

# Electric 101: Smart Grid Technology

## What You Need to Know

- Time and again, smart meters (or advanced meters) have been proven to be **SAFE, RELIABLE, ACCURATE AND TECHNOLOGICALLY SECURE**.
- Smart meter systems **PROTECT CONSUMER DATA** while **EMITTING VERY LITTLE IN RADIO FREQUENCY**.
- Based on advances in power electronics and digital communications, smart grid technology provides the means to **IMPROVE ELECTRIC RELIABILITY AND POWER RESTORATION**. Demand response, energy storage and many other grid management tools rely on smart grid technology to optimize their effectiveness.
- Smart meters provide more frequent and detailed information on their electricity use to **ENCOURAGE CUSTOMERS TO SAVE ENERGY AND MONEY**.

## A Smart Grid Rundown

- Utilities have installed **more than six million advanced meters** within the ERCOT region.
- In March 2012, ERCOT implemented its new Transient Stability Analysis Tool, which helps manage the flow of electricity across the state in real time. This smart grid technology **helps ERCOT to use more of the state's wind generation more effectively**.

## The Issues Today

- The radio technology used by digital meters is similar to that used in a variety of common household devices. Exposure to RF emissions from digital meters is considerably less than that from cell phones, microwave ovens, and laptop computer for example.
- Investment in Texas' smart grid benefits consumers, businesses, industries, energy companies, the economy and the environment. This has potential long-term benefits of reduced electricity—as well as cost savings for customers.
- Smart grid projects create and retain jobs from the manufacture, installation, and maintenance of meters; to the construction and maintenance of communications infrastructure; to computer hardware and software; to business analysis.

## The Benefits

- More efficient, reliable service
- More consumer privacy
- Faster outage response
- New retail products and services
- More usage data to help consumers save energy
- Faster switching when choosing a new REP
- Economic and job growth
- Reduced fuel use and CO<sub>2</sub> emissions from utility trucks
- Better use of renewable energy
- More efficient dispatch of power throughout ERCOT



*A smart meter eliminates the need for a "meter reader".*