

Niche Hills

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News

The Sisterhood of Motherhood 2010 HOT MAMAS!

Mansion on Lake Overholser
Symphony Show House

Earth Angels
Green Bambino Blossoms

POWER TO THE PEOPLE!

By Mary Ellen Ternes and Christian Szlichta



If you've been following discussions about developing energy issues, you've probably heard a lot of unfamiliar references like smart meters, net metering, bulk energy storage and deep energy efficiency retrofits – new terms about a new emphasis and approach to energy efficiency, implemented by utilities and cooperatives with the end customer (you!) in mind. This area is truly exploding with new ideas.

The general idea is to keep the lights on more efficiently without disrupting our normal lives. But before moving forward, we first need to know where we are. Right now, the most common method for power generation and distribution here in the U.S. is a centrally located power plant that burns fossil fuels – either coal, which boils water into steam that spins

turbines to generate electricity, or natural gas, which skips the steam and turns the turbines directly (and sometimes recovers heat to generate steam). In either case, the electricity is then distributed through thousands of miles of connected transmission lines, often called the power grid.

Our large power plants, which are few and far between, are designed to meet customers' baseload capacity, or the power demand each day. However, in Oklahoma, we also have several smaller power plants solely dedicated to generating electricity during "peak load" hours, periods of additional power demands placed on the system in the morning when people are headed off to work, in the evening when they get home and also during the hottest parts of summer days.

Peak energy is one of the key reasons why energy efficiency is such a hot topic, and an important one at that. Knowing how to best predict and meet peak energy spikes in demand is difficult for utilities, despite lots of investment in study and expertise, and energy produced during these times of peak demand is much more expensive than baseload energy – and no consumer wants that.

So how can we keep the prices down and generate and use energy more efficiently, without making sacrifices? Well, back to those strange words we mentioned above: smart meters, net metering, bulk energy storage and deep energy efficiency retrofits.

Let's start with smart meters. While our current electricity meters track how much power we use, and are read by the utility company so they can bill us for our power use, smart meters actually provide power pricing information to the customer, so we can see when power is cheapest to use. That means you could actually choose when you'd like to run a load of dishes or dry clothes, and maybe save some money! The utility can also "read" your smart meter without having to travel to your house. There are a lot of ideas for incorporating smart meters further into home energy use, including futuristic possibilities like using your cell phone to control your thermostat, or using your Wii remote to turn off the light your kids left on upstairs. Right now, Oklahoma utilities are installing smart meters in various communities and testing their productivity and efficiencies. We'll soon hear about the results!

Net metering allows customers to generate their own electricity as well as use the utility's power, and means that the meter, in theory, can run forward and backward. It tracks energy you take from the utility, but it also tracks the excess energy you generate and put back on the grid, so the power you pay for is just that power you use over and above the power you generate. This makes a lot of sense for customers who choose to generate power from solar panels or small wind turbines. Each utility handles net metering differently, and the Oklahoma Corporation Commission is currently

working with local utilities to review net metering and explore new ways to improve this concept.

Another way to even out demand and be more efficient is to store electricity we've already produced. We call this concept bulk energy storage. Unfortunately, while we're good at generating electricity, so far we're really not good at storing it. Some of the ideas being researched include methods of storing energy at individual homes, in a central home battery or even in a car battery.

Finally, new energy efficient residential and commercial building designs, and "deep energy efficiency retrofits" for existing buildings, are ideas that are really taking off. These power-saving (and money-saving) methods include much improved insulation, passive solar construction, use of thermal mass, geothermal heating, solar power panels and natural lighting, in addition to more energy efficient appliances.

Overall, the goal for the future is to generate and use the energy we need more efficiently, through education and access to information, without sacrificing our lifestyles. Greater efficiency means greater savings, and the more we know, the more we can save. Power to the people! ■

BE INFORMED

For great resources on power generally, see the Electric Power Resource Institute's website at my.epri.com

For the U.S. EPA's and the U.S. DOE's National Action Plan for Energy Efficiency, see www.epa.gov/RDEE/energy-programs/napee

For the U.S. DOE's energy efficiency resources, visit www.energy.gov

For a look at the Oklahoma Corporation Commission's proposed rulemaking regarding net metering, see www.occeweb.com/Divisions/GC/proprule.htm

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