

# Electric co-ops are grappling with a changing energy future

BY SCOTT GATES



Looming regulations make carbon dioxide-mitigation research a priority for fossil fuel-fired power plants. In one test, Tri-State Generation and Transmission Association, a generation and transmission cooperative that supplies wholesale power to 44 local electric co-ops in four western states, is converting its 245-megawatt, coal-fired power plant into a hybrid plant. The Escalante Generating Station in Prewitt, N.M., will utilize solar thermal technology – mirrors that reflect sunlight to heat a liquid and create steam – to scale back the burning of coal when possible.

The hybrid plant will work like this: On a hot summer afternoon, when the sun is scorching, air conditioners are on full blast and electricity demand is peaking, solar generation will switch on so less coal needs to be burned. When the sun goes down and the flow of solar power begins to drop, the coal generation side of the plant will step up to keep the electrons flowing.

Photo: Tri-State Generation and Transmission Association

For decades, electric utilities across the country have relied on fossil fuels – burning coal and natural gas to create steam, spin turbines and generate electricity. While fossil fuels remain the most cost-effective way to create massive amounts of electricity today, this may not be the case in the future.

Looming government regulations targeting climate change and carbon dioxide will add to the costs of operating fossil fuel-fired power plants. As the cost of generating electricity goes up, the cost to consumers inevitably will rise with it. As a result, electric cooperatives, along with other electric utilities, have launched several initiatives to limit carbon emissions while keeping electricity flowing and your electric bill affordable.

## Unelected bureaucrats now are setting energy policy

Last December, the U.S. Environmental Protection Agency – EPA –

declared that six greenhouse gases, including carbon dioxide, are “endangering the public health and welfare” of current and future generations. The action comes in response to a 2007 U.S. Supreme Court decision (*Massachusetts v. EPA*) that opened the door to regulation of greenhouse gases under the federal Clean Air Act that became law in 1970.

“The Clean Air Act as written was never designed to deal with carbon dioxide, and it could be awkward at best and probably a disaster at worst,” warns Glenn English, CEO of the National Rural Electric Cooperative Association.

In addition to potential carbon regulation from EPA, Congress is mulling over its own set of regulations, and English urges electric co-op members to continue to ask that any resulting legislation be fair, affordable and technologically achievable. (See box on next page.) If passed, congressional

legislation also should preempt the use of any other existing laws – such as the Clean Air Act – to avoid a regulatory disaster that would add to utility costs for consumers.

“Regulation of carbon dioxide as a pollutant will occur with or without congressional input,” explains English. “But Congress must not simply add new legislation on top of old regulations. Any climate change bill should become the roadmap – the single strategy – for reducing carbon dioxide emissions at federal, state and local levels. By staying engaged in the process, electric co-ops and their members can have a measureable impact on the outcome in order to keep electric bills affordable.”

## A big commitment to energy efficiency will be necessary

Once regulations are in place – whether under the Clean Air Act or from Congress – electric co-ops will be

faced with the daunting task of meeting our nation's growing electricity demands while finding cleaner ways to burn fossil fuels. Since coal, natural gas and other fossil fuels currently account for more than 70 percent of all electricity generated in the United States, new technology will be key to keeping the lights on.

Electric co-ops, as they have done for decades, are focusing on technology-driven solutions for energy efficiency. Simply using electricity more efficiently in residential, commercial and industrial sectors could lead to total energy savings of 236 billion



**The Geographic Information System is a smart-grid technology that maps grid components on the ground using real-world GPS coordinates. This co-op employee is using a laptop to access location data, so he quickly will be able to travel to a specific area that needs maintenance.**

kilowatt-hours by 2030, according to the Electric Power Research Institute, a nonprofit, utility-sponsored consortium whose members include electric co-ops. That's a lot of power – 14 times the amount of electricity used in a year by New York City!

A more efficient electric grid – often called a **smart grid** – could provide co-ops with a big payoff. More than 50 co-ops and public power districts in 15 states recently received U.S. Department of Energy smart-grid investment grants that are part of the American Recovery and Reinvestment Act of 2009. The not-for-profit utilities are receiving more than \$215 million of the \$3.4 billion total awarded, amounts they will match with their own funds.

Electric co-ops are well positioned to advance the implementation of a smart grid. Cooperatives' use of smart electric meters, for example, jumped from 3.8 percent in 2006 to 16.4 percent in 2008 – well above the industry as a whole, according to the Federal Energy Regulatory Commission. The technology includes devices and software applications that enable two-way communications with smart meters and provide electric utilities, using frequent meter readings, with near real-time oversight of system operations. Approximately half of all co-ops have installed at least some advanced metering infrastructure on their systems, and some 30 percent of

co-ops have begun to integrate with other systems.

The Cooperative Research Network, a division of the National Rural Electric Cooperative Association, also received a \$33.9 million smart-grid grant for a wide-ranging project that brings together 27 electric co-ops in 10 states. Local co-ops will match the grant money awarded, creating a pool of nearly \$68 million for technology development.

Smart meters, which can help consumers save money by lowering co-op operation costs, will be a big part of the project; approximately 132,000 are planned for installation. Other cost-saving components include 18,000 load-control switches; nearly 4,000 in-home displays, smart thermostats and other energy management devices necessary for conducting real-world testing of two-way demand-response programs – including all related software and cyber security issues. This will be the first opportunity to test smart-grid connectivity from a power plant all the way to a consumer's home.

“Cooperatives, who are leading the industry in the deployment of smart meter infrastructure, have the potential to drive the national effort to understand which smart-grid technologies work best and are cost effective,” concludes English. ⚡

Scott Gates writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

**Electric co-ops are searching for new ways to keep electricity affordable in the face of federal carbon regulation.**

## It's time for you to send a **new** message to Congress!

Even if you've already communicated with Congress about our country's future energy policy through the Our Energy, Our Future™ program, it's once again time for you to get involved. Unelected bureaucrats at the U.S. Environmental Protection Agency wrongly believe that they are empowered to regulate carbon dioxide under the federal Clean Air Act, which could result in significantly increased power bills for you.

The Clean Air Act originally was passed

in 1970 to curb harmful pollutants such as sulfur dioxide and nitrogen oxides, which it does effectively. The law never was intended to deal with carbon dioxide, and today the EPA is overstepping its authority. It's the role of Congress to legislate a greenhouse gas policy that's fair and affordable for all Americans.

Please visit **www.ourenergy.coop** or stop by your local electric cooperative's office to fill out a postcard to tell Congress that they need to step up



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immediately to prevent the EPA from misusing the Clean Air Act as a tool for regulating greenhouse gas emissions. ⚡