texas electricity market.

CenterPoint Energy anticipates the Smart Grid grant will:

- **Improve electricity reliability for the hurricane-susceptible Gulf Coast Region** – Because the company's service territory is located in the heart of "Hurricane Alley," it is vital to equip its grid with Smart Grid functions that allow it to be more resilient, more reliable, and quickly restored in the event of outages. In the aftermath of Hurricane Ike in 2008, the Mayor of Houston formed a task force to study the massive electric outages caused by damage to the company's distribution grid.
- **Provide reliable power for components of the nation's critical energy and chemical infrastructure** – The area where the company will initially implement its IG encompasses much of Houston's critical infrastructure, including the Texas Medical Center, large central business districts, four universities, the Port of Houston, Houston's 911 call and emergency centers, Harris County Transit Control Center, and other critical and essential facilities.

The Smart Grid can reduce the societal costs associated with power interruptions. When outages do occur, CenterPoint Energy's IG can reduce their duration. Substation and distribution line monitoring equipment will be able to accurately locate permanent faults as they occur. This in turn will speed recovery since the repair crews will not be required to search for the location of an outage and can begin repairs much sooner. The self-healing functionality of IG will also reduce costs because the Advanced Distribution Management System will be able to analyze data from the substation and line monitors and then develop recommendations or switching commands



to isolate the faulted section of line and reroute the consumers on undamaged sections back into service within seconds or minutes.

It is estimated that areas completed with full Smart Grid functionality will improve reliability by up to 30%.

- Aid in the implementation of a Smart Grid in a uniquely competitive retail electricity market** – There is a flourishing competitive market in CenterPoint Energy’s service territory where end-use consumers may purchase electricity from any one of the Retail Electric Providers on the Power to Choose PUCT website. In this competitive environment, smart meter functions, such as the availability of dynamic pricing, is expected to have positive effects on electricity pricing and consumer choice.

- Leverage a shovel-ready project that allows for rapid deployment of Smart Grid technology and job creation** – Implementation of CenterPoint Energy’s AMS and IG can provide over two million metered, end-users who consume about 15% of the electric power used in the state of Texas, with critical smart meter functions. Additionally, IG deployment can allow 530,000 Houston residents and certain businesses, commercial enterprises, and industries to receive the full span of Smart Grid functions through the company’s initial IG deployment.

Since March 2009, the company has already installed over 700,000 smart meters, along with supporting communications infrastructure and computer systems.

- Increase job creation and retention** – Accelerating the implementation of CenterPoint Energy’s Smart Grid can create and retain thousands of new jobs across the nation over the next five-to-seven years. To date, over 500 jobs have been created to support AMS and IG-related projects.

- Give unparalleled ability to extend Smart Grid technology to others** – CenterPoint Energy’s advanced preparedness, scalable and replicable Smart Grid design, and its demonstration and testing facilities afford the company a unique opportunity to extend its knowledge, experience, and technologies to a broader set of locations and applications throughout the country.

CenterPoint Energy currently operates the Energy InSight technology center for demonstrating how the Smart Grid works. The technology center provides a tactile consumer experience with simulated consumer-oriented portals to show the value Smart Grid offers in customer information and self-service. To date, CenterPoint Energy has provided education and Smart Grid demonstrations to more than 500 groups, including governmental officials, utilities, industry representatives from around the world and area consumers.

Benefits of AMS and IG

- AMS** – After full deployment of over two million meters and a projected 20-40 percent of CenterPoint Energy consumers taking advantage of REP offerings of dynamic pricing, the company expects the total benefits from its full AMS implementation to be in excess of \$1 billion per year in Houston and throughout ERCOT.
- IG** – The significant benefits of IG technology will flow from increased electricity reliability and the ability to rapidly restore power following outages. The monetary benefits of such increased reliability are certain to be significant, especially considering the critical energy infrastructure within the greater Houston area. For example, more than \$1 billion was lost recently when the Houston Ship Channel experienced outages for three days.