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# B R Y N M A W R

## **U.S. Environmental Protection Agency Carbon Pollution Standard for New Power Plants**

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June 19, 2012

My name is David Ross, associate professor of economics at Bryn Mawr College. I'm the coauthor of a classic industrial organization textbook; my courses include environmental economics; and I serve on my local township planning commission out in Chester County, whose air, despite bucolic appearances, fails to meet Environmental Protection Agency (EPA) clean air standards.

I am honored to participate in hearings organized by Councilwoman Blondell Reynolds Brown. I admire your deep commitment to addressing the needs of children – the most vulnerable members of our community. We at Bryn Mawr think of ourselves as partners in your mission of eliminating barriers to women moving into leadership positions in the public and private sectors. Thank you for creating this opportunity for citizens to comment on the proposed Carbon Pollution Standard for New Power Plants and for introducing, with Councilman Kenney, Resolution 120356, supporting the reduction of Greenhouse Gas Pollution under the Clean Air Act and urging the Environmental Protection Agency to move swiftly to fully employ and enforce the Clean Air Act.

I am here today to speak in support of EPA's proposed carbon standard for new power plants. This is a modest, economically sensible step in implementing the goals of the Clean Air Act and addressing the on-going challenges to health and the looming threat of global catastrophe posed by carbon-based greenhouse gases

As others will document today, children and the elderly suffer most from failures to address the unhealthy air we breathe. Those problems are particularly acute in Philadelphia, where asthma rates are well above national and state averages.<sup>1,2</sup>

The Clean Air Act charges EPA with setting acceptable concentration levels for pollutants deemed harmful to human health. Recently carbon-based greenhouse gases have been added to that list. The global climate effects of rising atmospheric carbon concentrations threaten Philadelphians directly through longer, more intense and more frequent heat waves; and through flooding associated with more intense precipitation events. Less well known is the fact that rising temperatures worsen ground-level ozone that along with particles in the air is the proximate source of respiratory distress for so many.<sup>3</sup>

The Law requires each state to develop implementation plans that regulate economic activity so as to bring pollution levels below EPA standards to protect our health. The fact that so much of the country has failed to meet those standards 40 years after the passage of the Act is a public policy failure of humbling proportions. The Philadelphia metropolitan area is one of those nonattainment regions. Too rapid compliance with the law would certainly cause unacceptable disruption of the local economy. But, in my view government has been too quick to back off when businesses claim that environmental regulations are harming the bottom line.

It would be understandable, if laughable, for a thief to protest that more aggressive policing is raising his cost of doing business. But, in essence that's the argument of opponents of these regulations. From an economic standpoint, air pollution represents theft of environmental services. A fossil fuel burning power plant needs air to absorb emissions from combustion just as much as it needs coal or natural gas. But, whereas it pays miners for the coal, workers for their labor, and the lenders for financing the plant; it pays nothing for the clean air it fouls, nothing to the children afflicted with asthma, nothing to the elderly confined to their homes on hazardous air quality days, nothing to homeowners inundated with rising flood waters.

Economists object to theft not on moral but efficiency grounds. Theft breaks the logic of supply and demand, whose interaction under ideal circumstance allocates resources to maximize the common good. Theft of environmental services through pollution misallocates resources, reducing the total value of economic activity, properly defined. Equally damning, such theft eliminates incentives to reduce the costs of pollution, since from the standpoint of the polluter those costs do not exist. We economists say that theft is allocatively and dynamically inefficient.

Economists delight in finding inefficiency, since in principle we can all benefit by eliminating it and thereby expanding the economic pie. So why aren't environmental regulations more popular? Because as a practical matter there are losers as well as winners from eliminating market failures. A business required to reduce pollution faces higher costs. If those costs force it to shut down, then shareholders may lose their investment, workers their jobs. It's natural to resist admitting that part of our dividend or pay checks depend on theft, on fouling the air and harming the health of our neighbors.

A perfect environmental policy would end the theft by putting a price on the environmental services all of us use and it would compensate innocents injured by the shift to an environmentally responsible economy. But, the perfect is the enemy of the good – so we look for cost effective ways to make things better. By that definition, the proposed EPA Carbon Pollution Standard for New Power Plants is a no-brainer. It threatens no jobs and has no effect on the return to existing investments. It offers future investors a guide to avoiding the worst environmental impacts as they consider how to meet future energy needs. The standards are easily met by power plants that rely on alternative energy sources and are entirely consistent with the current market for new power plants that rely on fossil fuels.<sup>4</sup>

The basic requirement<sup>3</sup> is that new power plants emit less than 1,000 pounds of carbon dioxide per megawatt-hour of electricity produced. This is a standard that virtually all new combined cycle natural gas plants are able to meet, since their emission rates are in the region of 800 pounds per megawatt-hour or below. Meeting the standard is technically feasible for coal with carbon sequestration (CCS), and the challenge now is to make that technology economically feasible. To address that challenge, the proposed regulations allow the operator of a CCS plant the option of using the 30-year average of CO<sub>2</sub> emissions to meet the standard, rather than meeting the standard each year.

Existing coal-fired generation accounts for the largest chunk of carbon dioxide pollution emitted by stationary sources in the United States -- roughly on a par with the carbon dioxide pollution emitted by the entire transportation sector.<sup>4</sup> Those plants are also responsible for a large share of the soot, smog, mercury and other toxic pollutants we face every day.<sup>5</sup> We need to find cost effective ways of moving away from old coal-fired plants as quickly as possible.

Next to energy conservation, new power plant standards offer the least economically disruptive path for mitigating the effects of our reliance on fossil fuels. Again, implementing the proposed standards is a no-brainer.

The Clean Air Act was passed when I was a high school student in an era when we were regularly landing astronauts on the moon. We knew that solving the pollution problem would be challenging, but we were confident that we could do it. Back in 1970, I could imagine it taking a decade to finish the job; but I would have been flabbergasted had you told me that by the time my hair turned gray we'd still be debating how to solve the ozone problem and that we'd be confronting drastic human-driven climate change. I remain an optimist. I continue to dream that democratic institutions are capable of balancing economic interests with the obligation to protect human health and environmental well-being.

Councilwoman Reynolds Brown, I take heart at your motto:

*Dream big and if that does not work – dream BIGGER*

Let's implement the new power plant standards now and then move on to fulfilling the commitments we made in adopting the Clean Air Act.

<sup>1</sup><http://www.newsworks.org/index.php/local//item/28757-in-the-gap-asthma/>

<sup>2</sup>[http://www.ucusa.org/assets/documents/global\\_warming/climate-change-and-ozone-pollution.pdf](http://www.ucusa.org/assets/documents/global_warming/climate-change-and-ozone-pollution.pdf)

<sup>3</sup><http://epa.gov/carbonpollutionstandard/pdfs/20120327factsheet.pdf>

<sup>4</sup>[http://switchboard.nrdc.org/blogs/gperidas/epas\\_new\\_power\\_plant\\_rule\\_-\\_ho.html](http://switchboard.nrdc.org/blogs/gperidas/epas_new_power_plant_rule_-_ho.html)

<sup>5</sup><http://www.environmentamerica.org/news/ame/obama-administration-protect-americans%E2%80%99-health-setting-carbon-pollution-standards-new-power>