



Testimony

Submitted on behalf of the
Pennsylvania Chamber of Business and Industry

Hearing on the Energy Effects of the EPA's Clean Power Plan

Before the:

Senate Environmental Resources and Energy Committee

Presented by:

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Chairman Yaw, Chairman Yudichak and members of the committee, my name is Kevin Sunday, Manager of Government Affairs for the Pennsylvania Chamber of Business & Industry. The PA Chamber is the largest, broad-based business advocacy association in the Commonwealth. Our members are of all sizes, crossing all industry sectors throughout Pennsylvania. Thank you for the opportunity for the PA Chamber and its members to express our concern with the energy and economic implications of the Environmental Protection Agency's proposed plan to regulate greenhouse gas emission from existing power plants.

While many of the PA Chamber's members are directly involved in extracting, refining, transporting or moving energy, all of our members need energy to operate. Energy inputs are required for every single transaction or exchange of goods or services that contributes to our GDP. Simply put, without affordable, reliable, stable and diverse sources of energy, no business, industry or economy can survive.

For many years, Pennsylvania's diverse portfolio of energy resources, including coal, oil, gas, nuclear, solar, wind, hydropower and other renewable, as well as its competitive electricity market, has fostered an environment that put Pennsylvania in a position to compete with other states and other countries to retain, expand and attract businesses. Because of Pennsylvania's leadership in establishing competitive electricity markets, as well as being second in the nation for total power generation, natural gas production and nuclear assets, and fourth in the nation in coal production, wholesale electricity prices have trended downward significantly in recent years, with a more than 50% decrease between 2008 and 2012¹. We are also a net exporter of both natural gas and electricity. This has given Pennsylvania an unparalleled competitive advantage and helps us compete despite the challenges presented of the state's business tax structure². Energy prices are one of the reasons that in 2013³ more new corporate facilities opened their doors in PA than the rest of the northeastern states combined and one of the biggest reasons our present unemployment rate is significantly less than the national average and below pre-recession levels⁴.

Industry in Pennsylvania and across the United States has taken great strides to reduce emissions of all pollutants, including greenhouse gasses. The power generation sector in Pennsylvania has reduced greenhouse gas emissions by 14% since 2005⁵. In fact, America led the world in reducing greenhouse gas emissions over that time period⁶. Industry in the state has also, since 2008, reduced emissions of SO₂ by 68%, NO_x by 30% and VOCs by 21%⁷. These reductions are having a demonstrated impact on air quality,

¹ Pennsylvania State Energy Plan. Office of Governor Tom Corbett, January 2014. <http://energy.newpa.com/wp-content/uploads/2014/01/PA-State-Energy-Plan-Web.pdf>

² 2014 State Business Tax Climate Index. Tax Foundation, Oct. 9, 2013. <http://taxfoundation.org/article/2014-state-business-tax-climate-index>

³ Governor Corbett Announces Pennsylvania Ranks First in Northeast Region for New, Expanded Corporate Facilities. Office of Governor Tom Corbett, March 5, 2014. <http://www.newpa.com/newsroom/pennsylvania-ranks-first-northeast-region-2013>

⁴ Pennsylvania's Workforce Statistics. Department of Labor & Industry, April 2014. <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=1216762&mode=2>

⁵ Electric Power Industry Emissions Back to 1990, Pennsylvania. U.S. Energy Information Administration, April 1, 2014. <http://www.eia.gov/electricity/state/pennsylvania/xls/sept07PA.xls>

⁶ Some fracking good news, *The Economist*, May 25, 2012. <http://www.economist.com/blogs/schumpeter/2012/05/americas-falling-carbon-dioxide-emissions>

⁷ 2012 Natural Gas Emissions Inventory. Pennsylvania Department of Environmental Protection, Air Quality Technical Advisory Committee, April 3, 2014. http://www.dep.state.pa.us/dep/subject/advoun/aqtac/2014/4-3-14/Marcellus_AQTAC_Unconventional_Gas_03-13-2014.pdf

with DEP forecasting fewer and fewer severe air quality alerts each year⁸ – a significant development considering DEP announced two years ago it added eight additional regions, for a total of 13 regions.

Unfortunately, the EPA’s proposal threatens Pennsylvania’s biggest competitive advantage, which is low energy prices. The proposal threatens to drastically change the way Pennsylvania produces and uses energy. This change is likely to come with a significant economic impact to the business community, as well as threaten reliability across the grid. Even more disturbingly, the significant costs of this rule by the EPA’s own admission will result in relatively small reductions in global emissions, likely soon to be eclipsed by development abroad. The United States contributes a mere 16 percent of global greenhouse gas emissions⁹, and its power generation sector just 40 percent of that¹⁰. The 30 percent nationwide reduction by power producers that EPA is seeking equates to a temporary and arguably insignificant decrease in greenhouse gasses globally of less than 2 percent.

Pennsylvania is part of the PJM Interconnection, a grid that provides power to 61 million Americans in 13 states and the District of Columbia¹¹. This past winter, the grid came close to a catastrophic failure as a multitude of conditions threatened to disrupt the grid, including historic demand, transmission constraints and scarcity of fuels. There were at the time 183 giga-watts (GW) of installed capacity in the grid, but at any given time some percentage of that may be unavailable due to maintenance, repair or fuel supply¹². On January 7, 2014, available power totaled slightly more than 142 GW. Demand peaked that day at 141 GW¹³, meaning the grid was very close to failure. By the end of next year, we will have seen more than 5 GW of coal-fired power plant shutdowns¹⁴. EPA estimates an additional 4.6 GW will retire as a direct result of the greenhouse gas rule in coming years¹⁵. If recent history is any indication, there may be more retirements than anticipated.

While a number of new power plants are in various stages of development, significant questions remain if the grid will be in a position to deal with the scenario we faced this past January. Historically, demand in PJM peaked during the summer, when demand for natural gas was low. Because the EPA’s plan expects that natural gas be dispatched over other sources, the PA Chamber questions if existing transmission and supply constraints will be eased in time for Pennsylvania to comply with this rule.

⁸ Action Days. Pennsylvania Department of Environmental Protection, Bureau of Air Quality.

http://www.ahs2.dep.state.pa.us/air_apps/airpartners/code_red.asp

⁹ Total Carbon Dioxide Emissions from the Consumption of Energy (Million Metric Tons). U.S. Energy Information Administration. <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>

¹⁰ National Greenhouse Gas Emissions Data. U.S. Environmental Protection Agency.

<http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html>

¹¹ About PJM. PJM Interconnection. <http://www.pjm.com/about-pjm.aspx>

¹² Testimony of F. Stuart Bresler, III, on behalf of PJM Interconnection, before the Pennsylvania Senate Consumer Protection and Professional Licensure Committee, April 1, 2014.

¹³ *Ibid.*

¹⁴ Pennsylvania Electric Power Generation Association Presentation to the Greater Reading Chamber, Feb. 2014.

http://www.epga.org/documents/GreaterReadingChamberPresentation-FEB2014_000.pdf

¹⁵ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

EPA's draft rule proposes a number of approaches for Pennsylvania to achieve a very aggressive reduction target of 32% below 2012 levels¹⁶, based on a number of assumptions, including that existing plants can (and will) become significantly more efficient, that existing and new natural gas plants can (and will) run significantly more often, and that Pennsylvania can (and will) deploy considerable renewable assets and energy-efficiency measures beyond those already required by law. Each of these so-called "building blocks" will come with a cost. There remain significant questions as to the ability of Pennsylvania to comply with this target without additional shutdowns of coal-fired facilities. The proposal put forward by EPA is unlike any other emissions reduction strategy ever developed, and we believe the sort of approach envisioned in a recent Pennsylvania DEP whitepaper¹⁷, where achievable reductions at fossil-fuel generating plants are identified, with so-called "outside the fence" measures are made available – but not required – to achieve compliance, is a more appropriate strategy.

We urge this committee and the General Assembly to work with Congress, business, and labor to urge EPA to give Pennsylvania a realistic emissions reduction target, as well as ensure Pennsylvania is given credit for the significant emissions reductions due to previous and future plant retirements, power plant fuel conversions, energy efficiency requirements and alternative energy portfolio mandates. The PA Chamber also urges that innovative strategies being adopted by businesses across the state, such as combined heat and power systems and smart meters, be recognized for their efforts in emissions reductions.

Thank you for your time and I look forward to answering any questions you may have.

Further Background and Discussion Regarding EPA's Proposal and Implications to Pennsylvania's Economy

On June 25, 2013, President Barack Obama issued a Presidential Memorandum, "Power Sector Carbon Pollution Standards,"¹⁸ tasking the federal Environmental Protection Agency (EPA) with reducing greenhouse gas pollutants from power plants. The Memorandum directed EPA to develop two separate rulemakings: one under Section 111(b) of the Clean Air Act¹⁹, entitled "Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units" and another under section 111(d) of the Clean Air Act, involving greenhouse gas emissions for modified, reconstructed and existing power plants.

Section 111(b) of the Clean Air Act requires EPA to issue New Source Performance Standards for categories of sources that are determined to cause, or contribute significantly to, air pollution which can reasonably be anticipated to endanger public health or welfare, using "best systems of emissions reductions" or BSER to reduce emissions of such pollution. On January 8, 2014, EPA published in the

¹⁶ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

¹⁷ Recommended Framework for the Section 111(d) Emissions Guidelines Addressing Carbon Dioxide Standards for Existing Fossil Fuel-Fired Power Plants. Pennsylvania Department of Environmental Protection, April 10, 2014. <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-100322/2700-UK-DEP4446%20combined.pdf>

¹⁸ Presidential Memorandum -- Power Sector Carbon Pollution Standards. Office of the White House Press Secretary, June 25, 2013. <http://www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards>

¹⁹The Clean Air Act, 42 U.S.C. 7401–7626. <http://www.epw.senate.gov/envlaws/cleanair.pdf>

Federal Register a notice announcing proposed rules for new fossil fuel-fired plants²⁰. The rule proposes to establish an emissions limit of 1,110 lb CO₂/MWh for new coal-fired power plants, based on a requirement to use carbon capture and sequestration (CCS). New natural gas-fired power plants would, under the proposal, face an emissions limit of 1,000 or 1,100 lb CO₂/MWh, depending on the size of the units. Natural gas-fired power plants would not be required to operate using CCS as an emissions control, and industry estimates that nearly all existing natural gas power plants could meet the more stringent standard of 1,000 lb CO₂/MWh.

More pressing, though, is the fact that at present, CCS is a prohibitively expensive emissions control, one that adds, according to the Pennsylvania Department of Environmental Protection (DEP), an additional 80% to the cost of building a power plant²¹. As DEP notes in a comment letter to EPA, the Clean Air Act requires that BSER that have been “adequately demonstrated.” CCS has not been deployed commercially at any electric generating plant in the United States, with only a handful of such projects existing at the planning stages²².

Putting aside concerns with whether or not CCS legally constitute BSER when it has not been adequately demonstrated, EPA’s 111(b) greenhouse gas proposal for new sources at minimum identified a pollutant, a source, and an emissions limit for that pollutant for that source. This is similar to the approach historically undertaken by EPA with respect to a variety of pollutant emissions from solid waste landfills, copper smelters, steel plants, automobile painting operations and other industrial source categories.

The EPA’s proposal to regulate greenhouse gas emissions for existing sources under 111(d) is, however, a significant departure from this type of approach.

Proposed Carbon Pollution Emissions Guidelines for Existing Stationary Sources: Electric Utility Generating Units

On June 2, 2014 (one day later than prescribed by the Presidential Memorandum), EPA Administrator Gina McCarthy unveiled the agency’s proposal to reduce greenhouse gas emissions from EGU’s. The proposal seeks a nationwide reduction of greenhouse gas emissions of 30% below 2005 levels by 2030. Each state is given interim (2020-2029 average) and final (2030) reduction mandates, identified as pounds of CO₂ per mega-watt hour for their fossil fuel electric generating fleet. Each state’s target is different, based on, according to EPA, each state’s ability to approach GHG reductions from fossil fuel plants using various “building blocks²³.”

These building blocks include:

²⁰ Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. U.S. Environmental Protection Agency, Federal Register, Jan. 8, 2014 <https://www.federalregister.gov/articles/2014/01/08/2013-28668/standards-of-performance-for-greenhouse-gas-emissions-from-new-stationary-sources-electric-utility#h-9>

²¹ Re: Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. Pennsylvania Department of Environmental Protection, June 25, 2012.

²² Power Plant Carbon Dioxide and Storage Projects. Massachusetts Institute of Technology, December 2013. http://sequestration.mit.edu/tools/projects/index_capture.html

²³ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

- improving efficiency at fossil fuel-fired plants;
- dispatching more electricity from units that are less or zero-carbon emitting; and
- implementing demand-side energy efficiency.

There is, according to EPA, a cost for each of these strategies that will ultimately be borne by consumers and businesses. Pennsylvania’s target is an aggressive one, especially when compared to neighboring or other energy producing states.

State	2012 Emissions (million metric tons of CO2)	2012 Energy Output (TWh)	2012 Emission Rate (Fossil, Renewable, and 6% Nuclear) (lbs/MWh)	2030 State Goal (lbs/MWh)	% rate reduction	Rate Reductions (lbs/MWh)
Colorado	38.45	49.45	1,714	1,108	35	606
Kentucky	82.89	84.69	2,158	1,763	19	395
Louisiana	44.52	66.97	1,466	883	40	583
Maryland	18.30	21.57	1,870	1,187	37	683
Montana	16.26	15.97	2,245	1,771	21	474
New Jersey	11.83	27.98	932	531	43	401
New York	31.58	70.85	983	549	45	434
North Dakota	30.27	33.47	1,994	1,783	11	211
Ohio	92.86	110.65	1,850	1,338	28	512
Oklahoma	47.86	76.07	1,387	895	35	492
Pennsylvania	105.83	151.46	1,540	1,052	32	488
Texas	223.15	378.96	1,298	791	39	507
West Virginia	65.61	71.64	2,019	1,620	20	399
Wyoming	45.36	47.28	2,115	1,714	19	401

Source: EPA Clean Power Plan, June 2, 2014

Issues with the Proposed Rule

EPA set each state’s target using 2012 data – a troubling baseline given the fact that several coal-fired power plants in PJM territory had either shut down at that point²⁴ or invested significant capital to improve efficiency²⁵. Further, in 2004, Pennsylvania enacted legislation creating Alternative Energy Portfolio Standards, requiring the increased deployment and use of alternative, low-carbon power

²⁴Exelon, Progress to Shutter More Than 2,400-MW of Coal-Fired Generation; AMP Pulls Plug on Ohio Project, December 2, 2009. <http://www.powermag.com/exelon-progress-to-shutter-more-than-2400-mw-of-coal-fired-generation-amp-pulls-plug-on-ohio-project/>

²⁵AEP Shares Plan For Compliance With Proposed EPA Regulations, June 9, 2011. <http://www.aep.com/newsroom/newsreleases/?id=1697>

generation sources. EPA should move the baseline back to 2005 in order to capture the significant reductions achieved by these actions in Pennsylvania. Further, Pennsylvania must be given credit for these reductions or it is likely that additional coal-fired units will shut down.

EPA's formula for setting the targets includes an expected 6% improvement in heat rate at coal-fired power plants²⁶. Such investments are likely to require significant sums of capital²⁷. Pursuant to the Clean Air Act, significant investments into an existing source may cause the facility to undergo New Source Review, meaning it is subject to regulations applicable to new, not existing sources. If EPA's 111(b) regulation for new EGUs is finalized as proposed, coal plants investing the capital to achieve the expected 6% improvement might then be expected to deploy CCS, which, as discussed above in this testimony, would render the project economically unviable. Even in the absence of finalization of EPA's 111(b) rule, EPA's NSR requirements create perverse environmental incentives, and can actually impede the deployment of newer and more efficient technologies.

Further, Pennsylvania's electric generators operate in a competitive market, not a rate-based market. Generators compete for the ability to provide electricity on an economic basis. Other states that remain in a vertically integrated, rate-based utility structure have "captive" ratepayers that would bear the cost. In contrast, Pennsylvania generators will have to incorporate the costs of facility improvements into their bidding price. Generators may very well find that the combination of upfront capital costs to achieve these improvements, paired with tremendous uncertainty about the ability to ever recover them, will lead to a decision to close the plants. The loss of additional coal plants, and by extension a loss of competition among generating units, likely translates to a significant economic impact to all consumers of energy, including business, in the state.

EPA's rule also expects states to dispatch at minimum 70% of the nameplate capacity of natural gas-fired plants. Generators in Pennsylvania must bid into PJM's capacity markets. Currently, generators do so on an economic basis. Historically, coal has provided baseload power given its low costs. The forced incentivizing of natural gas over coal threatens to imprint a significant distortion on the market. It is also a significant concern to the PA Chamber if enough infrastructure and fuel supply will be available to ensure that this much generation from natural gas occurs. In its proposed rule, EPA itself estimates that this forced demand increase will drive up natural gas spot prices by 12.5% in 2020²⁸. This will impact not only electricity ratepayers, but manufacturing and other industries that rely heavily upon natural gas as a production feedstock.

Given that EPA purported to examine each state's individual conditions, it is unreasonable that it should be expected that 70% of each state's total natural gas-fired power plant capacity run at minimum year in and year out. EPA should review recent PJM capacity auction results for an understanding of realistically achievable natural gas dispatch. In particular, a review of the dispatched generation in 2012 would be particularly instructive, given that that year was one in which natural gas prices were at their lowest

²⁶ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

²⁷ Coal-Fired Power Plant Heat Rate Reductions. Sargent & Lundy, January 22, 2009. <http://www.epa.gov/airmarkt/resource/docs/coal-fired.pdf>

²⁸ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

point in years and dispatched natural gas-fired capacity did not approach 70%.²⁹ Further, the homogenous energy mix resulting from such explicit preference in fuel sources could leave the grid more vulnerable to supply constraints and price shocks due to unforeseen production and transmission disruption.

Increased reliance on renewable fuels raises a number of reliability and cost concerns. As a recent report noted, “[a]s the auctions deal with a fungible capacity product, there is no way to distinguish between resources on the basis of environmental attributes In many cases renewable or otherwise environmentally preferred resources are more expensive. State attempts to support such resources have run into concerns of buyer-side market power.”³⁰ The same report also noted that wind and solar at present cannot be dispatched at times of peak demand, such that “increased reliance on these resources places additional stress on the system.”³¹

Further, EPA’s proposed renewable targets—which are based on a complex formula that expects states to adopt renewable portfolio standards at or similar to levels mandated in neighboring states—appear to disproportionately burden Pennsylvania. Under EPA’s proposal, PA would have to add more than 30,000 Gigawatt-hours of renewable generation by 2030—the second-most of any state in the country and an increase of almost 800 percent over current levels.³²

The General Assembly should also urge EPA to recognize the significant reductions achieved by converting a coal plant to other fuels, as there are several recent projects underway in Pennsylvania to do just that. For example, one PA Chamber member announced it would be converting a plant in southwestern Pennsylvania to natural gas by May 2016³³ and another along the New Jersey border to low-sulfur diesel oil³⁴. According to NRG, the switch to low-sulfur diesel oil would reduce CO2 emissions at the plant by 93 percent, in addition to significant reductions of other pollutants. At present, EPA’s rule does not clearly recognize the emissions reductions of such conversions.

EPA’s rule also flirts with requiring CCS for natural gas plants, noting that the agency “invite[s] comment on whether incremental emissions reductions from new NGCC units that outperform performance standards for such units under CAA section 111(b) based on the use of CCS should be allowed as a compliance option to help meet the emission performance level required under a CAA section 111(d) state plan.”³⁵ The PA Chamber urges the General Assembly to oppose the inclusion of CCS requirements

²⁹ 2012 State of the Market Report for PJM. Monitoring Analytics, LLC, March 14, 2013.

http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2012.shtml

³⁰ Markets Matter: Expect a Bumpy Ride on the Road to Reduced CO2 Emissions. Navigant Consulting, May 2014.

<http://www.navigant.com/~media/WWW/Site/Insights/Economics/ECONMarketMattersNOCOVERTL052214.ashx>

³¹ *Ibid.*

³² Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

³³ NRG Energy to burn natural gas at coal-fired power plant. Pittsburgh Tribune Review, June 25, 2013. <http://triblive.com/business/headlines/4249970-74/burn-coal-gas>

³⁴ Portland Generating Station to convert coal-fired boilers to use diesel fuel. Power Engineering, June 10, 2014. <http://www.power-eng.com/articles/2014/06/portland-generating-station-to-convert-coal-fired-boilers-to-use-diesel-fuel.html>

³⁵ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units. Environmental Protection Agency, June 2, 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602proposal-cleanpowerplan.pdf>

for any natural gas-fired power plant in Pennsylvania's state implementation plan, given the significant costs associated with such technology.

Finally, it is unclear whether the timeline proposed by EPA for states to both develop and implement their plans is sufficient. Once the final rulemaking is issued, states will have until June 2016 to submit a draft implementation plan for EPA approval. The PA Chamber questions, given the significance of this rulemaking and its complexity, if this timeframe is adequate. The comment period for the proposed rulemaking should be extended beyond the proposed 120 days, as was recently done for another significant rulemaking involving the Clean Water Act³⁶.

As demonstrated by steps already undertaken by industry, significant greenhouse gas reductions have been achieved. However, as Pennsylvania determines the path forward in which additional reductions are achieved, a careful consideration to the limits of available technology, the costs associated with various reductions strategies, the impact to the business community's ability to comply and bear such costs, and current and future global economic and environmental trends must be factored in.

EPA Seeks Further Greenhouse Gas Reductions from Other Sectors

EPA has asked for funding in its upcoming federal budget to develop emissions limits for a number of other industries, including petroleum refining, pulp and paper facilities, solid waste landfills, iron and steel production, animal feeding operations, and Portland cement manufacturing³⁷. Such a sweeping strategy of emissions limits could have significant impacts on these industries by discouraging or diverting investment, resulting in job losses and reduced GDP output.

For these reasons, the PA Chamber has joined the Partnership for a Better Energy Future, a national coalition of organizations resolved to urge EPA to develop and implement sensible energy regulations. Our fellow partners in Pennsylvania include the Associated Petroleum Industries of Pennsylvania, the Pennsylvania Manufacturers Association, the Pennsylvania chapter of the National Federation of Independent Business, the Pennsylvania Farm Bureau, PIOGA, ARIPPA, the Pennsylvania Waste Industries Association and the Pittsburgh Chamber of Commerce.

By discouraging domestic investment and, in turn, encouraging investment abroad – particularly in countries that lack pollution control programs – this regulatory approach is essentially exchanging American jobs for increased global greenhouse gas emissions.

³⁶ Definitions of the "Waters of the United States" Under the Clean Water Act. Federal Register, April 21, 2014. <https://www.federalregister.gov/articles/2014/04/21/2014-07142/definition-of-waters-of-the-united-states-under-the-clean-water-act>

³⁷ U.S. Environmental Protection Agency Fiscal Year 2015 Justification of Appropriation Estimates for the Committee on Appropriations, March 2014. http://www2.epa.gov/sites/production/files/2014-03/documents/fy2015_congressional_justification.pdf