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Matas Lauzadis  
*College of DuPage*

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## The Clean Power Plan

by Matas Lauzadis

(Chemistry 1551)

The Clean Power Plan, originally proposed by the EPA in June 2014, was an Obama administration policy which sought to combat human-caused climate change. The plan originally aimed to lower carbon dioxide emissions created by power generators by 32% relative to the 2005 levels by reducing emissions and increasing the use of renewable energy and conservation of energy. Logistically, the plan required individual states to meet carbon dioxide emission standards. If the state failed to create a plan and submit it to the EPA, a plan would be imposed upon it. The EPA estimated the Clean Power Plan (CPP) would reduce pollutants contributing to smog and soot by 25 percent, yielding a net health and climate benefit of \$25-45 billion per year after 2030. The focus on carbon dioxide (CO<sub>2</sub>) emissions from coal plants was supported by the Energy Information Administration's (EIA) claim that coal in 2015 produced 1.3 billion metric tons of carbon dioxide, which was about 71% of CO<sub>2</sub> emissions from the electric power sector. Combining this with the fact that wind power is cheaper to obtain than coal power, it is no wonder why the Obama administration concentrated on reducing coal power emissions.

The CPP demonstrated to the world that the United States would be a leader in climate reform. Following its announcement, countries around the world rushed to create their own plans. The United Nations (UN) drafted The Paris Agreement, which aims to take action against global greenhouse gas emissions starting in 2020. It is very important for more developed nations to enact these plans since underdeveloped nations are unable to combat the effects of climate change such as drought, famine, and other human-caused disasters. The EPA has also determined that an increased rate of climate change will lead to increased drought, famine, and even insurance premiums.

Overall, the Clean Power Plan sought to reform carbon emissions, focusing on creating cleaner sources of electricity, such as wind power, and reforming existing coal energy sources. The result would have been great economic and health benefits, reducing early deaths due to toxic power plant emissions by as much as 90%, and saving almost \$50 billion per year after 2030.

Those in support of the Clean Power Plan claim that because of its repeal, we will see greater economic and climate damage than ever before.

According to the Energy Innovation's Energy Policy Simulator, repealing the CPP will lead to an increase in carbon dioxide emissions of 500 million metric tons by 2030, increasing risk of disease and death in lower-income communities located near these toxic plants. The CPP was estimated to prevent 870 million tons of CO<sub>2</sub> from entering the atmosphere per year by 2030, but its repeal will not only re-contribute those 870 million tons, but add an additional 500 million tons, a 22% increase from 2017 levels. Although many industrial jobs would have been lost as the U.S shifted its focus, the CPP would have created more jobs in clean power fields, such as wind power. The amount of CO<sub>2</sub> emissions reduced would be equivalent to removing 75 million cars from the road, which is about 30% of all vehicles in the USA as of 2014.

Supporters claim that giving the EPA the power to enforce these stringent carbon emission standards is necessary for immediate action. Leaving the problem for individual states to solve will result in foot-dragging and slower results. Another key aspect of the CPP is the fact that early adopters of the EPA's standards would be rewarded under the Clean Energy Incentive Program (CEIP). States which produce one MWh (megawatt hour) of clean, *carbon free* energy will be

awarded one ERC (Emission Rate Credit). These credits can then be sold, providing an incentive for states to begin reform immediately. The gamification of climate reform with ERCs is a fascinating move as it increases competition between states while rewarding both the state and the environment.

Another reason the CPP was well-received is because of its highly-focused plan. It was not a generalized climate change reform, it focused specifically on coal power plants and finding a way to lower their emission rates. Countless scientists and EPA officials supported the plan, further adding to the credibility of its projected results.

The Obama administration, upon approving the CPP, estimated that it would prevent 3,600 premature deaths due to air quality. On top of this, The Trump administration's EPA found that the plan would prevent 4,500 premature deaths, a stark increase from the Obama administration's estimate. So why was it repealed?

Critics of the Clean Power Plan claim that it gives the EPA too much power over states by setting impossible-to-meet standards. Operators of coal plants claim that in order to meet these standards, they would have had to limit their production of electricity, or shut down completely, as it was impossible to retrofit CO<sub>2</sub> capture technology at a reasonable cost. In turn, this would have raised the cost of living for millions of Americans across the nation. The Heritage Foundation's studies into economic effects of the CPP demonstrate that the plan would cause a loss of almost 500,000 jobs by 2030: decreasing GDP by billions and household incomes by over \$10,000. NERA Economic Consulting estimates an increase of 11 to 14% of household electricity rates, which would unfairly punish less affluent neighborhoods which rely on electricity for heating, cooling, and cooking.

However, the economic issues created are outweighed by environmental benefits, right? Actually, the Obama EPA's own estimates, using an EPA-supported simulation called MAGICC, show that after completely conforming to these high standards, we will only see a 0.018°C temperature rise aversion by the year 2100, and only a fraction of that aversion by 2030. This is too small of a change for the economic damages that we would face. Also, the plan imposes tougher standards on existing power sources than on new power sources, which critics claim is unreasonable as older power sources will always be less efficient than newer ones. This essentially forces older power plants to limit their production to meet the high standards, inevitably shutting them down completely.

Another issue created by the Clean Power Plan is the issue of authority. Does the EPA have the right to control states' power sectors? According to Section 111(d) of the Clean Air Act, the EPA is limited to setting standards that facilities can affordably meet through technological or operational modifications. However, the Obama administration interpreted this to allow the EPA to set standards too tough for existing power facilities to meet, requiring these facilities to limit production or even shut down. And if the state were to fail to meet these limits, the EPA would be able to mandate an individualized power plan, completely removing the state government from consideration. This disrupts the federalist system that has been in place since the Constitution's inception.

In short, critics of the Clean Power Plan claim that the environmental benefits do not justify the large economic costs resulting from it.

Climate change is real. It is strange that we still have to reiterate this fact, but our current administration's stance on climate change makes it necessary. It is important to note that America is not the only contributor to climate change. China, for example, spews over double America's CO<sub>2</sub> emissions, killing 1.1 million Chinese each year. Although the Clean Power Plan takes the right step towards global climate reform, it is unfair to economically punish ourselves while other countries enjoy the financial benefits of unrestricted CO<sub>2</sub> emissions. This is why I believe this should not be a national issue, but a global issue. The Paris Agreement is a good example of a global effort to curb climate change, but it fails in enforcing and monitoring carbon emissions: countries are not legally

obligated to meet these standards until it comes into effect, after 55% of the world's carbon emitters ratify the treaty. I would like to see a more aggressive global approach to climate change, rewarding those who commit to using more renewable energy and punishing those who fail to adapt to the standards.

Another way I feel the Clean Power Plan failed is its focus. As of February 2016, emissions stemming from transportation were higher than emissions caused by power plants. I believe America should revitalize its public transportation networks and create more mass-transportation methods rather than shut down power plants, increasing rates across the nation. Especially as Americans continue to branch out further and further from city hubs to the suburbs, our reliance on personal vehicles increases. If our bus systems were to be revamped, we would see up to 50 single-passenger vehicles replaced by just one bus. Not only will this decrease road wear, it would also increase efficiency and would offer a cheaper alternative to a car. The current state of America's public transportation is shameful. I work with a man who recently immigrated from Nigeria, and the lack of bus stops forces him to either walk over two hours each day (each way!), or purchase a trip from a ridesharing company such as Uber or Lyft, severely cutting into his free time / money. Creating more bus stops does not seem as difficult as retrofitting billion dollar CO<sub>2</sub> capture devices on crumbling decades-old power plants.

In conclusion, climate change and CO<sub>2</sub> emissions is a multilateral issue. The Clean Power Plan's focus solely on power plants was too narrow in scope, especially since transportation emissions top power plant emissions as of 2016. We cannot solve the issue with only one plan, and we definitely cannot solve the issue by refusing to acknowledge climate change. The United States' isolationist stance on climate change is dangerous. We will not become carbon-neutral overnight; we need to work towards sustainability with experimental acts such as the Clean Power Plan.

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