

# **EXHIBIT G**

# Kentucky, Indiana get head start on global warming regs

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*Officials expect new power plant rules will be a challenge.*



(Photo: Marty Pearl/Special to The C.J.)

Judging by the howls of protests, the U.S. Environmental Protection Agency's first limits on heat-trapping gases from power plants could deal a fatal blow to the economies of coal-dependent states like Kentucky and Indiana.

"We cannot afford to have rolling blackouts and brownouts that could endangered human lives," warns Kentucky state Rep. Jim Gooch (<http://www.lrc.ky.gov/legislator/h012.htm>), D-Providence, and chairman of the House Natural Resources Committee, which deals with mining issues.

But Kentucky and Indiana may actually have a leg up on meeting the newly proposed regulations on greenhouse gases from power plants, the single largest source of carbon pollution in the country. Each state's carbon dioxide emissions are already declining, and the rules were written to take into account their historic

reliance on coal and manufacturing.

As a result, some experts are concluding that the EPA's [Clean Power Plan](http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule) (<http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule>) unveiled June 2 won't be nearly as onerous as some industries and political leaders suggest, even as state regulators charged with enforcing them and electric utilities are still trying to determine their impact.

**WATCHDOG EARTH:** [New law limits state response to carbon rules](/story/watchdog-earth/2014/06/12/kentucky-law-limits-carbon-response/10367779/) (</story/watchdog-earth/2014/06/12/kentucky-law-limits-carbon-response/10367779/>)

"The political reality (of coal-dependence) has actually been heard by the agency and has been reflected in the rule," said [Tim Profeta](http://nicholasinstitute.duke.edu/about/people/timothy-profeta) (<http://nicholasinstitute.duke.edu/about/people/timothy-profeta>), a professor and director of the nonpartisan Nicholas Institute for Environmental Policy Solutions at Duke University.

In fact, Kentucky officials acknowledge the Bluegrass State may already be more than half way toward achieving its targets under the proposal — rules that give states up to 16 years to meet them.



Construction continues on the Cane Run natural gas power plant construction site. Marty Pearl, Special to The Courier-Journal

**PREVIOUSLY:** [EPA seeks 30 percent cut in greenhouse gases by 2030](/story/tech/science/environment/2014/06/02/new-climate-rules-power-plants/9865137/) (</story/tech/science/environment/2014/06/02/new-climate-rules-power-plants/9865137/>)

**SENATE 2014:** [McConnell, Grimes decry proposed coal rules](/story/news/local/2014/06/02/mcconnell-grimes-decry-proposed-coal-rules/9866903/) (</story/news/local/2014/06/02/mcconnell-grimes-decry-proposed-coal-rules/9866903/>)

To be sure, the outcry is also about loss of coal mining jobs, which have already plummeted in Kentucky from 18,000 in 2011 to 12,000 last year. But the EPA has said it still expects coal to provide 30 percent of the nation's electricity in 2030, down from about 38 percent now.

EPA also said the rule will create even more energy efficiency jobs, while not detailing what states will gain or lose employment.

"The rhetoric we are hearing (from critics) ... is far outpacing reality," said Bill Becker, executive director of the National Association of Clean Air Agencies, whose members include state and local air pollution regulators from across the country, including some in Kentucky and Indiana. He said that membership has not been "screaming about this rule (or) reacting terribly to it."

One reason, Becker said, is EPA made "an enormous concession" when it decided to use 2005 as its baseline for seeking an overall 30 percent reduction in climate pollution from the nation's fleet of 1,000 fossil fuel power plants.

That allows states to get credit for some carbon dioxide emission reductions that have already occurred, Becker said.

Another reason, he said, is that each state's goals were tailored to their energy and economic circumstances, thus avoiding "huge heavy lifting" while still seeking to get "meaningful" cuts.

Art Williams ([http://www.ket.org/cgi-local/fw\\_louisvillelife.exe/db/ket/dmps/Programs?do=topic&topicid=LOUL010129&id=LOUL](http://www.ket.org/cgi-local/fw_louisvillelife.exe/db/ket/dmps/Programs?do=topic&topicid=LOUL010129&id=LOUL)), the retired director of the Louisville Metro Air Pollution Control District, took it a step further.

There is a "plausible argument" that even if the EPA rule were not put in place, the states and nation would meet EPA's goals as a result of already occurring changes in the energy sector of the nation's economy.

Coal is getting more expensive, natural gas has become cheaper and renewable forms of energy such as wind and solar are also competing better, said Williams, who has closely followed climate change policy internationally and in Kentucky.

"You have to wonder how much this rule is really going to affect the marketplace," Williams said. "My guess is not as much as all the wailing and gnashing of teeth. We may be a hair away from that victory over a 16-year period, even in Kentucky," he said.

Indiana is also making headway.

"There are things that Indiana is doing today or will be doing in the next few years, in terms of retrofitting of coal plants to burning natural gas, that will move us in that direction," said Douglas J. Gotham of the State Utility Forecasting Group, a state funded Purdue University research group. "How far it moves us, I don't know."

Modern natural gas plants produce about half as much carbon dioxide as coal plants.

### **"War on coal"**

Still, the rules have been very controversial in Kentucky and Indiana, where a "war on coal" battle cry has been sounded by Republicans and Democrats alike.

For instance, Indiana Gov. Mike Pence, a Republican, has called the regulations "devastating for Hoosier workers and families."

Kentucky Sen. Mitch McConnell, a Republican, described the EPA's action as a "dagger to the heart of the American middle class," while his Democratic challenger, Secretary of State Alison Lundergan Grimes, defended coal with an industry slogan — "coal keeps the lights on" — and also promised to fight them in the Senate, if elected.

Kentucky Gov. Steve Beshear took a more nuanced approach, saying he appreciated that the EPA recognized "that differences do exist among manufacturing states and in states that produce the nation's energy."

But he said he is "extremely concerned that (the EPA proposal) does not provide adequate flexibility or attainable goals."

While the political rhetoric has been flying, regulators and analysts in both states are scrutinizing the voluminous documents that make up the regulations, saying it's too soon to predict what impact they might have or how they might craft a compliance plan.

"We are just starting to look at the documents," said Dan Goldblatt, spokesman for the Indiana Department of Environmental Management.

Kentucky has "a whole team of people, including legal, technical and policy folks, looking at various aspects" of the proposal, said John Lyons, assistant secretary for climate policy in the Kentucky Energy and Environment Cabinet.

Electric utilities are also combing through the proposal in preparation for submitting public comments to EPA.

"We are beginning to find some inconsistencies," said [John Voyles](http://lge-ku.com/profiles/john-voyles) (<http://lge-ku.com/profiles/john-voyles>), vice president of transmission and generation services for LG&E and KU Energy.

For example, he said the company is not sure how much credit, if any, it can get for efforts it has already taken to diversify its energy mix. "We are trying to sort it out, get back with the EPA technical people, and trying to figure out what they meant," Voyles said.

"There will be some cost impacts to the consumers," he said. "We don't know what that will be."

Nationally, average monthly electricity bills are anticipated to increase by roughly 3 percent by 2020, but decline by roughly 9 percent by 2030 because increased energy efficiency will lead to reduced usage, according to EPA.

### **How it works**

The rules are based on achieving that national 30 percent reduction in the amount of power plant emissions of carbon dioxide, a type of pollution blamed for causing global warming.

But to get there EPA uses a different measurement — a rate of pounds of carbon dioxide per kilowatt hour of energy produced, a reflection of carbon intensity. EPA has proposed a unique emission rate target for each state, and to make matters confusing, EPA uses 2012 as a baseline for calculating those targets.

EPA says that if every state meets its emission rate reduction goals, the nation as a whole should achieve the 30 percent goal.

States that burn a lot of coal and have a lot of manufacturing, like Kentucky and Indiana, don't have to reduce their emission rates as much as other states, reflecting their roles in the nation's economy.

It all comes down to the numbers.

If the proposal isn't changed, Kentucky will need to go from a rate of 2,158 pounds carbon dioxide per megawatt hour in 2012, to 1,763 pounds per megawatt hour in 2030. That's a reduction of 18 percent. Indiana has to drop from 1,923 to 1,531 pounds per megawatt hour over 16 years, a decline of 20 percent.

Even at 2030, both states are still projected to be among the national leaders in carbon dioxide emissions.

Lyons said state officials have estimated that Kentucky since 2012 has already dropped to 1,951 pounds of carbon dioxide per megawatt hour, a decline of 10 percent from the EPA's emission-rate 2012 baseline. That's mainly due to the retirement of older, less-efficient coal-fired power plants that were not compliant with new, tighter rules on mercury and other pollutants, state officials said.

Indiana has yet to make a similar calculation, Goldblatt said.

But for Kentucky, the estimates show that the state is more than half way to its goal, right out of the starting gate.

And some other power plant conversions to natural gas are in the works, such as Louisville's Cane Run power plant, that officials predict would bring Kentucky even closer, to nearly 11 percent of the 18 percent reduction goal.

"We have a couple of hundred pounds to go," Lyons said. "I am telling you, that will be a challenge."

It could have been more difficult. EPA chose a goal for Kentucky that was substantially less stringent than had been proposed by environmentalists, and had been feared and analyzed by state regulators. That proposal would have sought a 45 percent reduction in the Kentucky's carbon dioxide emission rate.

The EPA, Lyons acknowledged, "landed somewhere in the middle."

Profeta, the Duke professor, credited the Beshear administration with getting its message across to the EPA in advance of the carbon rule roll out

"The leadership in Kentucky did a very effective job engaging the federal government and sort of bringing to them the challenge the state has in reducing greenhouse gases, and the economic situation in Kentucky, and the importance of low-cost power to Kentucky's manufacturing economy," said Profeta.

He also acknowledged the regulations by themselves won't solve the global climate change problem, which will also require international cooperation. Many scientists have argued for much deeper global cuts, in the range of 70 percent by midcentury.

"The intent of this rule is to change the investment paradigm in the energy sector and to make investment flow to the right technologies, to begin to shift the direction," Profeta said.

### Optional approaches

Beshear and Energy and Environment Cabinet Secretary [Len Peters](http://eec.ky.gov/officesecretary/Pages/default.aspx) (<http://eec.ky.gov/officesecretary/Pages/default.aspx>) had pressed the EPA for as much flexibility as possible, arguing against slapping mandatory cuts at each power plant in favor of an approach that allows for reductions to be made through energy efficiency and other means.

Under the EPA plan, states can achieve their goals by using a range of strategies, including embracing alternative energy — such as solar, wind or hydro power.

They can develop better programs to help homes and businesses use electricity more efficiently, such as programs that reduce demand by offering rebates on appliances.

LG&E and KU, for example, already has a home energy rebate program that offers \$50 to \$750 for qualifying items. More than 44,000 customers have participated since the program started in 2011.

EPA says utilities can also make changes in their power plants to burn coal more efficiently, estimating a typical plant could become 6 percent more efficient.

"I don't know what the realistic number is," Voyles countered. "I would tell you 1 percent or less."

Lyons said it would take a "plant-by-plant" assessment to determine what's possible.

States also could join other states in regional "cap and trade" programs, in which utilities that cut pollution could sell credits to those who don't.

Lyons questioned whether cap-and-trade would benefit Kentucky, saying the state likely would only be able to buy pollution credits, and that would make electric rates climb.

Williams and Profeta, however, disagreed. Kentucky has so much energy waste that "it could become a place where others invest in reductions," even without a formal cap-and-trade program, Profeta said.

For example, industries that are not already capturing waste heat can begin to do so, and use it to boil water and make electricity, said Jesse Kharbanda, executive director of the Hoosier Environmental Council.

But by all accounts, the EPA effort will face continued opposition. Gov. Pence has promised as much, as has Gooch, who denied any climate threat from power plants, saying "carbon dioxide is plant food."

Once a rule is final, officials said both Kentucky and Indiana are likely to develop their plans for compliance, even as lawsuits are expected to challenge it, and Kentucky will get a new governor.

The ultimate incentive is that if states don't draft their own plans, the EPA will step in and write one for them, said attorney Tom FitzGerald with the Kentucky Resources Council.

Elected officials, he said, will probably dislike that even more.

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Getting there

Kentucky, Pounds of carbon dioxide per megawatt hour

2012 — 2,158

2014 — 1,951

2030 — 1,763

Source: U.S. EPA and Kentucky Energy and Environment Cabinet