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The Effects of President Trump's Reversal of President Obama's Climate Policies Are Greatly Exaggerated

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In this essay, Professor Pierce explains why both the hand wringing by environmental advocates and the cheers of coal miners elicited by the Executive Order in which President Trump ordered EPA to repeal the Clean Power Plan (CPP) were based on poorly supported beliefs about the effects of the CPP. The substitution of natural gas, wind and solar power for coal as a generating fuel that the CPP was intended to produce began long before EPA issued the CPP and will continue long after the CPP is repealed. That substitution was driven largely by changes in the relative prices of coal and natural gas which, in turn, were created by fracking shale formations. The only government action that could possibly reopen coal mines would be adoption of the national ban on fracking urged by Senator Sanders.

ABSTRACT

In this essay, Professor Pierce explains why both the hand wringing by environmental advocates and the cheers of coal miners elicited by the Executive Order in which President Trump ordered EPA to repeal the Clean Power Plan (CPP) were based on poorly supported beliefs about the effects of the CPP. The substitution of natural gas, wind and solar power for coal as a generating fuel that the CPP was intended to produce began long before EPA issued the CPP and will continue long after the CPP is repealed. That substitution was driven largely by changes in the relative prices of coal and natural gas which, in turn, were created by fracking shale formations. The only government action that could possibly reopen coal mines would be adoption of the national ban on fracking urged by Senator Sanders.

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On March 28 President Trump signed an Executive Order in which he ordered the Environmental Protection Agency (EPA) to begin the process of repealing the Clean Power Plan (CPP), the primary means through which President Obama expected to be able to satisfy the commitment he made in the Paris Accord to reduce U.S. carbon dioxide emissions by 26%. That announcement elicited cheers from coal miners and advocates of energy independence and cries of despair from environmental advocates. The facts on the ground provide little support for either reaction.

The CPP was intended to reduce U.S. emissions of CO2 by forcing electric generating firms to substitute low carbon natural gas and carbon-free sources like solar and wind for high carbon coal. The CPP never went into effect and it was unlikely ever to go into effect independent of President Trump's order to repeal it. The CPP was based on a dubious legal foundation. The U.S. Supreme Court issued a stay of the CPP in February 2017. That action was based on the Court's conclusion that the parties that challenged the validity of the CPP were likely to prevail on the merits of their claims. It is possible for a court to change its mind about the merits of a legal argument and to uphold an agency action that it previously stayed, but such a change of mind is rare.

In any event, the CPP was not needed to allow the U.S. to use fuel substitution to reduce its emissions of CO2 from generating plants. The dramatic increase in the U.S. supply of natural gas created by fracking shale gas formations had already accomplished that important goal before President Obama issued the CPP. Here is how the International Energy Agency (IEA) described the performance of the U.S. in 2016:

> The biggest drop came from the U.S., where carbon dioxide emissions fell 3%, or 160 million tonnes, while the economy grew 3.1%. The decline was driven largely by a surge in shale gas supplies and more attractive renewable power that displaced coal. Emissions in the United States last year were at their lowest level since 1992, a period in which the economy grew by 80%.

The IEA provided a similar description of the U.S. performance in 2015:

> United States consumption [of coal] declined sharply by 15.3% . . . consumption changes in the United States were a key driver of changes to OECD total consumption as United States

consumption declined by 94.6 Mtce, and the other 34 countries in the OECD, together increased consumption by 5.0 Mtce.

The U.S. performance is even more impressive when considered over a longer period of time. The Energy Information Administration (EIA) reports that U.S. emissions of CO2 from use of coal as a source of electricity declined by 33% between 2008 and 2014. Thus emissions of CO2 from the use of coal as a generating fuel dropped by over 50% between 2008 and 2017. The remarkable success of the U.S. in reducing this important source of greenhouse gas emissions had nothing to do with the CPP. It was driven primarily by economics—fracking shale formations increased the gas supply to the point where it was available at a lower price than coal, so generators switched from high-priced coal to low-priced gas. That trend will continue without any help from the CPP.

The cries of despair from environmental advocates when President Trump ordered repeal of the CPP were based on exaggerated beliefs about the importance of the CPP, but the euphoric cheers of the coal miners and of the advocates for energy independence were based on a complete misunderstanding of the effects of repeal of the CPP.

When President Trump signed the Executive Order in which he directed the EPA to repeal the CPP, he did so surrounded by coal miners who had lost their jobs as a result of the closure of most of the underground coal mines over the past decade. He cynically attributed their loss of their jobs to the CPP and told them that he was putting them back to work at the same time that he was advancing the cause of energy independence. Repeal of the CPP—a rule that that was stayed by the Supreme Court before it could become effective--will have neither of those effects.

If the CPP had gone into effect, it might have slightly accelerated the process of substituting gas, solar and wind for coal that began a decade ago, but it would have had no effect on energy independence. Coal, gas, wind and solar are all produced domestically, so no amount of switching among those fuels can have any effect on energy independence.

Moreover, the U.S. is close to energy independence today. The U.S. has already become a net exporter of natural gas and petroleum products. Many studies published before President Obama issued the CPP and long before President Trump ordered the repeal of the CPP, predicted that the U.S. would become completely energy independent by 2020. Like the mass substitution of low carbon natural gas for high carbon coal, the success of the U.S. effort to attain energy independence is due primarily to fracking of shale formations. A 2013 study by Citigroup is representative. It attributed the massive increase in U.S. oil and gas production to fracking and predicted not only that fracking would allow the U.S. to attain energy independence by 2020 but that it also would keep world oil prices low and reduce significantly the economic and geopolitical power of the OPEC nations and Russia.

Repeal of the CPP will not bring back any of the jobs that the coal miners lost when the underground mines closed over the past decade. The movement to substitute gas, solar and wind for coal began a decade ago. It was driven primarily by market forces that will continue to have the same effects after the Trump Administration repeals the CPP. Electric generators will continue to substitute gas for coal because it is in their economic best interests to do so. EIA reports that the price of natural gas fell to their lowest levels in two decades in 2016 and that the electricity industry will add another 8% of gas generation capacity—36.4 gigawatts-- in the next two years.

Ironically, the only action that would have a realistic possibility of creating the conditions needed to reopen the underground coal mines that closed over the last decade would be adoption of a national ban on fracking. Some (but not all) environmental advocates argue that the U.S. should take that step, and Senator Bernie Sanders made a national ban on fracking a core component of his unsuccessful campaign for President.

A ban on fracking would reduce significantly the available supply of natural gas and increase the price of gas significantly. That, in turn, would tempt electric generators to substitute then-cheaper coal for then-more expensive gas, thereby creating the conditions in which the underground coal mines might be reopened. Of course, such a ban would also cause U.S. emissions of CO_2 to soar. It seems highly unlikely that President Trump will take that step, however, given his many statements in support of maximizing U.S. production of oil and gas.