



On the rise: WHAT'S DRIVING ELECTRICITY COSTS HIGHER?

Editor's Note: Electricity costs are on the rise and it is a trend that is expected to continue. Last month, Rural Arkansas began a four-part series examining both known and potential components of electricity costs. This month's article focuses on the potential impacts of a carbon cap-and-trade system now being considered by Congress.

Part II: The carbon conundrum

By Sheila Yount

After a marathon debate the week before the Memorial Day holiday, members of a U.S. House of Representatives committee approved sweeping energy policy legislation on May 21 that would limit the use of fossil-fuel electricity generation through a cap-and-trade system.

The Energy and Commerce Committee approved H.R. 2454, sponsored by U.S. Reps. Henry Waxman of California and Ed Markey of Massachusetts, by a vote of 33-25. U.S. Rep. Mike Ross, D-Ark., the only Arkansas representative on the committee, crossed party lines to vote against the bill in a move supported by the Electric Cooperatives of Arkansas.

Ross cited problems with the bill's renewable energy provisions as a reason for voting against it.

"We applaud Mr. Ross for his courage on this issue," said Doug White, spokesman for the Electric Cooperatives of Arkansas. "He listened to his constituents and stood up for them. This bill will be bad for America's economy because it will raise energy bills."

The bill would create the proposed American Clean Energy and Security Act of 2009. The act would, among other things, establish a cap-and-trade program that would limit the amount of carbon dioxide (CO₂) that utilities and industry can emit from their power plants and factories. Under the legislation, emitters of CO₂, which include the electric utility industry, would receive a certain amount of allowances or permits to continue to emit it.

The 946-page bill now will be considered by other House committees, including the Ways and Means Committee and the Agriculture Committee, where it is expected to be debated rigorously. House speaker Nancy Pelosi, D-Calif., has said she wants to see the measure voted on before the full House this year. If approved by the House, it would then go to the Senate for consideration.

"We are going to monitor developments closely in the coming months," said Carmie Henry, vice president of governmental affairs for the Electric Cooperatives of Arkansas. "We will continue to raise our concerns about any proposal that could unduly raise our members' electricity bills."

100-percent auction rejected

President Obama and the congressional leadership had originally sought to create an auction in which utilities would have to buy all of the allowances to emit carbon dioxide. However, the 100-percent auction approach met with major opposition from some committee members, especially those that belong to the "Blue-Dog Coalition," a group of moderate

and conservative Democrats, which includes Ross. Opponents of the 100-percent auction argued that it would harm the nation's economy by raising energy prices. The Electric Cooperatives of Arkansas, along with their sister cooperatives across the nation, opposed the 100-percent auction as well.

In response to that opposition, Democratic leaders of the committee announced on May 15 that they had reached an agreement that would give 85 percent of the allowances to emitters for free and auction the remaining 15 percent. The cap-and-trade program would begin in 2012 under the proposed legislation. Although the Electric Cooperatives of Arkansas are pleased that the 100-percent auction was removed from the House proposal, they remain concerned about any energy policy that would raise the costs of producing electricity, White said.

"While removing the 100-percent auction is an improvement, the bottom line is that we remain opposed to any type of cap-and-trade program with regard to carbon dioxide emissions. White said. "We believe it could have disastrous and unintended consequences."

What is cap and trade?

The purpose of a cap-and-trade system is to use a market-based approach to reduce emissions that contain what are believed to be harmful ingredients. The government sets a cap on the emissions and then distributes allowances or permits that emitters can obtain, either free or through an auction process, to allow them to continue to operate. If they don't have enough allowances to continue business as usual, they will have to purchase those from others who don't need all of their allowances. The end goal is to raise the cost of continuing to emit the "pollutant," thereby forcing utilities and others to switch to other forms of generation or energy that emit less of the "pollutant." The intended result is a reduction in emissions.

As part of the 1990 Clean Air Act Amendments, Congress established the nation's first cap-and-trade system to reduce emissions of sulfur dioxide (SO₂), which contributes to "acid rain." This program has been successful in reducing emissions and is often cited by proponents of a cap-and-trade system for CO₂. But White warned that capping CO₂ is much trickier than SO₂.

"First and foremost, the technology is not yet available to capture the carbon from the emissions of our power plants, cars and factories," White said. "With SO₂, there was technology to remove it and we have done that. We have installed the necessary equipment at existing power plants and use low-sulfur coal from Wyoming. Unfortunately, there is no such thing as low-carbon coal or natural gas."

As it becomes more expensive to emit carbon, it is highly likely that the electric cooperatives will have to limit the use of their coal-fired power plants. Coal-fired generation has traditionally been the cooperatives' lowest cost source and they rely heavily upon it. In fact, about 88 percent of the cooperatives' base-load generation comes from coal-fired power plants. Base-load generation is that which is available continuously, around the clock, and is typically provided by a utility's lowest cost fuel source.

"If we can't use coal, we will have to use natural gas, which has much price volatility," White said. "And natural gas also contains carbon, though at lower levels than coal, so that, too, would likely be even more expensive for us to use. Plus, as other utilities turn from coal to natural gas, the demand will rise and so will the costs. In fact, studies show there may not be enough natural gas to meet the demand in the future if it is used more for power generation. Renewable energy such as solar and wind are not feasible for base-load generation because you just can't depend on them to be available 24/7."

The cooperatives have invested heavily in renewable hydropower, spending about \$340 million during the 1980s and 90s to build three plants on the Arkansas River. But those plants are not for base-load generation. They can only supplement the cooperatives' workhorses – its eight coal – and natural gas-fired plants. About 8 percent of the cooperatives' generation capacity comes from hydropower.

Carbon cap and trade is bad policy

Ultimately, a cap-and-trade system will lead to higher energy costs, which is bad for the nation's economy, White said. He referred to a Feb. 27, 2009, *Wall Street Journal* column that said "a complex cap-and-trade tax would ripple throughout the energy chain and ultimately the entire economy. All consumers, not just 'the rich' would pay more for goods and services that use carbon energy – though some would pay more than others." The column went on to point out that although President Obama promised not to raise taxes on 95 percent of working families, he and Congress would be doing just that with a carbon cap-and-trade system.

In Europe, a carbon cap-and-trade program has been in place for seven years and is widely considered to be a failure, White noted. According to a *Washington Post* article in April 2007, some European manufacturers, such as the Kollo Holding's silicon carbide factory in the Netherlands, have had to cut back production because they can't afford the rising electricity costs.

"Europe's program has driven electricity prices so high that the facility (Kollo Holding's) routinely shuts down for a part of the day to save money on power," the article said. "Although demand for its products is strong the plant has laid off 40 of its 130 employees and trimmed production. Two customers have turned to cheaper imports from China, which is not covered by Europe's costly regulations."

Higher costs already on the horizon

Higher electricity costs are already on the horizon, White

said. Rate forecasts show the cooperatives will need additional revenue in the next decade because of several factors, including: rising fuel costs; the addition of emissions controls for existing plants mandated by federal law; new power plants and inflation. Based on the known costs AECC will incur in the near future, the cooperative estimates that its wholesale rate will need to increase from about \$50 per megawatt-hour to \$65 per megawatt-hour by 2013-2014, White said. That alone is significant, but when other costs related to carbon constraints, such as a cap-and-trade system, are considered, the potential increases are off the chart, he added.

Under the original Waxman-Markey bill that called for a 100-percent auction of allowances, AECC estimated its wholesale power cost could rise by 40 to 100 percent and lead to a 25 to 55 percent hike in retail rates for the cooperatives' 490,000 members. After the compromise, which made most allowances free for the first 14 years of the program, it was unclear what the potential costs would be.

"We don't know what the final distribution formula for the allowances will be," White said. "We fear that we won't receive all the allowances we need to continue operating our lowest cost power plants to meet our members' needs. So we expect there will be additional costs, and they could be significant."

AECC has conservatively estimated that if the cost of emitting a ton of carbon were \$20, it would raise an average cooperative residential consumer's electricity bills by 19 percent or \$20.41 a month. If the cost rises to \$50 per ton, the bills would increase by 49 percent or about \$50.92 a month.

Cooperative leaders voice concern

Arkansas' electric cooperative leaders voiced their concerns over carbon constraints as proposed in the Waxman-Markey bill to Arkansas' congressional delegation on May 5 during the National Electric Cooperative Association's Legislative Conference.

The key messages presented by the Electric Cooperatives of Arkansas included:

- There needs to be a clear benefit to the climate. There must be evidence that any CO₂ reductions would be measurable and result in certifiable temperature reductions. Otherwise, there is no need to spend billions of dollars for a system that will have negligible impacts, if any, on the climate. Studies by legitimate scientists show that the potential impact of carbon constraints would be minimal and have little, if any, effect on climate change.

- Arkansas will be among those most adversely affected by carbon constraints. Arkansas has the third lowest per capita income in the United States with about 20 percent living below federal poverty guidelines and spending 14 percent of their total income on energy costs, compared with 3.5 percent for other households. Estimates show that a carbon tax would compound this heavy burden, forcing hikes in retail electricity rates of 25 to 55 percent.

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- A CO₂ cap-and-trade or taxation system is not needed if new technology investments are made, pursuant to a plan that has been developed by the Electric Power Research Institute (EPRI), which calls for widely recommended emission reduction levels to be achieved by 2050 through technology, not unnecessary taxes.

- A guarantee that no CO₂ restrictions will be placed on the U.S. economy until other large emitters (China) adhere to similar restrictions.

- No auction system. This type of system would lead to market manipulation that only benefits traders and speculators while driving up the price of energy.

- Funding of research and development, allowing a transition to new low-carbon technologies as a rational first step instead of carbon emissions constraints.

After hearing from the cooperatives, Ross and U.S. Rep. Marion Berry, D-Ark., both prominent members of the Blue-Dog Coalition, and U.S. Rep. John Bozeman, R-Ark., expressed support for the cooperatives' positions, saying that they, too, were concerned about any legislation that would raise costs for Arkansans. U.S. Rep. Vic Snyder, D-Ark., praised the cooperatives for being "long-term thinkers" and expressed concern for rising energy costs in his district. U.S. Sen. Mark Pryor, D-Ark., said he had reservations about a cap-and-trade system, noting the problems Europe has had with it. U.S. Sen. Blanche Lincoln, D-Ark., listened closely to the cooperatives' concerns and will play a key role in the debate as a member of the Senate Committee on Energy and Natural Resources.

"We are so thankful for our congressional delegation and the strong support they have given us," White said. "We especially want to thank them for standing up for Arkansas in this critical debate."

Next month, in Part 3 of the series, Rural Arkansas will take an in-depth look at renewable energy and proposals to mandate its use.