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Climate scientists generally express approval for proposed EPA carbon rule

By Jason Samenow

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To confront the threat of climate change, the U.S. EPA announced a landmark proposal today that [would reduce carbon emissions from existing coal-fired power plants 30 percent from 2005 levels by 2030](#).

I emailed a group of climate scientists to obtain their thoughts and reactions. Most (not all) of the scientists I reached out to support the measure, with some qualifiers. Their responses offer some interesting perspectives...

[Myles Allen, Oxford University](#)

From a climate perspective, if these new regulations promote the large-scale deployment of carbon capture and storage, then our grandchildren may look back on this day as a kind of Pearl Harbour moment when the formidable resources of the United States of America were finally deployed against climate change. But if, as many claim is more likely, they simply mean the closure of lots of coal-fired power plants, then it is hard to see how they will have much impact, because U.S. coal will simply be exported and burnt elsewhere. A much cleaner, and arguably fairer, approach would be for the EPA to require capture and storage of a fraction of the carbon content of all fossil fuels: why simply target coal when flares from the Bakken shale formation are visible from space?

[Richard Alley, Penn State University](#)

Extensive scholarship shows that the climate changes from the CO₂ emitted to the air by our fossil-fuel burning will have economic costs—the “social cost of carbon”—and thus that actions to reduce CO₂ emissions can make us better off economically. Numerous studies have also found that the particles, mercury, etc. emitted by some coal-fired power plants hurt the health of people downwind, with costs to society that may exceed the cost of the electricity from those plants to their customers. Hence, efficient approaches to reduce CO₂ and other emissions from power plants can have much larger benefits than costs.

Economists generally seem to prefer a “cost signal”, such as a revenue-neutral carbon tax, to deal with the social cost of carbon. In such a plan, taxes might be reduced on valuable things such as our wages, and the money replaced with a tax on emitting carbon, starting small but increasing slowly and steadily to become large over ~30 years, allowing current coal workers to retire and current coal investors to get their money back, and putting the entire economy to work to reduce climate change from CO₂. The scholarship (as summarized by, for example, the Congressional Budget Office) shows little total impact on the economy, and possibly even economic growth, from such a plan if you ignore the benefits of avoiding climate change; including those benefits makes such a plan economically beneficial. Regulations such as are being proposed can achieve much of this, although the literature generally indicates that price signals are likely to be more efficient.

The big result from the scholarship is that, if people work together to respond efficiently to the challenges, helping the future can also help the present.

[Ken Caldeira, Stanford](#)

The EPA announcement represents an important first step down a long road. The goal is to stop using the sky as a waste dump for our CO₂ pollution. To get there we need to take many more such steps, and the world must walk alongside us. The footsteps might not have been placed exactly where I would have liked to have seen them placed, but at least they are steps in the right direction.

[Judith Curry, Georgia Tech](#)

I don't think that the proposed emissions reductions will change or improve the climate. Stimulating investment in clean energy strategies makes sense, but the key issue needs to be keeping the U.S. energy supply abundant, reliable, and economical in the face of unanticipated demand such as last winter's extremely cold temperatures in the eastern half of the U.S.

[Noah Diffenbaugh, Stanford](#)

We know that global annual CO₂ emissions have doubled in the past 25 years. We also know that the risks of high-impact climate change are much larger if the world continues along the current emissions trajectory than if the UN targets are met. The question of whether and how to act is a question for policy makers and citizens, but in terms of the science of Earth's climate system, it is clear that reducing the risks of high-impact climate change requires reductions in emissions.

[Michael MacCracken, The Climate Institute](#)

Imposing a cap on CO₂ emissions from the electric-generating sector, which generates nearly 40% of emissions, is critical. The potential overall costs from the expected higher price of electricity can readily be made up for by consumers raising the efficiency of their use of electricity.

Even though the Administration has also been responsible for getting auto manufacturers to produce cars with better mileage, the U.S. needs to do much more and do so in the near-term to really make a contribution to slowing the pace of climate change and its disruptive influences on the weather, environment and society. Imposing a rising price on CO₂ emissions would provide the needed encouragement for improving efficiency and changing the nation over to non-greenhouse gas emitting technologies.

If Congress won't impose a cap-and-trade or a tax with fee-bate system (and I personally favor doing both to give incentives and flexibility to industry to act efficiently while also giving incentives and the ability for consumers to choose wisely), I would urge the Administration, as a further step, to raise the minimum cost for extracting carbon-based fuels from public lands to the "social cost of carbon." Although poorly named and presently underestimated, this would start to hold all sectors of the economy accountable for the harm that climate change is doing to the environment and society while significantly increasing the incentive for moving toward a sustainable energy system. Such an effort would create hundreds of thousands of new jobs here in the U.S. greening our energy system while setting an example for the international community of how a modern economy can move to an economy that prospers without contributing to serious disruption of the environmental heritage we hold in trust for our children, their children, and beyond.

Cliff Mass, University of Washington

This a modest, but welcome, step in beginning serious reductions in U.S. greenhouse gas emissions. But there is a big picture we can't ignore: the U.S. can not greatly increase our production of natural gas and oil through fracking and advanced techniques, while massively harvesting the huge coal reserves in the Powder River Basin, and hope to meaningfully reduce our emissions of greenhouse gas emissions. In the end, we need to make a choice. And that choice would be aided by greater investment in research on renewable energy, nuclear power, and carbon sequestration.

Pat Michaels, Cato Institute

The climatic impact is minimal and the electoral impact is large. The EPA's own MAGICC model shows that this policy would result in a maximum savings of 0.02⁰C of global warming by the year 2100, and the number is probably even lower than that (that assumes a 3⁰C sensitivity, which a lot of recent research suggests is too high). Its major impact will be in the voting booths of Eastern Kentucky and West Virginia where the chance that Mitch McConnell could lose his seat in Kentucky is now very remote.

Kevin Trenberth, National Center for Atmospheric Research

Climate change from human activities, the worst of which is burning fossil fuels especially in coal-fired power plants, is already costing tens of billions of dollars per year. The coal industry should pay this price up front instead of dispersing it far and wide often to innocent victims. A price on carbon would be a much preferred way to help achieve this goal but the proposed EPA regulations provide a stop-gap measure in the absence of responsible action by the Congress.

John Michael Wallace, University of Washington

I am pleased to see the Obama administration taking steps to reduce fossil fuel emissions. However, in the long run I think the strategy of imposing a revenue-neutral carbon tax will prove more effective. I say this despite the fact that I was one of the signers of the Friend of the Court brief in the Supreme Court case that affirmed the provision in the Clean Air Act that gives the EPA the authority to limit fossil fuel emissions.