

# Vermont SMARTgrid: Protecting Customer Privacy

## What is “smart grid”?

“Smart grid” is an upgraded electric system that uses fiber optic cable and digital technology to relay information back and forth between customer meters and the utility, and between the utility and various components of the electric grid. When fully operational, smart grid will provide a more reliable electric system, with the ability to more easily incorporate renewable energy sources and to offer customers innovative rate options and other tools to better manage their electric use. For individual customers, the link to smart grid is a “smart meter.”

## Why do we need a smart grid?

The electric power grid has been a primary driver of the economy for more than a century. It contributes incalculably to the comfort, security and safety of everyday life. However, the demands of the digital age, the cost of energy, population growth, and concerns about the environment, reliability and security are increasing requirements from the electric system. By updating this critical infrastructure, and offering new rate choices for customers, the smart grid will provide new tools to improve reliability, increase security and balance the increasing demands of the electricity system.

## What is a “smart meter?”

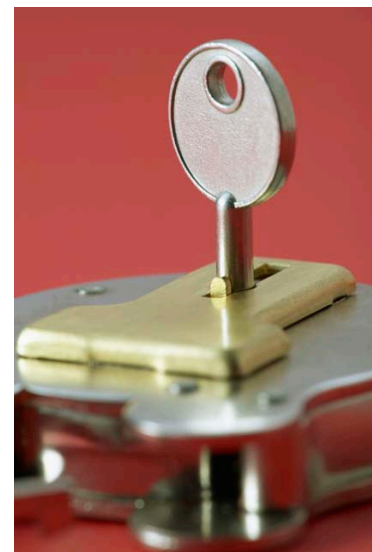
A smart meter is a new digital meter that will be installed at each business and residence. The smart grid will automatically read your meter, and use radio frequencies to wirelessly communicate between your home and your utility several times an hour. This information will help your utility operate the grid safely and reliably, especially when customer demands are high. Your new meter will immediately tell your utility if your power goes out.

Smart meters will also provide you with far more information about your energy consumption, which can help you make choices how to use electricity that can save you money

## Will the information collected and transmitted by my smart meter be secure?

Yes. Protecting customer information is a top priority, and utilities adhere to industry best practices and regulatory guidelines concerning privacy. As smart meters are installed, rules that govern the customer-utility relationship will continue to provide consumer protections. As new privacy and data security issues are raised by emerging technology, federal and state regulators, consumer organizations and utilities will actively

identify and support solutions. Smart grid security is very similar to keeping other important digital functions secure, such as electronic voting systems, online banking and ATMs, personal information on cellphones and laptops, and the Internet and phone company networks.



## Will smart meters tell utilities what appliances I’m using and when?

The information collected by a smart meter relates your overall electric consumption, not what appliances are using the electricity. Options to track appliance usage in more detail will belong to the consumer, not the utility. Smart meters do not give utilities the ability to monitor or control how you use power in your home. For years, some utilities have

offered optional rates on water heating where the hours of water heater operation are limited in exchange for a lower price in the off hours. The smart grid will expand the ability to offer optional programs like these for the management of large loads like water heating, pool pumps and other significant power uses, but these programs remain optional.

### **How is the issue of consumer privacy being addressed in the development of smart grid across the country?**

**The National Institute of Standards and Technology** (NIST), part of the U.S. Department of Commerce, created a Cyber Security Working Group, a public-private partnership made up of more than 475 participants, including manufacturers, various standards organizations, academia, regulatory organizations, and federal agencies. In 2010, this group produced the three-volume *Guidelines for Smart Grid Cyber Security* to provide a framework for developing effective privacy and cyber security strategies.

**The Electronic Privacy Information Center** (EPIC) is a public interest research center in Washington, D.C., that was established in 1994 to focus public attention on emerging civil liberties issues and to protect privacy, the First Amendment, and constitutional values.

The **Department of Energy** (DOE) released two reports on important policy issues raised by Smart Grid technologies that can promote innovation, cut costs for consumers, and modernize our electrical grid.

- The first, *Data Access and Privacy Issues Related to Smart Grid Technologies*, focuses on how legal and regulatory regimes are evolving to protect consumer privacy and choice while promoting the growth of innovative energy-management services and technologies that rely on detailed energy-usage data. It found there is considerable consensus that flexibility and consumer education will be critical to the successful adoption and deployment of Smart Grid technologies like advanced metering.
- The second, *Informing Federal Smart Grid Policy: The Communications Requirements of Electric Utilities*, examines how the communications needs of utilities and the electrical grid are likely to evolve as Smart Grid technologies become more widely used. This report recommends that to improve overall coordination, utilities, and other Smart Grid constituents should be represented on key federal industry committees that address communications- and network-related security and reliability issues.

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For more information: <http://www.velco.com/smartgrid> or <http://www.sqiclearinghouse.org/>