



Statement of the Institute for 21st Century Energy U.S. Chamber of Commerce

ON: Environmental Protection Agency Clean Power Plan

TO: Pennsylvania State Senate Committee on Environmental Resources and Energy

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**Pennsylvania State Senate
Committee on Environmental Resources and Energy**

Hearing on Environmental Protection Agency Clean Power Plan

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U.S. Chamber of Commerce
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Chairman Yaw, Chairman Yudichak and members of the committee, thank you for the opportunity to testify this morning, and for holding this hearing on EPA's new carbon regulations on power plants.

My name is Dan Byers. I am senior director for policy at the Institute for 21st Century Energy, an affiliate of the U.S. Chamber of Commerce. The U.S. Chamber of Commerce is the world's largest business federation, representing the interests of more than three million businesses and organizations of every size, sector and region.

The mission of the Institute is to unify policymakers, regulators, business leaders, and the American public behind common sense energy strategy to help keep America secure, prosperous, and clean. In that regard we hope to be of service to this Committee and the state as it reviews and responds to EPA's greenhouse gas regulatory agenda.

America's abundance of affordable, reliable energy provides businesses a critical operating advantage in today's intensely competitive global economy. This is particularly true in Pennsylvania, as the state continues to reap both upstream and downstream benefits from the still emergent shale revolution.

Unfortunately, our national energy advantage is increasingly threatened by a flood of excessive and burdensome Environmental Protection Agency (EPA) regulations—including rules that precede and will no doubt follow the EPA's recently released Clean Power Plan that is today's topic of discussion. In a recent speech to the U.S. Chamber, FirstEnergy CEO Anthony Alexander (quoting economist Thomas Sowell) described this growing trend in energy policy as "replacing what worked with what sounded good."¹ It is our fear that this mindset was unfortunately prevalent throughout the development of EPA's new carbon rules, and that the ultimate result will be a more expensive, less reliable electricity system that reverberates negatively throughout the U.S. economy.

¹ April 2014 speech at U.S. Chamber of Commerce. Viewable at <https://www.youtube.com/watch?v=J5Hu9qkEqPs>

While review of EPA's proposed rule remains ongoing, it is clear the proposal will significantly transform how electricity in America is generated, transmitted, distributed, and used. Robust and comprehensive study of the potential electricity sector and broader economic impacts of the rule is necessary, but it does not take such an analysis to understand that a regulation of this scope and magnitude will negatively impact American families and businesses. As the Wall Street Journal noted in a recent editorial, "it is impossible to raise the price of carbon energy without also raising costs across the economy. The costs will ultimately flow to consumers and businesses."²

EPA's own analysis of this rule projects that it will result in nationwide electricity price increases of between 6 and 7 percent in 2020. EPA estimates annual electric sector compliance costs between \$5.4 and \$7.4 billion in 2020, rising up to \$8.8 billion in 2030. A separate analysis of the rule based on EPA assumptions estimated electric sector compliance costs of \$13.4 billion in 2030, including \$992 million for Pennsylvania.³

EPA also projects that the proposed rule could result in the shutdown of up to 49 GW of coal-fired capacity by 2020. This would be in addition to approximately 54 GW of coal-fired shutdowns linked to prior EPA rules, and raises serious concerns regarding the potential impact of such shutdowns on the future reliability of the electric grid.⁴

Perhaps most troubling, nearly a month after its release, the specific implications of EPA's proposal remain clouded by its complex and confusing structure, and the fact that the agency's proposed emissions limitations on individual states vary widely based on complex and detailed assumptions and formulas that may not reflect reality, what is practical, or even what is legal.

With this in mind, I would like to emphasize five key aspects of EPA's proposed rule that we believe warrant further attention:

1. Contrary to EPA claims, the "outside-the-fence" framework of the proposed rule does not maximize state compliance flexibility, but rather increases the stringency of emissions reductions targets. The resultant binding targets are likely to present many states with major compliance challenges.
2. EPA's complex design—with 49 different proposed state emissions rates based on four different emissions reduction building blocks—results in wide disparities between states. These disparities appear to disadvantage Pennsylvania, particularly with respect to renewable generation targets.
3. The rule's impact on global carbon emissions and potential future climate change will be negligible, effectively meaning that EPA's power plant rules will be "All Pain, No Gain."

² <http://online.wsj.com/articles/carbon-income-inequality-1401752504>

³ [http://www.synapse-energy.com/Downloads/SynapsePresentation.2014-06.0.111\(d\)-webinar.S0094.pdf](http://www.synapse-energy.com/Downloads/SynapsePresentation.2014-06.0.111(d)-webinar.S0094.pdf)

⁴ <http://www.eia.gov/todayinenergy/detail.cfm?id=15031>

4. The potential negative impacts of EPA’s rule extend well beyond the utility sector.
 5. EPA must expand its public outreach process and extend its currently rushed and arbitrary deadlines for the public comment period, rule finalization, and state implementation plans.
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1. Compliance Flexibility and State Target Achievability

In order to fully evaluate the impact of EPA’s proposal on individual states, it is important to first understand EPA’s assumptions and expectations with respect to overall state emissions targets as well as the reasonableness and achievability of various compliance options.

In short, EPA’s national goal to reduce overall carbon emissions 30 percent below 2005 levels by 2030 is the product of 49 individual state goals to reduce emissions *rates*—the amount of carbon emitted per unit of electricity generated— a certain percentage below 2012 levels by 2030. For example, EPA proposes that Pennsylvania reduce its carbon emissions per unit of electricity generation 31 percent below 2012 levels by 2030.⁵ Other state reduction targets range from 11% (North Dakota) to 72% (Washington).

These top-line rate reduction targets are of limited use and do not necessarily reflect the compliance challenges facing individual states. Rather, the achievability of EPA’s individual state emissions rate targets is more dependent on the reasonableness of EPA’s assumptions regarding state capabilities to meet the four “building blocks” it used to develop the individual targets. These building blocks are (1) increase coal plant heat-rate efficiency by 6%; (2) re-dispatch coal generation to natural gas; (3) increase deployment of renewable energy and limit potential retirements of nuclear generation; and (4) reduced electricity demand by 1.5% annually.⁶

EPA has indicated that this building block design—particularly the “outside-the-fence” actions in building blocks 2-4—helps to maximize state compliance flexibility. In her speech announcing the rule, EPA Administrator Gina McCarthy emphasized that states can “pick from a portfolio of options” and “mix and match to get to their goal.”⁷ While many states and stakeholders (including the Pennsylvania Department of Environmental Protection, for

⁵ <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-goal-computation.pdf>

⁶ Details available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>

⁷ <http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/c45baade030b640785257ceb003f3ac3!OpenDocument>

example⁸) sought maximum compliance flexibility, it is important to recognize that EPA's use of the "outside-the-fence" framework was not geared toward increasing flexibility but rather increasing the stringency of the rule.

By adding outside-the-fence building blocks and creating aggressive emissions reduction targets for each, EPA was able to tighten individual state targets substantially. While EPA's "mix and match" messaging seems to imply otherwise, if the emissions reductions called for from one individual building block are not met, they must be made up for through even greater reductions in another building block (or by alternative measures that EPA does not specify). EPA's rule states that individual building block targets are based on "reasonably achievable rather than maximum performance levels."⁹ However, if this is not the case—as appears likely—states will face major compliance challenges.

Energy Efficiency Building Block

To cite just one example, building block #4 assumes that each state can reduce electricity demand by 1.5 percent annually between 2017 and 2030 through deployment of energy efficiency measures.¹⁰ However, between 2006 and 2010, only one state (Vermont), sustained such a high energy efficiency rate (Figure 1).¹¹ Most states achieved no better than 0.75 percent—half of EPA's target. After de minimis efficiency gains between 2006 and 2008, Pennsylvania achieved efficiency gains of 0.19% and 0.23% in 2009 and 2010, respectively.¹² The state's task ahead is likely even more difficult in light of recent and projected growth in manufacturing and industrial sectors.

EPA's own technical support documents filed with the proposed rule cite research data indicating that 1.5 percent annual electricity savings from efficiency measures is too aggressive. Specifically, EPA cites a 2014 study by the Electric Power Research Institute finding that average annual achievable energy efficiency potential is no more than 0.6%.¹³ Despite this detailed evidence, the agency still concluded that it would be "reasonably achievable" for states to deliver 1.5% annual gains, and to sustain those gains for 13 straight years. It based this conclusion primarily on the fact that 11 states have energy efficiency *targets* of 1.5% or higher. We strongly believe that EPA's building block targets should be based on a combination of what has actually been demonstrated and is considered reasonably achievable, not aspirational targets in a handful of states.

⁸ <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-100322/2700-UK-DEP4446%20combined.pdf>

⁹ <https://www.federalregister.gov/articles/2014/06/18/2014-13726/carbon-pollution-emission-guidelines-for-existing-stationary-sources-electric-utility-generating#p-964>

¹⁰ Chapter five of GHG Abatement Measures Technical Support Document, available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>

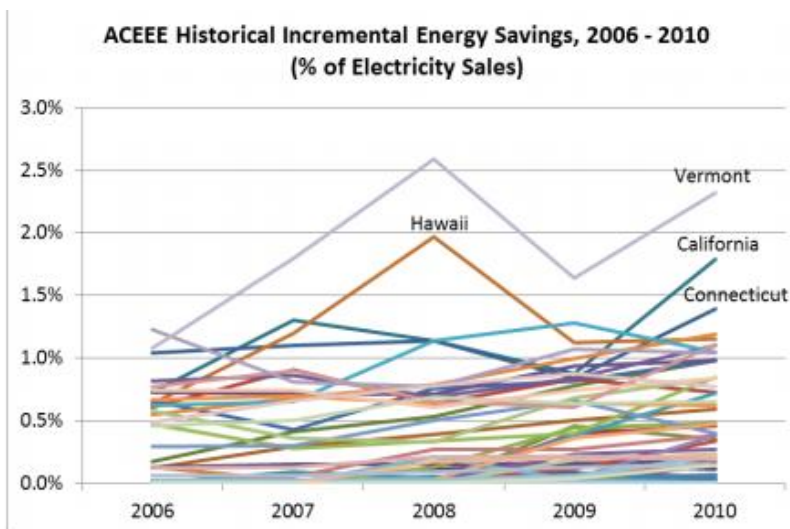
¹¹ Source: NERA Economic Consulting summary of American Council for an Energy Efficient Economy data, on behalf of the American Coalition for Clean Coal Electricity

<http://americaspower.org/sites/default/files/NERA%20NRDC%20March%202014.pdf>

¹² Individual state scorecards available at <http://www.aceee.org/state-policy/scorecard>

¹³ <http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=00000000001025477>

Figure 1. State energy savings due to efficiency measures, 2006-2010.¹⁴



Pennsylvania Energy Efficiency Savings

Year	Savings as % of electricity sales	MWh savings	State rank
2006	0	2279	36
2007	0	3800	37
2008	0	2715	45
2009	0.19	278925	31
2010	0.23	344256	32

Natural Gas Redispatch Building Block

Another issue regarding state target achievability that warrants further attention and consideration is building block number 2—redispatch from coal to gas. Essentially, EPA assumes that states can change electricity dispatch orders, instituting a price on carbon (EPA assumes \$30 per ton) to force the electricity grid to utilize natural gas before dispatching coal units. EPA assumes that implementation of this building block can increase the natural gas electric generation capacity factor to 70%—a utilization rate that the agency notes was only achieved by 10% of power plants in 2012.¹⁵

This building block raises major legal, technical, practical, and economic issues for states and EPA that must be examined and discussed thoroughly before such a regime is in place. Additionally, however, it is important to note that EPA’s selection of 2012 as the baseline year for this building block will add to state compliance challenges. This is because natural gas was relatively inexpensive in 2012, which resulted in a higher dispatch rate than in surrounding years (Table 1). This variation is even greater in Pennsylvania, where we estimate natural gas combined cycle (NGCC) capacity was just 47% in 2011—well below the 59% rate for 2012 that EPA uses in its building block calculations. As a result, the cost and achievability of this building block presents Pennsylvania with a greater burden than may meet the eye. Finally, it is also

¹⁴ Source: NERA Economic Consulting summary of American Council for an Energy Efficient Economy data, on behalf of the American Coalition for Clean Coal Electricity
<http://americaspower.org/sites/default/files/NERA%20NRDC%20March%202014.pdf>. Individual state scorecards available at <http://www.aceee.org/state-policy/scorecard>

¹⁵ Chapter 3 of GHG Abatement Measures Technical Support Document, available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>

important to recognize the impacts of EPA’s decision to use 2012 as the baseline for initial state emissions rates. Because the natural gas capacity factor was unusually high in 2012 (and coal was unusually low), EPA’s adjusted emissions rates are likely artificially low relative to the historical norm.

Table 1. Annual Capacity Factors for Utility Scale Generators¹⁶

Year	Coal	Natural Gas Fired Combustion Cycle
2008	73.4%	40.1%
2009	65.1%	39.8%
2010	67.9%	43.8%
2011	63.7%	43.6%
2012	56.7%	51.1%
2013	59.7%	46.5%

2. Shortcomings in EPA’s Renewable Generation Targets

Another area warranting attention and further review with respect to EPA’s rule design concerns building block #3 and the agency’s formula for calculating state renewable energy targets. For this building block, EPA grouped states into geographic regions, averaged the state renewable portfolio standards (RPSs) for those regions, and then calculated a regional annual growth factor through which the region would collectively achieve the RPS average by 2030.

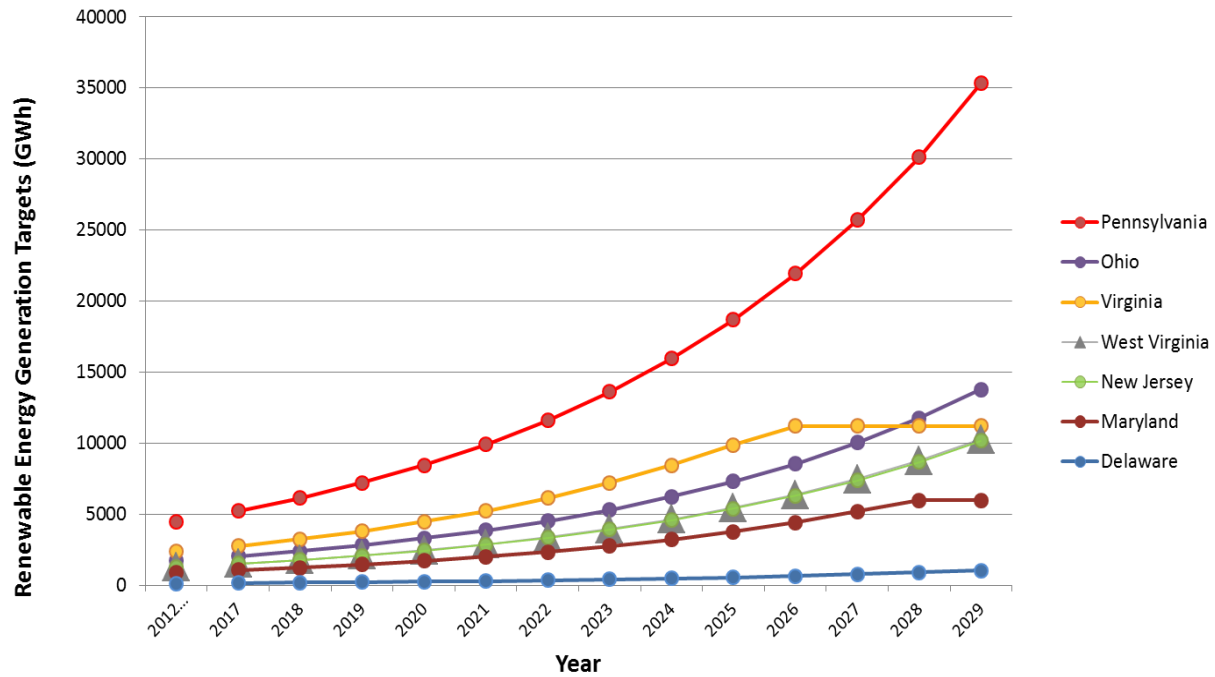
For example, the renewable target for the East Central region is calculated as the average of 2020 RPS requirements in Ohio (9%), Pennsylvania (8%), Maryland (18%), New Jersey (22%), Delaware (19%), and DC (20%).¹⁷ This average is 16%, and the annual growth factor for states in the region is 17.3%—the highest in the country. Within each region, this annual growth factor is then applied on a per-state basis to each individual state’s renewable energy generation. This means that each state is generally responsible for the same annual percentage growth in renewable energy generation as the other states in their region.

It appears that EPA’s assumptions and formula for this building block significantly disadvantage Pennsylvania. In developing renewable energy targets for states in this region, EPA applies the 17.3% annual growth factor every year between 2016 and 2029 (Figure 2). As a result, Pennsylvania’s renewable generation would grow by more than 30,000 GWh between now and 2030—second in the country only to Texas, and more than EPA’s target growth for Ohio, New Jersey, and Virginia *combined*.

¹⁶ Source: <http://www.eia.gov/electricity/monthly/pdf/epm.pdf#page=145>

¹⁷ Chapter 4 of EPA GHG abatement measures technical support document, available at: <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>. Virginia and West Virginia are also part of this region but not included in EPA’s calculation because they do not have RPS targets.

Figure 2. EPA Renewable Energy Generation Targets, East Central Region.



Why is this? First, because EPA uses a 2012 baseline, not only do states such as PA not get credit for recent renewables increases, they are effectively penalized for it. Applied to Pennsylvania’s relatively large baseline of renewable generation, EPA’s 17% annual renewable energy growth factor for the region drives up the state’s target dramatically. If Pennsylvania had not enacted an RPS in 2004, its baseline—and therefore its ultimate renewable target—would be much, much lower.

Additionally, the renewable target for EPA’s “East Central” region has been inflated by the fact that EPA determined its regional renewable targets by simply taking a raw average of member states 2020 RPS goals. As a result, the relatively high RPS’s of Delaware (19%) and DC (20%)—which produce just 3% of the region’s renewable energy—are weighted equally with the lower RPSs in Pennsylvania (8%) and Ohio (8.5%), which currently produce 56% of the region’s renewable energy. Based on our analysis, if EPA were to determine its regional and state targets on a more appropriate generation-weighted basis, this small state distortion would be eliminated, and the region’s renewable target would be reduced from 16% to 13.7%. That does not sound like much, but it translates to a reduced annual growth factor that, when compounded, over 13 years, lowers the region’s collective renewable target by almost 14,000 GWh—more than all seven states in the region currently produce *combined*. Pennsylvania’s target alone would be reduced by 5,000 GWh—a very significant amount that would undoubtedly lessen pressure on rate increases, the need for significant additional electric transmission infrastructure, and other renewable deployment challenges.

Finally, while obviously not EPA’s fault, the recent signing of legislation pausing Ohio’s RPS further illustrates the crude and subjective nature of EPA’s renewable target formulas. Based

on the updated law, Ohio's 2020 RPS is reduced from 8.5% to 6.5%. Using EPA's formula, the lowered Ohio target would reduce the East Central region's collective renewable generation target by an additional 6,000 GWh.

Examples such as this appear to be common throughout the country, and as such reinforce the need to conduct a more comprehensive state-by-state and building block-by-building block analysis of potential compliance and fairness issues embedded within EPA's individual state emissions rate reduction targets.

3. Global Context and Rulemaking's Negligible Impact on Potential Future Climate Change.

Beyond the design and technical concerns associated with this rule, beyond increased electricity rates, stranded assets, reliability concerns, state disparities and questions of fairness, EPA's proposal suffers from an overarching and inescapable flaw: its failure to meaningfully address its underlying purpose: climate change. For example, EPA estimates that in 2030, its proposed rule would reduce carbon dioxide emissions 555 million metric tons (mmt) below current projections.¹⁸ While this amount is 10 percent of total projected U.S. CO2 emissions, it represents only 1.3 percent of projected global emissions in 2030 (Figure 3). This is because non-U.S. CO2 emissions—which already represent 82% of global emissions—are projected to grow by 41 percent between 2010 and 2030. Put another way, EPA's proposed rule will offset the equivalent of 13.5 days of Chinese emissions in 2030, based on U.S. Department of Energy projections.¹⁹

EPA and the Obama Administration do not dispute the reality that unilateral U.S. efforts to regulate CO2 will be futile. Administrator McCarthy, Secretary of State Kerry, and even President Obama have emphasized that, in the absence of similar actions by other major economies, U.S. regulations to address carbon emissions will fail.²⁰ In a recent speech, Secretary Kerry noted that:

*[T]he United States cannot solve this problem or foot the bill alone. Even if every single American got on a bicycle tomorrow and carpooled – instead of – or carpooled to school instead of buses or riding in individual cars or driving, or rode their bike to work, or used only solar powers – panels in order to power their homes; if we each, every American, planted a dozen trees; if we eliminated all of our domestic greenhouse gas emissions – guess what? That still wouldn't be enough to counter the carbon pollution coming from the rest of the world. Because today, if even one or two economies neglects to respond to this threat, it can counter, erase all of the good work that the rest of the world has done. When I say we need a global solution, I mean we need a global solution.*²¹

¹⁸ <https://www.federalregister.gov/articles/2014/06/18/2014-13726/carbon-pollution-emission-guidelines-for-existing-stationary-sources-electric-utility-generating#p-1353>

¹⁹ www.eia.gov/forecasts/ieo/table21.cfm. DOE projects annual Chinese CO2 emissions in 2030 to be 14,028 mmt.

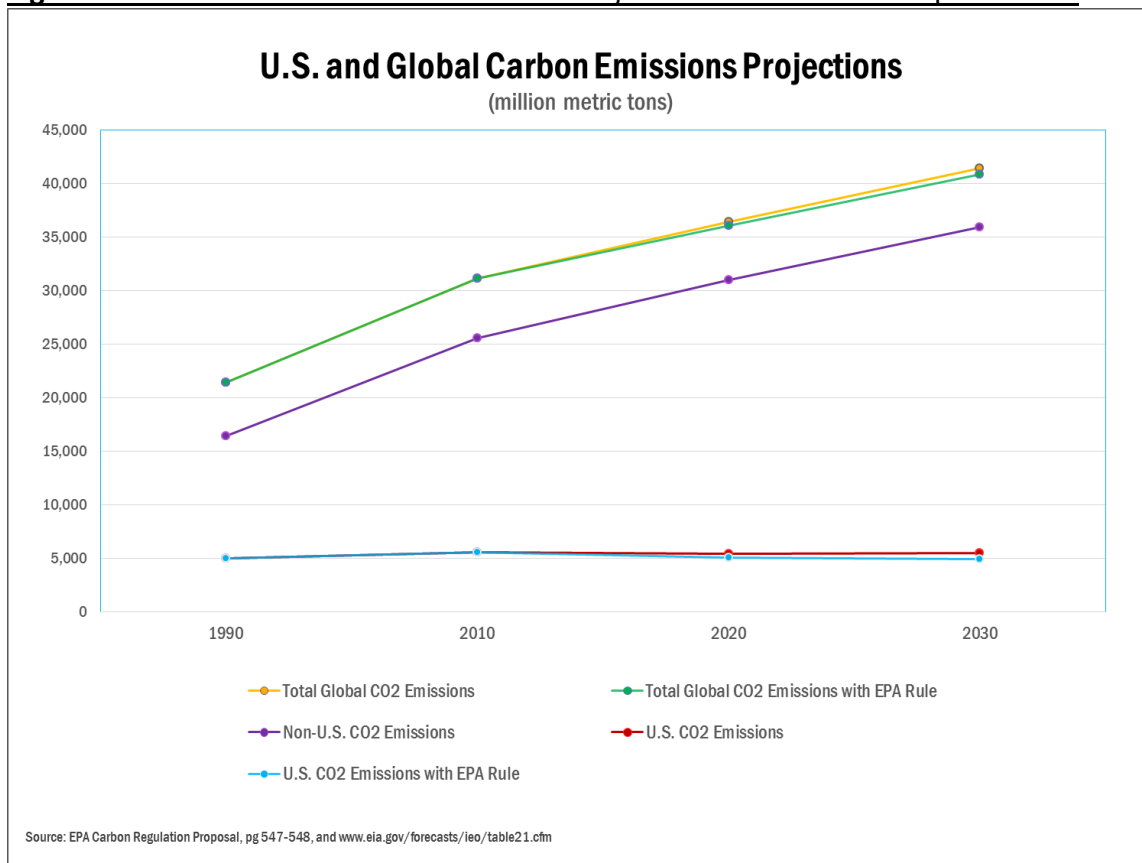
²⁰ <http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change>

²¹ <http://www.state.gov/secretary/remarks/2014/02/221704.htm>

To this end, EPA has said that the primary objective of its power plant rulemaking is not to mitigate the projected impacts of climate change, but rather to “prompt and leverage international discussions and action.”²² The EPA has also stated that the purpose of its rulemaking is to lead by example, but even the Administration recently acknowledged that the United States has reduced its total carbon emissions since 2005 by more than any other nation.²³ Thus, we have been leading for quite some time, but other countries are not following.

Despite the welcome candor from the Administration, the path to an effective international agreement is wholly unclear, and it is troubling that EPA appears set on moving forward with its rules *regardless* of the outcome of international negotiations. Such a circumstance would add insult to injury, as in many cases EPA’s rule would not reduce carbon emissions at all, but simply *move* emissions to other countries that have not implemented similar restrictions. This problem would be particularly evident in energy intensive trade-exposed industries such as steel, manufacturing and chemicals that are prevalent in Pennsylvania.

Figure 3. U.S. and Global Carbon Emissions Projections Under EPA’s Proposed Rule.



²² September 18, 2013 U.S. House of Representatives Energy and Commerce Committee hearing. Testimony exchange at https://www.youtube.com/watch?v=z1_O5jOCR6s&feature=youtu.be&t=2h16m4s

²³ May 2014 Report from the Executive Office of the President entitled “The All-Of-The-Above Energy Strategy as a Path to Sustainable Economic Growth,” at p. 3.

4. **Regulatory Context.**

There is a lingering misperception that EPA's greenhouse gas agenda is limited to coal and coal-fired power plants. This is incorrect, both with respect to the proposed power plant rule as well as the agency's broader agenda. First, the power plant rule will have a clear and direct ratepayer impact on all industries that are heavy energy consumers. Those same industries will likely be hit twice, when follow-on rules that EPA has committed to pursuing are promulgated. For example: EPA's current budget proposal will consider new GHG regulations on six sources: refineries, pulp and paper, landfills, iron and steel production, livestock operations, and cement manufacturing.²⁴ Additionally, in late March, the Obama Administration also announced a major strategy to reduce methane emissions from oil, gas, mining and agriculture operations.

Given the far-reaching nature of this agenda, in January the Chamber joined the National Association of Manufacturers to establish the Partnership for a Better Energy Future, a diverse coalition of over 150 organizations (including seven PA-based groups) that advocates to ensure the administration's greenhouse gas agenda does not negatively impact the continued availability of reliable and affordable energy for American families and businesses.²⁵ The Partnership offers itself as an additional resource to this Committee in its oversight efforts on this issue.

On the bright side, the Supreme Court earlier this week put a stop to EPA's plans to eventually ratchet down greenhouse gas permitting rules to require even the smallest emitters—including buildings, restaurants, schools, and hospitals—to get Federal approval prior to construction and operation. As the court concluded, "[w]hen an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,' we typically greet its announcement with a measure of skepticism." We hope this decision puts EPA on notice that the court will not tolerate a similar power grab with respect to its proposed rule on existing power plants.

5. **Public Outreach Process.**

Finally, it is important to emphasize that an undertaking of this magnitude demands to be accompanied by a robust and comprehensive public deliberation process.

EPA has emphasized that outreach and collaboration with states and stakeholders will be a central priority going forward. The agency has committed to ensure that public outreach associated with the rule will be "unprecedented," and Administrator Gina McCarthy recently

²⁴ http://www2.epa.gov/sites/production/files/2014-03/documents/fy2015_congressional_justification.pdf

²⁵ www.betterenergyfuture.org

described the forthcoming rulemaking process as *“an absolute collaboration between the federal and state government...This is a partnership if there ever was one.”*²⁶

The agency plans to hold four public hearings on the rule this summer (including one in Pittsburgh on July 31st) in advance of the currently scheduled October 16th public comment deadline. After closure of the public comment period, EPA currently expects to finalize the regulation in June 2015, after which states will have one additional year to develop and submit their compliance plans.²⁷

However, given the complexity and unprecedented nature of the regulatory regime EPA intends to pursue, as well as the ongoing confusion regarding assumptions and inputs pertaining to individual state goals, we believe the agency’s public involvement plan should be enhanced considerably. Specifically, we hope EPA will schedule additional public hearings and extend the comment period at least 60 days to allow states and stakeholders sufficient time to review and assess the agency’s proposal. Equally important, we believe these public hearings should have some type of a “workshop” component in which EPA makes senior officials available to answer questions and comment on feedback in an open and transparent manner. Finally, we recognize the herculean tasks facing states as they set out to consider developing compliance plans—as well as the need for regulatory certainty and additional time for utilities and other stakeholders—and thus are strongly recommending that EPA significantly extend its deadlines for rule finalization and submission of state compliance plans.

²⁶ <http://thehill.com/policy/energy-environment/202816-epas-mccarthy-pledges-state-flexibility-in-power-plant-rule#ixzz33ncdri7K>

²⁷ EPA is allowing states to seek a one-year extension to this deadline.