SIERRA CLUB **IOWA CHAPTER**

Iowa's Energy Future: Understanding the Smart Grid

What is the Smart Grid?

The smart grid consists of technologies added to the existing electrical grid that allow for sensing failures of the grid or overloads, that allow the customer to view the current price of electricity and that allow the power company to selectively cycle off customer appliances and other equipment when the peak usage load approaches.

Benefits

When utilities install sensors and communications devices into the grid, the sensors can detect power outages and can alert the central office so that repair personnel can begin the repair work. In some cases the repair work can be undertaken much more quickly than relying on the public to make phone calls to report the outages. Additionally, in some cases, the repair work can be accomplished remotely or can be self-correcting. The utilities can use information about the functioning of the grid to provide better service to its customers.

Photo by Bill Eager, National Renewable Energy Laboratory

In cases where customers pay varying rates for electricity based on peak demand, the smart grid would provide customers information so that the customers can delay electricity use when the rates are high and migrate that use to times when the rates are lower. This helps customers lower their energy costs.

Additionally, smart thermostats and smart appliances are able to detect when electricity demand and costs are high and then are able to cycle off for periods of time in order to reduce overall demand for electricity.

When customers move their energy use to off-peak times, utilities have less need to build power plants to meet peak demand. The overall effect is lower electricity costs to its consumers.

The smart grid readily allows for integration of small- and large-scale renewable energy sources that provide variable amounts of electricity to the grid.

The smart grid allows for automatic reading of the meters from a central location, as opposed to individually reading meters or reading them from a car driving near the building.

Concerns about the Smart Grid

Some people believe they are very sensitive to electromagnetic radiation and radio frequency waves. They are very concerned about the installation of the components of the smart grid in their homes. However, manufacturers state that smart grid components do not affect the health of people who have a smart meter installed on their home.

Some folks do not want the power company to have detailed usage information nor do they want the power company to control the operation of appliances in their homes.

Because of these concerns, the Iowa Chapter supports an opt-out alternative so that homeowners are not forced to install smart grid technology in their homes.

Policy

The Iowa Chapter supports implementation of the smart grid throughout the state.

At the same time, the Chapter supports an opt-out alternative for those who do not want to participate in having a smart meter installed on their home.

The Chapter supports the funding of studies to determine the side-effects of smart grid technology on sensitive populations and what tactics need to be taken to reduce the risks.

Photo by Pam Mackey-Taylor

Sources

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