# The Devil and the EPA

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The late comedian Flip Wilson had a wildly popular television show back in the 1970s, and one of his most famous characters was "Geraldine Jones" (really, Wilson dressed in drag). Geraldine, an oft-misbehaving young "lady," had a famous catchphrase, "The devil made me do it!"

Even the most efficient coal plant emits at least 1,800 pounds per megawatt-hour, for the simple reason that burning coal releases more $CO_2$ than burning natural gas.

Maybe that is the real reason behind the EPA's proposed new carbon dioxide ($CO_2$) emission rule, which the agency released on September 20, 2013. Under the proposed rule, known as the New Source Performance Standard, new electric-generating plants will not be allowed to emit more than 1,100 pounds of $CO_2$ per megawatt-hour of generation. Whereas new natural gas–fired generators will be unaffected, the proposed rule will effectively prohibit construction of new coal-fired power plants. Even the most efficient coal plant emits at least 1,800 pounds per megawatt-hour, for the simple reason that burning coal releases more $CO_2$ than burning natural gas.

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EPA Administrator Gina McCarthy has insisted that "we don't have a war on coal." If not, the EPA has undertaken a "domestic contingency operation," for which the carbon-emitting enemy is to be destroyed. But whatever one wants to call it, the new rule will have little impact on global carbon emissions and no impact whatsoever on the scourge of climate change.

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What it will accomplish is to contribute to higher electricity prices and further retard domestic economic growth. And contrary to an "all of the above" energy policy, the EPA's actions, coupled with the almost-impossible task of building new nuclear plants, means that only natural gas–fired plants will be able to supply needed baseload (i.e., "round-the-clock") electricity. Whatever happened to the importance of diverse generating resources?

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power plants emitted just over 1,500 million metric tons of $CO_2$, less than 30 percent of total US emissions of 5,290 metric tons.[1] According to the International Energy Agency, total world $CO_2$ emissions were about 31,600 million metric tons.[2] Thus, total US $CO_2$ emissions, which have been decreasing since 2007, accounted for less than 17 percent of world emissions, and US coal-fired power plants accounted therefore for less than 5 percent of world $CO_2$ emissions.

In 2012, coal-fired power plants emitted just over 1,500 million metric tons of $CO_2$.

Because China and India's carbon emissions continue to increase rapidly, unilateral sword-falling actions taken by the United States will have even less impact on overall world $CO_2$ levels in the future. Yet the EPA insists on its domestic contingency operation against coal. This makes no economic or environmental sense at all.

Because China and India's carbon emissions continue to increase rapidly, unilateral sword-falling actions taken by the United States will have even less impact.

The EPA insists that these new emissions standards are not an effective ban on new coal plants, pointing to coal plants with "carbon-capture" technology that are under development. For example, in September, construction began on a small plant that will convert $CO_2$ emissions from a cement plant in Texas to baking soda (calcium carbonate).[3] Although some generating plants intend to use the captured $CO_2$ in industrial processes,[4] the most common strategy is to inject the captured $CO_2$ underground.

In extreme concentrations, such as might occur if there were sudden leaks of underground gas at the surface, $CO_2$ is deadly.

Not surprisingly, that approach raises numerous technical and legal issues: how to ensure the injected $CO_2$ stays underground and, if it does not, who gets sued, because, in extreme concentrations, such as might occur if there were sudden leaks of underground gas at the surface, $CO_2$ is deadly.

## BASTARDIZING COST-BENEFIT ANALYSIS

The EPA also released a cost-benefit analysis of the proposed rule.[5] As part of this analysis, which must rate as one of the most dishonest cost-benefit analyses of all time, the agency concludes the following:

> The EPA anticipates that the proposed EGU New Source GHG Standards will result in negligible $CO_2$ emission changes, energy impacts, quantified benefits, costs, and economic impacts by 2022. Accordingly, the EPA also does not anticipate this rule will have any impacts on the price of electricity, employment or labor markets, or the US economy.

For a cost-benefit analysis practitioner like the author, this is a very strange conclusion. How can the proposed rule not have any costs or benefits? The answer stems from the EPA's analytical assumptions. Specifically, because the EPA assumes that no new coal plants will be built, even without the proposed rule, concluding that all new generating facilities will be gas-fired or renewable generation, and thus already meet the proposed emissions standards. Hence, the proposed rule will impose no costs. And because no new coal plants will be built anyway, the proposed rule will provide no reduction in $CO_2$ emissions below levels without the rule.

Despite this bizarre interpretation, in its analysis the EPA discusses the other benefits of the proposed rule. Specifically, the EPA concludes the following:

> This [New Source Performance Standard] would provide regulatory certainty that any new coal-fired power plant must limit $CO_2$ emissions by implementing some form of partial capture and storage. Therefore, the proposed regulation would provide an incentive for supporting research, development, and investment into technology to capture and store $CO_2$.


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Thus, to summarize, the EPA's cost-benefit analysis concludes its proposed rule will not have any cost because the EPA assumes nobody will build any new coal plants anyway, with or without the proposed rule. And because the EPA concludes that nobody will build any new coal plants anyway, the proposed rule will not lead to any reduction in $CO_2$ emissions, which is the EPA's primary goal. Yet somehow, despite not changing anybody's behavior or reducing $CO_2$ emissions, the proposed rule will still provide greater regulatory certainty for all of those developers who will not be building any new coal plants anyway, because they will nevertheless invest in R&D for carbon capture technologies, even though they will not need those technologies because they will not be building any new coal plants. Perhaps the next time a client asks me to perform a cost-benefit study, I will simply refer them to the EPA.

If the option to build new coal plants is gone, wholesale and retail electric prices are likely to increase. And high electric prices will take a very real economic toll.

Of course, the proposed rule is likely to have real costs. Although coal plant economics have been hurt by low-cost natural gas, thanks to the boom in shale gas production and subsidized renewable resources,[6] the economics in the future may change. As the demand for natural gas increases, especially from construction of gas-fired generating plants, natural gas prices are likely to increase. Similarly, as more coal plants are retired, thanks in part to other, existing EPA regulations, coal prices may decrease.[7] But if the option to build new coal plants is gone, wholesale and retail electric prices are likely to increase. And high electric prices will take a very real economic toll.

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As for the benefits of reduced $CO_2$ emissions from the proposed rule, the EPA is probably correct, although not for the reasons the agency thinks. The impacts of any reduced $CO_2$ emissions on the climate will not even be measurable.

The real adverse economic impacts of higher electric prices do not seem to matter to the EPA. Either the agency does not understand the role of electricity in the economy, or perhaps it believes intermittent renewables will provide electric nirvana. They will not. And while the proposed rule leaves natural gas–fired generation intact, the agency continues to overplay the dangers of hydraulic fracturing on water quality, despite its flawed studies.[8]

## EPA'S SECOND ACT

With the proposed rule for new generators under its belt, the EPA intends to issue carbon emissions limits for existing generators in 2014. Perhaps the Devil will take the high road, but in the war—er, domestic contingency operation—against coal, do not bet on it.

## NOTES

1. Energy Information Administration (EIA). (2013, September). Section 12. *Monthly Energy Review*. Retrieved from http://www.eia.gov/totalenergy/data/monthly/?src=Environment-f1#environment.
2. International Energy Agency. (2013). *World Energy Outlook*. Retrieved from http://www.worldenergyoutlook.org/publications/weo-2013/.
3. Parker, M. (2013, October 3). Construction begins on new carbon capture plant. *Scientific American*. Retrieved from http://www.scientificamerican.com/article.cfm?id=construction-begins-on-new-carbon-capture-plant. The plant will convert 300,000 tons of $CO_2$ annually. By comparison, a 1,000 MW coal plant with a heat rate of 12,000 Btu's/kWh and running 80 percent of the time emits some 7 million tons of $CO_2$ each year.
4. Construction on the first such plant, the 400 MW Texas Clean Energy facility, is supposed to begin in the fall of 2013. That plant will capture carbon for use in enhanced oil recovery.
5. Environmental Protection Agency (EPA). (2013, September). *Regulatory impact analysis for the proposed standards of performance for greenhouse gas emissions for new stationary sources: Electric utility generating units.* EPA-452/R-13-003. Retrieved from http://www2.epa.gov/sites/production/files/2013-09/documents/20130920proposalria.pdf.
6. See Lesser, J. (2013, Spring). The high cost of low value wind power. *Regulation*, pp. 22–27.
7. One issue in the last few years that is affecting coal is increasing transportation costs for coal delivered via rail. Some coal plant operators have accused railroads of antitrust violations. See Berman, J. (2013, March 26). Railroad antitrust legislation is re-introduced in the Senate. *Logistics Management*. Retrieved from http://www.logisticsmgmt.com/article/railroad_antitrust_legislation_is_re_introduced_in_the_senate.
8. See Lesser, J. (2012, December). Frack attack: Environmentalists and Hollywood renew attacks on hydraulic fracturing. *Natural Gas & Electricity*, *29*(5), 30–32.

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