'Smart grid' would save energy, cut costs for US consumers

EurekAlert

Momentum is building for a new energy "smart grid" that would overhaul the U.S.'s 100-year-old electrical power network. The impact would be huge —— from installation of a new web of electrical transmission lines to smart meters to control home appliances. The meters would offer consumers discounted rates if they use electricity at off-peak hours. A key objective of the $1.5 trillion dollar plan is "time of use" electricity pricing that would increase the cost to consumers of energy at peak mid-day hours and lower it at others, according to an article in the current edition of Chemical & Engineering News (C&EN), ACS' weekly newsmagazine.

C&EN Senior Correspondent Jeff Johnson reports that the smart grid revolution is getting underway right now in various degrees at U.S. utilities. The federal government also is involved. The U.S. Department of Energy allocated $4.5 billion in American Recovery & Reinvestment Act of 2009 funds for smart grid R&D. It includes installation of smart-grid sensors, monitors, and other equipment, including millions of smart meters for customers.

One part of the plan involves installation of home energy management systems that enable appliances to directly communicate with the grid about energy needs through the smart meter. Last month, GE rolled out what it described as the first complete home management system, linking hot water heaters, refrigerators, thermostats, and other appliances through a home computer and wireless connection to the smart meter and grid. The system will give consumers the opportunity to control energy use and use electricity when it is cheap and plentiful, and helping electric utility companies make better use of current power generating capacity and avoid building new power plants.

SOURCE [1]

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