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How Social Media Will Make the Smart Energy Grid More Efficient

1 hour ago by *Chikodi Chima*
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Chikodi Chima is a multimedia journalist and occasional globetrotter whose work has appeared in Fast Company, VentureBeat, GigaOm, Shareable, The Philadelphia Weekly and The New York Press. Based in San Francisco, he's currently working on *The Future Journalism Project,* a documentary about disruption of legacy media at the hands of emerging technologies.

While Facebook may be the social media platform to beat, there's an even more powerful social networking force that promises to be in all American homes one day. A growing number of startups are applying the principles of social networking to home energy management, and bringing social media to the smart grid. In the process, they are revolutionizing people's understanding of their energy use, building successful companies and helping to lessen the impact of each individual on the environment.

What is The Smart Grid?

The smart grid refers to the overlay of digital communications technology on our existing electrical infrastructure. It lets houses and utilities to "talk" to each other through web-enabled energy meters and appliances. Connected devices such as refrigerators, air conditioners or TVs broadcast data about their energy consumption over a secure network and, when necessary, electrical utilities can remotely shut them off to avoid overloading the grid and causing rolling blackouts. The smart grid promises to deliver cost savings, environmental benefits and transform the way customers interact with electrical utilities. Because social networking is built upon interaction and communication, social media and the smart grid are a natural fit; think of it as the "Gridbook."

"What's so fascinating about smart grid is that there is so much that can cascade off of that," said David Leeds, senior research manager at Greentech Media. "I think there are profound opportunities to use less

energy and achieve the same quality of living, and I think the social media platform will prove to be really beneficial in those efforts." It was Leeds who used the term "Gridbook" to describe this mashup of social media and smart utilities.

What Does a Social Smart Grid Look Like?

Arlington, VA-based OPower, which has more than 2 million nationwide customers, is the industry leader in combining social media communication methods with smart grid technology. Its energy monitoring services run on desktop computers and smart phones, and help customers to collaboratively save money on their energy bill each month. OPower creates a demographic profile based on energy consumption data from its smart meters, and groups similar households into communities. OPower then allows these groups to compare their energy usage against each other and compete head-to-head to see who can reduce energy consumption the most.

"All you need are a few enthusiasts to create momentum — we've never seen consumers drive action like they have using social media," said OPower cofounder and CEO Dan Yates in an e-mail.

Yates said that OPower research has shown time and again that when people hear from their friends and peers about how to be more energy efficient, the adoption rate is much higher. Online communities are a very valuable way to share this information.

"Beyond simply talking with one another, consumers want to be involved in creating ideas," said Yates. "Online communities, and the content generated by their users, are key to the success of our platform. It allows us to use the information generated by the 5% of very engaged and enthusiastic customers, and share it to benefit the other 95%."

In November, OPower announced that they had raised $50 million from a group of investment funds including Kleiner Perkins Caulfield & Byers, whose portfolio includes investments in Zynga and Google.

The Benefits

The lessons learned by OPower and others will be essential in creating sweeping changes as the smart grid grows to maturity. Across the United States, an estimated 60 million smart meters are expected to be installed in the near future. However, full deployment of smart grid technology will cost 8 to $10 Billion over the next 20 years, says Dr. Massoud Amin, known as "the father of the smart grid."

At a cost of roughly $170 Billion, Amin says that a fully realized smart grid will save Americans $49 Billion annually from power outages, and increase overall efficiency by 12 to 18% per year. "This is a benefit to society

that transfers to overall benefit to the individual, and reduced cost of disruption in the system," says Amin. At the University of Minnesota, Amin is the director of the Technological Leadership Institute, and has been researching the smart grid since 1998.

Even if there are benefits to society and the planet, the value of the smart grid and social media is that it taps into one of the most basic human impulses; competition.

People like to feel like they're winning, says Eric Dresselhuys, executive vice president at Silver Spring Networks. Silver Spring is an OPower rival that has created a customizable online interface for electric utilities to connect with their customers, and connect customers to each other. Think of it as Mint.com for home energy use, both in terms of its appearance, and the ability to manage and modify behavior through a web or smartphone application. With the potential to track monthly energy use and compare information with friends and neighbors, Silver Spring's solution, like OPower, has aspects of a social game that are helping to supercharge the adoption.

"Consumers say, 'I wanna win, I wanna know that I'm doing good,'" says Dresselhuys. "Today, I don't know if I'm winning or not. I might be the biggest loser on my block, or I might be 10 times more efficient than anybody else. I don't have any context to understand how what I do compares."

Not only can this technology help consumers win in a head-to-head competition, but a social metering approach teaches people about the real impacts of their daily behaviors. When people have more information at their disposal, they are more likely to make smart decisions, and they can confidently share this knowledge.

"You probably have a pretty good idea how many miles per gallon you get in your car. You probably don't have any idea how much value a kilowatt hour of electricity delivers for you," says Dresselhuys. "If you're most people, you don't even know what a kilowatt hour is … The whole energy experience has been a little of a black box."

Social Media Can Improve Energy Efficiency Right Now

Silver Spring, OPower and competitors such as Tendril and eMeter are all built around the premise that smart meters and social media can help customers save on their electricity bills. But there are even more ways that online communities can change energy consumption habits without all the fancy equipment.

Chosen as the "Best Idea for the Millennial" in the GE Ecomagination Challenge, startup Welectricity works when users plug information from their monthly energy bills into the site's graphing tool. Welectricity then creates a readout of consumption habits matched against different types of appliances found in the home, generates stats and charts on usage trends, and offers suggestions on how to cut power bills. Welectricity also makes it easy for users to include their friends in the process through their online portal.

Founder Herbert Samuel says that Welectricity can save energy in two ways: the service helps people cut their power consumption, and no new energy meters need to be manufactured or shipped in order for people to get started. Currently, Welectricity has users in 66 countries, with more coming online all the time.

Earth Aid, a company with a similar goal of helping households track, reduce and compare their energy usage, all without the need of new equipment or meters, just received $4 million in Series A funding.

The Future

In the future, expect the smart grid to get a lot more social, with startups figuring out ways to use ubiquitous social networking platforms such as Facebook and Twitter, while still addressing privacy and security concerns. Rochester, NY-based Tenrehte is the maker of the Picowatt smart plug, a device that monitors the energy use of an individual device and relays that information over a Wi-Fi signal. What's truly unique about these talking plugs is that they allow users to control appliances through a Facebook application.

"When we have convergence of social media with the actual use and deployment of the technology, that's when you're really going to see movement," said Tenrehte founder Jennifer Indovina. "We're just not there yet." Indovina cites issues of grid security and operating standards as two the key limiting factors, but don't expect this to be the case forever.

And although they've been relatively quiet to date, some the tech world's largest companies have also gotten into the home energy monitoring space. Microsoft launched its Hohm initiative in 2009, and Google has a home energy monitoring device called the TED 5000, an acronym for "The Energy Detective." Apple filed patent applications for "Intelligent Power Monitoring" and another for the "Intelligent Power-enabled Communications Port" in May of 2009, pointing toward its own entry into the smart metering game. Whatever form ends up on top, expect the social concept to be at the heart of any new initiatives.

The latest figures show that 77.3% of Americans have access to the Internet, but 99.9% of Americans have electricity. As the smart grid continues to reach more American homes, it truly will form a nationwide social network unlike anything ever seen.

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Harry

www.Livecage.com was the first social media website that helped the smart grid

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mobilemaven

Great article. While we are still a ways off from realizing the true smart grid potential this commentary reminds us of what's possible. Today, Nexius' CEO Ned Taleb released a similar blog post on how smart grid is heating up for operators as well. Check it out on the Nexius blog:
http://www.nexius.com/blog

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