

Vermont SMARTgrid: Frequently Asked Question

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 the customer 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 incorporate renewable energy sources and to offer customers tools to manage their electric use.

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 from 1950s technology to 21st century technology the smart grid will help meet these increasing demands.

What is the eEnergy Vermont smart grid project?

eEnergy Vermont is a collaborative of utilities, regulators and other interested parties working to improve the electric grid. For several years, Vermont’s utilities have been moving forward with smart grid system improvements, planning and, in some cases, installing new smart meters where analysis showed these changes were cost-effective and beneficial. Federal Recovery Act stimulus funding for a statewide smart grid has accelerated the pace at which improvements are possible for Vermont. The ARRA grant will result in smart grid components being integrated into Vermont’s electric system over the next three years.

How can a smart grid benefit the environment?

A smart grid will better accommodate all electric generation and energy storage options, increasing the potential for the development of wind, solar and other renewable projects.

By enabling reductions in peak electric demand, Vermont will be able to reduce carbon emissions, and may avoid or defer the need for construction of some generation and transmission. Customers will have real time information about their energy use and will have new tools to manage and reduce their energy consumption during these peak times.



What will smart grid mean for Vermont electric customers?

When fully operational, smart grid will use fiber optic cable and digital technology to relay information back and forth between the customer and the utility, and between the utility and various components of the electric grid. This will include information about voltage, existing or potential outages, equipment performance, electric demand and usage.

The result will be an electric system that is more reliable, better equipped to incorporate renewable energy sources, and is able to offer customers tools to make choices about how and when to use electricity and different rate options.

Will customers need to contact their utility company to report service outages?

Customers should continue to contact their utility company to report outages and make the utility aware of dangerous conditions such as fallen trees and power lines. The information provided by customers combined with that of the smart grid will allow the utility to more effectively respond to service outages. The smart grid

will also help the utility verify power restoration and reduce phone calls to customers for this verification.

Will smart grid reduce outages?

A smart grid, when fully implemented, can reduce and shorten outages in three ways. First, grid improvements will help protect against the kind of widespread outages that the eastern U.S. experienced in 2003, which have a massive societal cost. Second, smart grid will tell utilities when and where outages occur, enabling more effective and efficient restoration of storm-related and other extensive outages. Third, in some cases, managing the grid digitally will allow utilities to re-route power to minimize the number of customers affected by a problem on the system.

Will smart grid give utility companies control of customers' electric use?

No. Smart grid will give customers choices about their usage that they themselves control. This may include customer choices of plans in which the price of power is lower in the evening and higher during times of peak power demands. Customers may also have access to in-home or web-based information displays that allow them to better manage their own usage. And utilities may offer customers the choice of discounts for allowing automatic reductions in large loads like air conditioning at times of peak electric demand, but these would be voluntary. Currently, many commercial customers have these choices, but most residential customers do not.

Will customers' privacy be protected?

Individual customer usage information will continue to be treated as confidential and will not be shared without customer permission. Longstanding consumer protection rules and privacy regulations will continue to govern the customer-utility relationship and guard the privacy of customer information from misuse or disclosure.

How will customers' bills be impacted by smart grid?

The federal smart grid grant will defray half the cost of modernizing the electrical grid during this three-year period. In addition, automated meter reading will help control utility operating costs.

While electric rates are unlikely to go down, smart grid will provide tools for Vermont consumers to better control their electric usage and bills and for Vermont utilities to control costs.

When fully implemented, smart grid will enable utilities to offer rates and services that help shift the state's peak power use to times of day when costs are lower, creating savings that utilities can pass along to consumers going forward.

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