Statement of Eugene M. Trisko
On behalf of
United Mine Workers of America, AFL-CIO

Before the
Pennsylvania Senate Environmental Resources & Energy Committee
Harrisburg, PA
June 27, 2014

The Energy Effects of U.S. EPA's Proposed Clean Power Plan

Good morning, Chairman Yaw, Minority Chair Yudichak, and distinguished members of the Committee.

I am Eugene M. Trisko, an attorney in private practice. I am here on behalf of the United Mine Workers of America (UMWA), whom I have represented in environmental and climate matters for some 30 years. A brief bio is attached to my statement.

The UMWA appreciates this opportunity to testify on the energy effects of EPA's proposed "Clean Power Plan." We strongly support legislation that has been introduced in the House (HB 2354) specifying procedures for the development of any Pennsylvania plan to comply with EPA's proposed guidelines, including legislative approval of any plan to be submitted to U.S. EPA.

EPA's Clean Power Plan: A Recipe for Re-Engineering the Nation's Electric Supply

On June 18, 2014, EPA published in the Federal Register proposed guidelines for reducing CO2 emissions from fossil-fueled power plants. The overall reduction is equivalent to a 30% cut from 2005 emissions, but is measured against each state's 2012 emission rate in pounds of CO2 per Megawatt-hour (MWh) of fossil-based electric generation.

EPA has provided interim and final targets for each state to meet in terms of reduced CO2 per Megawatt-hour (MWh) of electric generation. Progress toward meeting the interim target is to commence by 2020, with the final target to be achieved by 2030.

In 2012, Pennsylvania's fossil-based electric generators emitted on average 1,531 lbs. CO2/MWH. The Commonwealth's reductions required by EPA's proposed Clean Power Plan are:

CO2 Emission Reduction Targets for Pennsylvania

State	2012 Rate Lbs CO2/MWh	Interim goal 10-year average rate	Interim goal % reduction from 2012	Final goal rate 2030-on	Final goal % reduction from 2012
PA	1,531	1,179	-23%	1,052	-31%

Source: Calculated from EPA Clean Power Plan.

EPA measured each state's emission reduction potential using 2012 data for several "building blocks," including 6% efficiency improvements at existing coal plants, redispatching coal units to increase the utilization of existing natural gas combined-cycle plants to 70%, increased use of renewable energy, ensuring the continued operation of nuclear plants, and enhanced energy efficiency programs. EPA's plan emphasizes that states will have flexibility in the means chosen to meet target CO2 goals, through these and other measures.

EPA's assumptions on the means that Pennsylvania would use to achieve a 31% reduction of its 2012 average CO2 emission rate include a mix of all of the "building blocks":

EPA's Assumptions on Pennsylvania's Emission Reduction Opportunities to Meet Proposed Clean Power Plan Goals

State	Coal heat rate improvement	Natural gas redispatch from coal units	Nuclear	Renewable energy	Energy efficiency
PA	11%	11%	7%	43%	27%

Source: Derived from U.S. EPA data at http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation.xlsx

Based on these data, Pennsylvania would need to dramatically increase its current renewable energy targets as well as energy efficiency programs. EPA's assumed goal for energy efficiency programs is an annual reduction of electric use of 1.5 percent.

EPA's proposal gives no credit to states such as Pennsylvania that already have reduced their CO2 emissions due to market-driven forces such as increased natural gas use, or the retirement of existing coal units. Since 2005, CO2 emissions from all fossil-fueled plants in Pennsylvania have decreased by 9% (EPA 2013 CAMD Data Base). Further reductions will occur due to expected retirements of coal units in response to the implementation of EPA's 2011 Mercury and Air Toxics Rule (MATS). The Department of Energy projects that more than 50 GW of coal capacity will retire over the next few years in response to MATS (DOE/EIA AEO 2014).

Impacts on Pennsylvania Coal and Jobs

Pennsylvania is the 4th largest coal-producing state. Based on 2012 data from the U.S Department of Energy and U.S. Department of Commerce, we

estimate that Pennsylvania's 54.7 million tons of coal production in 2012 generated $9.4 billion of state economic output, $2.3 billion of household income, and 48,500 direct and indirect jobs.[1] Estimating the impact of EPA's proposed Clean Power Plan on Pennsylvania coal and mining-related employment is difficult due to the uncertainty about the compliance methods that the Commonwealth and its electric generators would choose to meet EPA's targets.

The UMWA has analyzed EPA's Regulatory Impact Analyses for both the 2011 MATS rule and the proposed Clean Power rule. It is important to examine each of these rules separately, and in combination, due to their severe, near-term impacts on coal-based electric generation, mining, and coal transportation.

Attached to this statement is a summary of our preliminary assessment of the coal production, generation, and job impacts of the two rules. Our findings are:

- Coal production for electric generation declines by 35% from 942 million tons in 2009 to 616 million tons in 2020 under the combined rules. A 228 million ton reduction occurs in 2020 due to the Clean Power rule, with the largest losses in Appalachia and the West.
- Coal-based generating capacity declines from 317 GW in 2010 to 244 GW in 2020 with MATS (-73 GW), and to 195 GW with MATS and the Clean Power Plan (-49 GW).
- Estimated direct utility, rail and coal permanent job losses in 2020 are 57,000 for MATS and 62,000 for the Clean Power rule, for total job losses of 119,000.
- Estimated total direct and indirect job losses in 2020 are 181,000 for MATS, 187,000 for the Clean Power rule, and 378,000 for both rules.

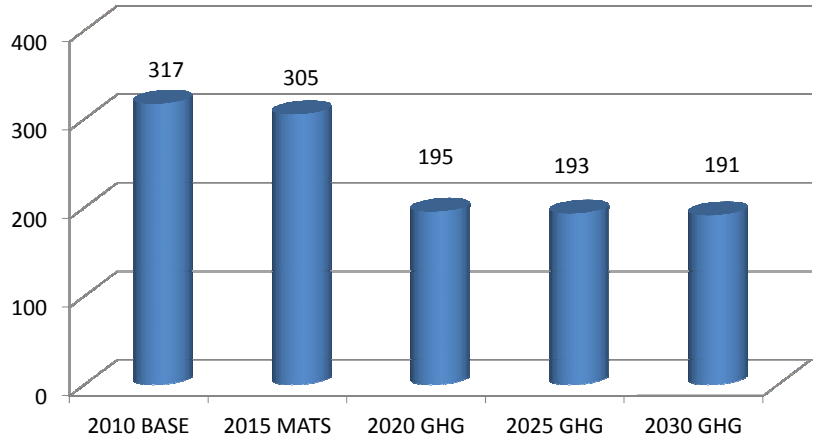
[1] Calculated from EIA 2012 Annual Coal Report and U.S. Department of Commerce RIMS II economic multipliers for the Pennsylvania coal mining sector.

- Estimated cumulative direct job losses to 2035 are 1.1 million job-years for MATS, 1.3 million job-years for the Clean Power rule, and 2.3 million job years for the two rules.
- Estimated cumulative direct and indirect job losses to 2035 are 3.3 million job-years for MATS, 4.2 million job-years for the Clean Power rule, and 7.5 million job years for the two rules.
- The cumulative (undiscounted) loss of wages and benefits for direct and indirect job losses from 2015 to 2035 are $167 billion for MATS, $208 billion for the Clean Power rule, and $376 billion for both rules. This is a measure of the gross loss of income to workers and communities affected by plant and mine closures, and reduced rail shipments.

EPA's projections for coal-based electric generating capacity and Appalachian coal production are summarized in the two charts below. Coal-based electric generation declines from 317 GW in 2010 to 195 GW in 2020, a reduction of 122 GW. Coal production in Appalachia - the producing region stretching from Pennsylvania south to West Virginia, southeast Ohio, eastern Kentucky, Virginia and Alabama - decreases from 246 million tons in 2010 to 91 million tons in 2020, a decrease of 63 percent. Historically, Pennsylvania alone produces some 70 million tons annually.

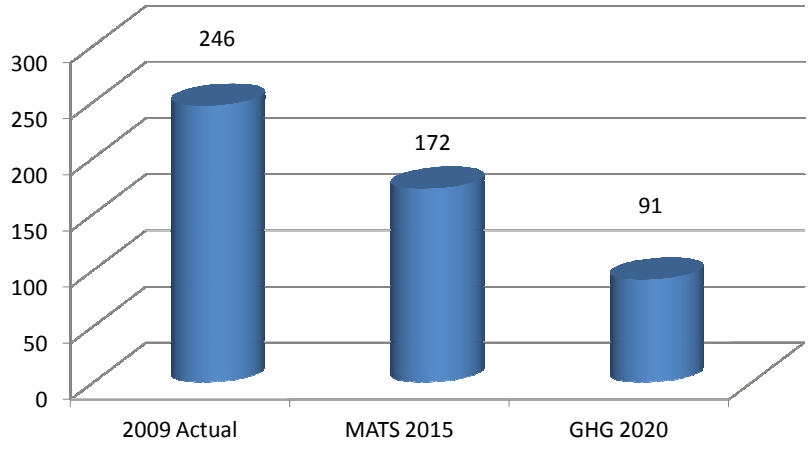
While we expect that much of these production losses will occur in central Appalachia, due to high production costs and other factors, Pennsylvania coal production will not be spared by the overall decrease that EPA projects will result from implementation of its Clean Power rule, including overall national decreases in electric demand.

U.S. EPA projections of U.S. coal generation capacity
2010-2035
(In gigawatts)



Source: US EPA MATS and Clean Power Regulatory Impact Analyses. Data for 2020-2030 include MATS + Clean Power Plan.

U.S. EPA projections of Appalachian coal production for electric generation, 2009 to 2020
(Million tons/yr)



Source: US EPA Regulatory Impact Analyses for MATS (December 2011) and Clean Power Rule (June 2014).

EPA's Regulatory Impact Analysis for the proposed Clean Power rule projects that natural gas prices will rise by just 2% above 2020 reference

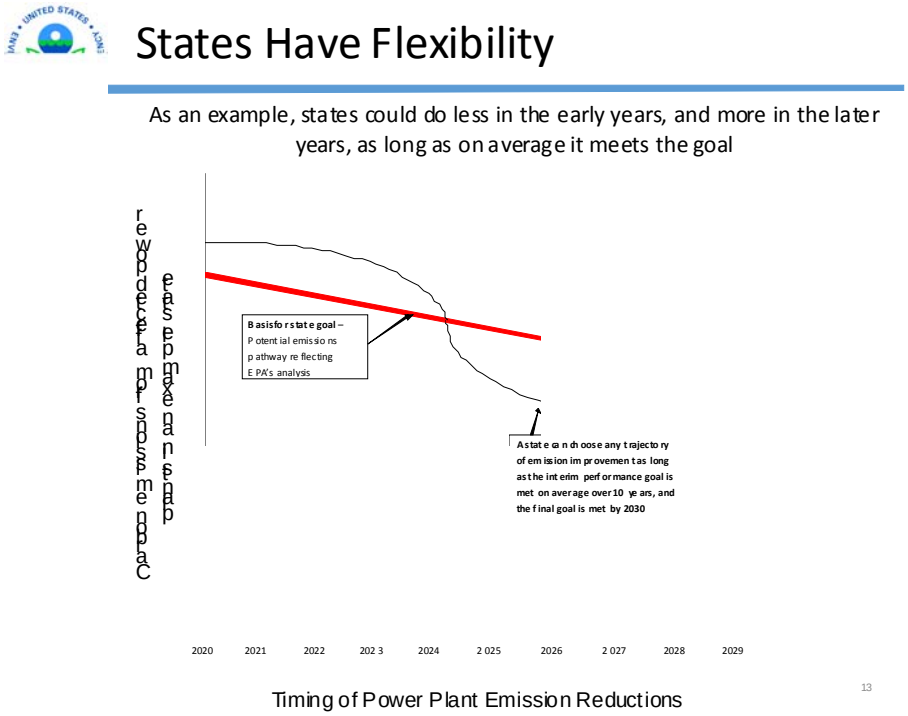
case levels, while minemouth and delivered coal prices will decline by nearly 20%.

Key concerns about EPA's proposal

UMWA does not oppose EPA's efforts to reduce carbon emissions under the Clean Air Act. Our concerns are about the design of this proposed rule. Our view is that the United States and all major carbon-emitting economies must forge an equitable plan for the long-term reduction of greenhouse gas emissions. We cannot "go it alone" and expect that our actions will have any meaningful climate impact in a world economy that is using more coal and other fossil fuels every day. Developing nations already emit more CO2 than advanced industrial nations, and the International Energy Agency projects that their share of global emissions will grow steadily.

The EPA plan should provide states with credit for prior CO2 reductions, as an option toward meeting alternative targets consistent with a 30% national reduction from 2005 emissions. The vast majority of states are disadvantaged by EPA's proposed reduction targets compared to an approach in which each state achieves CO2 reductions equivalent to a 30% reduction from 2005 emissions. Under such an approach, Pennsylvania's reduction from its 2013 CO2 emissions from fossil-fueled electric generators would be 23 percent, rather than the 31 percent called for by EPA's "building block" approach.

EPA's compliance timetable is unrealistic and unachievable, even with multi-year compliance averaging toward the interim and final targets. The "glide path" that EPA envisions for state compliance is more like a roller coaster: states emitting above their interim targets in the initial years of the program must reduce well below their target in later years. An EPA chart depicting this path illustrates the infeasibility of achieving extreme reductions in the later years of the program:



Source: U.S. EPA

The initial reduction program should be delayed by several years to allow states and affected sources adequate time to prepare and submit state plans, and to structure and implement their compliance strategies, including permitting and construction of transmission line upgrades and pipeline infrastructure.

Increasing the dispatch of natural gas combined cycle units, on top of the 40 GW of new NGCC capacity that EPA projects to come on-line from 2020 to 2030, would lead to significant increases in natural gas prices well above EPA's projections – this price increase will be further stimulated by LNG exports. Analysis at UBS project that utility gas demand may rise three-fold above EPA's forecast.[2] Consumers and energy-intensive industries would bear the brunt of these gas price increases.

Reliance on increased natural gas use as a major component of an emission reduction strategy will not meaningfully reduce overall greenhouse gas concentrations due to methane leakage from gas production and

[2] SNL Daily Coal Report, June 18, 2014, at 8.

transportation. Coal and natural gas generation emit equivalent amounts of GHGs with just a 2% methane leakage rate.[3] Research by Harvard and others suggests that EPA underestimates the amount of methane leakage from gas production and transmission.[4]

EPA projects that the Clean Power Rule will cause the loss of 41 to 49 Gigawatts of coal generating capacity by 2020. This would occur just after the expected loss of more than 50 GW of coal capacity by 2017 due to compliance with the 2012 Mercury and Air Toxics Rule. We believe that this level of baseload capacity loss raises serious issues about job and community displacement in dozens of states, and the future adequacy and reliability of our electric power supplies.

We are also concerned that EPA's proposals for new state energy efficiency and renewable energy programs effectively usurp energy policy decisions traditionally reserved to the states, and are well beyond the agency's authority under the Clean Air Act. The Supreme Court's June 23rd decision in *UARG v. EPA* may support substantial revision of the Clean Power rule, limiting EPA's authority under section 111(d) of the Clean Air Act to emission reduction measures that may be achievable "within the fence" of affected facilities.

The UARG v. EPA Decision

The Supreme Court's June 23rd decision in *UARG v. EPA*, a case challenging EPA's re-interpretation of Clean Air Act statutory criteria for regulating emissions through the Title V permit program and the Prevention of Significant Deterioration (PSD) program, provides a strong caution against

[3] See, Tom M.L. Wigley (2011), Coal to gas: the influence of methane leakage, *Climatic Change* DOI 10.1007/s10584-011-0217-3

[4] See, e.g., Scot M. Miller, *et al.*, (2013) Anthropogenic emissions of methane in the United States, available at http://www.pnas.org/content/110/50/20018.abstract?sid=3eb74244-dbed-4577-8b0d-04307adaa423.

the kind of expansive interpretation of the Clean Air Act that pervades the Clean Power rule.

Justice Scalia delivered the opinion of the Court for a 5-4 majority. The Court clarified its previous ruling in *Massachusetts v. EPA* (2007) by noting the following:

1. EPA cannot use either the PSD or Title V permitting programs to require permits solely on the basis of GHG emissions. Slip op. at 10-16.

2. For large facilities that are already required to have permits because of conventional air emissions, EPA can require applicants to undertake a "best available control technology" (BACT) analysis if they emit GHGs above a minimal amount. Slip op. at 27-29.

3. For those facilities that need permits anyway due to emissions of conventional pollutants, the Court reminded EPA that actual requirements developed under the BACT analysis must take into account energy, economic and environmental considerations, and may not require redesign of a facility or even require reductions in demand for electricity from the grid. Slip op. at 26-27.

The majority opinion contains strong cautionary language applicable to EPA's proposed rules for regulating greenhouse gases from existing facilities. The Court notes that an EPA interpretation of its authority under the Act would be unreasonable if:

> *"…it would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization. When an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,' Brown & Williamson, 529 U. S., at 159, we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency*

> *decisions of vast 'economic and political significance.'* Id., at 160; See Also *MCI Telecommunications Corp. v. American Telephone & Telegraph Co.*, 512 U.S. 218, 231 (1994); *Industrial Union Dept., AFL-CIO v. American Petroleum Institute*, 448 U.S. 607, 645-646 (1980) (plurality opinion). Slip Op. at 19 (emphasis added.)

In the case of the Clean Power Plan, EPA seeks to do precisely what the Court rejects: to vastly expand its regulatory authority without Congressional approval, by discovering in *"a long-extant statute an unheralded"* power in Section 111(d) of the Act. The Court's decision offers the following cautions to an expansive interpretation of the Act:

> ". . .in EPA's assertion of that authority, we confront a singular situation: an agency laying claim to extravagant statutory power over the national economy while at the same time strenuously asserting that the authority claimed would render the statute "unrecognizable to the Congress that designed" it. " Slip op. at 20.
>
> "We are not willing to stand on the dock and wave goodbye as EPA embarks on this multiyear voyage of discovery. We reaffirm the core administrative-law principle that an agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate." Slip op at 23.

The Clean Power Plan's natural gas redispatch, energy efficiency, and renewable energy "building blocks" are clear instances of over-reaching into areas traditionally reserved to the sovereign authority of the states. Congress itself has been unwilling to develop national renewable energy standards, recognizing the wide diversity of state laws in existence, and the disparate capabilities to deploy renewable resources among states.

Conclusion

EPA's Clean Power rule is currently subject to a 120-day comment period. All interested parties should engage the agency in efforts to moderate the rule, limiting its scope to greenhouse gas emission reductions that can feasibly be achieved at individual sources. DEP's proposal for revising the NSR applicability test to encourage investments in power plant efficiency improvements is a good example of a constructive approach to greenhouse gas management at existing sources.

Pennsylvania has been a leader in renewable energy development, and the legislature has carefully crafted standards that are suited to the Commonwealth's specific renewable energy potential. While Pennsylvania is rich in natural gas reserves, mandates to re-dispatch natural gas units at the expense of coal generation could lead to even further retirements of coal capacity, with the attendant loss of wages and jobs in coal-dependent communities.

The UMWA thanks the Committee for the opportunity to testify today on this issue of critical importance to Pennsylvania's coal, rail, and utility workers and the communities they help to support.

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Curriculum Vitae

Eugene M. Trisko is an energy economist and attorney who represents labor and industry clients in energy and environmental matters.

Mr. Trisko has a dual B.A. in economics and politics from New York University (1972) and a J.D. degree from Georgetown University Law Center (1977). Before entering private practice in 1991, he was an energy economist with Robert Nathan Associates in Washington, DC, (1973-77), an attorney with the U.S. Federal Trade Commission (1977-79), and executive vice president of Stern Bros., Inc., an energy holding company in West Virginia (1986-91).

He was involved from 1981 until 1990 in the legislative development of the Clean Air Act Amendments of 1990, focusing on the Title IV acid rain program. Since 1991, Mr. Trisko has represented labor and industry clients in Clean Air Act implementation and global climate change issues. He is the author of more than 30 articles on energy and environmental policy issues published in economic, energy, environmental, and law journals, and has testified before Congress and state legislatures on numerous occasions.

Mr. Trisko has participated as an NGO on behalf of the United Mine Workers of America in all United Nations climate change negotiating sessions subsequent to the 1992 Rio Earth Summit. He develops climate policy position papers for the UMWA and other labor organizations, and serves as General Counsel of Unions for Jobs & Environmental Progress, an association of ten national labor unions. In 2007, he helped to negotiate the clean coal technology and emission allowance allocation provisions of the bipartisan Bingaman-Specter climate bill. *The Hill* recognized Mr. Trisko that year as one of Washington's "Top Grassroots Lobbyists." In 2008 and 2009, he helped to negotiate the carbon capture and storage provisions of the Boucher-Rahall and Waxman-Markey climate bills.

Mr. Trisko represented labor and industry clients in the Ozone Transport Commission's 1993-94 deliberations on stationary source emission controls for 12 northeastern states. From 1995 to 1997, he was an associate member of U.S. EPA's 37-state Ozone Transport Assessment Group. Mr. Trisko served for nine years as an appointed member of U.S. EPA's Clean Air Act Advisory Committee. In 2000 and 2007, he was named by the U.S. Department of State as a non-government representative of U.S. industry and labor in U.S.-Canada air quality negotiations. He is a member of the American College of Environmental Lawyers.

Estimated coal production, generation, and job and income losses attributable to EPA's proposed Clean Power Plan

United Mine Workers of America

June 27, 2014

Background

- EPA's proposed Clean Power Plan for electric power generation will lead to significant losses of coal production, coal generation, and direct and indirect utility, rail and coal jobs, in addition to those anticipated due to the recent MATS rule (>50 GW of coal retirements 2016-17).
- This analysis relies primarily on EPA data from the Regulatory Impact Analyses of the MATS and Clean Power rules to establish baseline and future coal production, generation and job impact data.
- Impact estimates are shown separately for the MATS rule, the Clean Power proposal, and the combined rules ("MATS + GHG").

Key findings

- Coal production for electric generation declines by 35% from 942 million tons in 2009 to 616 million tons in 2020 under the combined MATS + GHG rules. A 228 million ton reduction occurs in 2020 due to the Clean Power rule, with the largest losses in Appalachia and the West.
- Coal-based generating capacity declines from 317 GW in 2010 to 244 GW in 2020 with MATS (-73 GW), and to 195 GW with MATS + GHG (-49 GW).
- Estimated direct utility, rail and coal permanent job losses in 2020 are 57,000 for MATS and 62,000 for the Clean Power rule, for total direct job losses of 119,000.
- Estimated total direct and indirect job losses in 2020 are 181,000 for MATS, 187,000 for the Clean Power rule, and 378,000 for both rules.

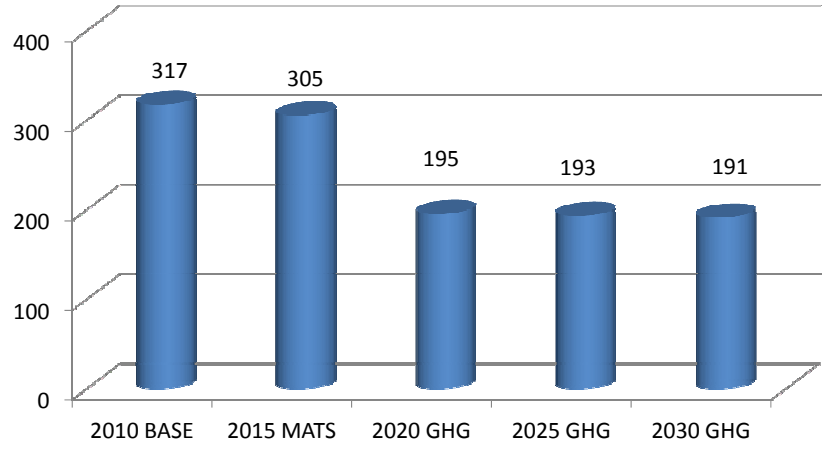
Findings, continued

- Estimated cumulative direct job losses from 2015 to 2035 are 1.1 million job-years for MATS, 1.3 million job-years for the Clean Power rule, and 2.3 million job years for the two rules.
- Estimated cumulative direct and indirect job losses to 2035 are 3.3 million job-years for MATS, 4.2 million job-years for the Clean Power rule, and 7.5 million job years for the two rules.
- The cumulative (undiscounted) value of wages and benefits for direct and indirect job losses from 2015 to 2035 are $167 billion for MATS, $208 billion for the Clean Power rule, and $376 billion for both rules. This is a measure of the gross loss of income to workers and communities affected by generating plant and mine closures, and reduced rail shipments.

Caveats

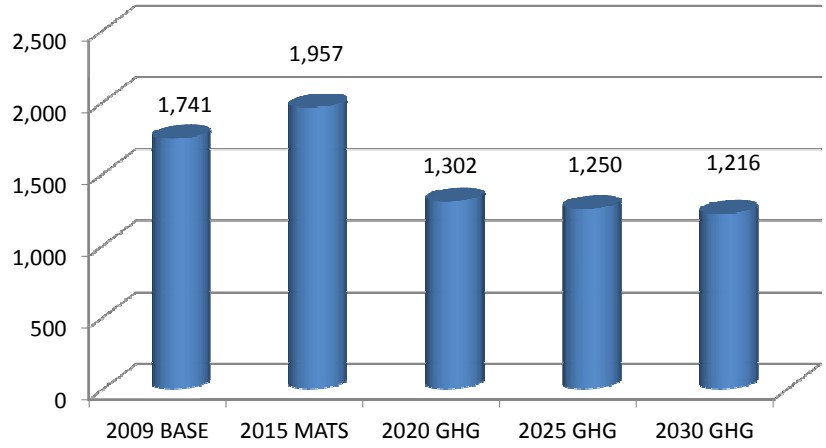
- States have flexibility in the means to implement EPA's proposed Clean Power rules, so the impacts evaluated in EPA's Regulatory Impact Analysis are preliminary estimates.
- The job loss estimates presented here do not consider job growth in alternative energy supplies, or the impacts of higher electricity and natural gas prices.

Coal generation capacity 2010-2035 (In gigawatts)



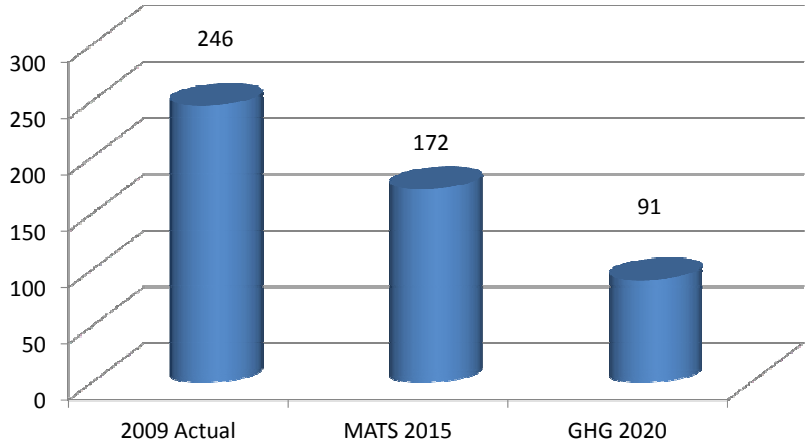
Source: US EPA MATS and Clean Power Plan Regulatory Impact Analyses. Data for 2020-2030 include MATS + GHG.

Coal generation 2009-2035 (In 000 Gigawatt-hours)



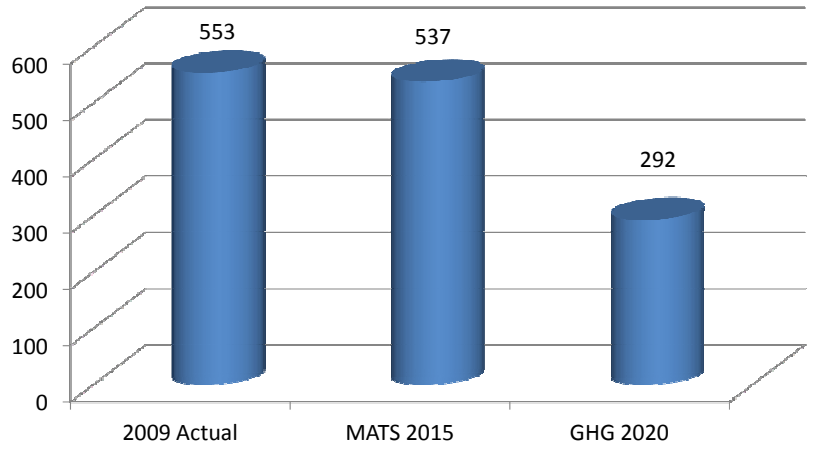
Source: US EPA MATS and Clean Power Plan Regulatory Impact Analyses. Data for 2020-2030 include MATS + GHG.

U.S. EPA projections of Appalachian coal production for electric generation, MATS and Proposed Clean Power Plan GHG Rule (Million tons/yr)



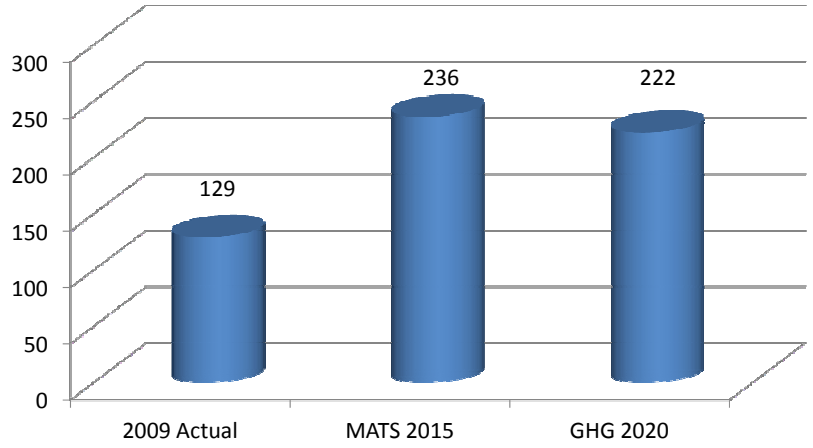
Source: US EPA Regulatory Impact Analyses for MATS (Dec. 2011) and Proposed Clean Power Plan Rule (June 2014).

U.S. EPA projections of western coal production for electric generation, MATS and Proposed Clean Power Plan GHG Rule (Million tons/yr)



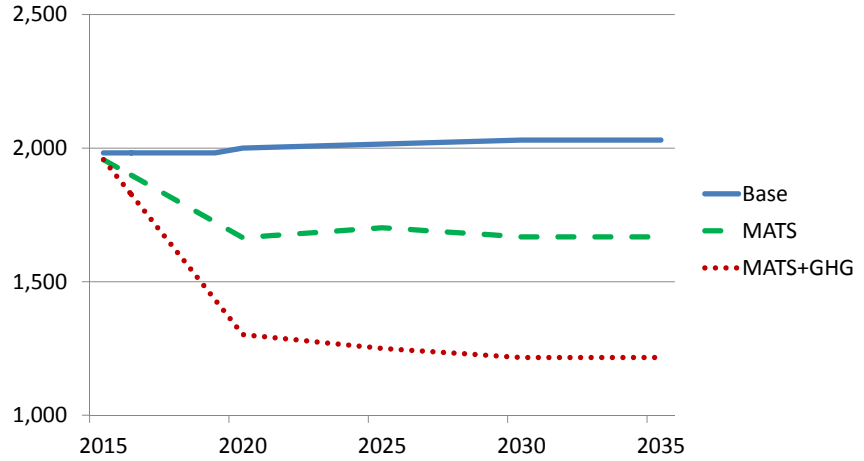
Source: US EPA Regulatory Impact Analyses for MATS (Dec. 2011) and Proposed Clean Power Plan Rule (June 2014).

U.S. EPA projections of interior coal production for electric generation, MATS and Proposed Clean Power Plan GHG Rule (Million tons/yr)



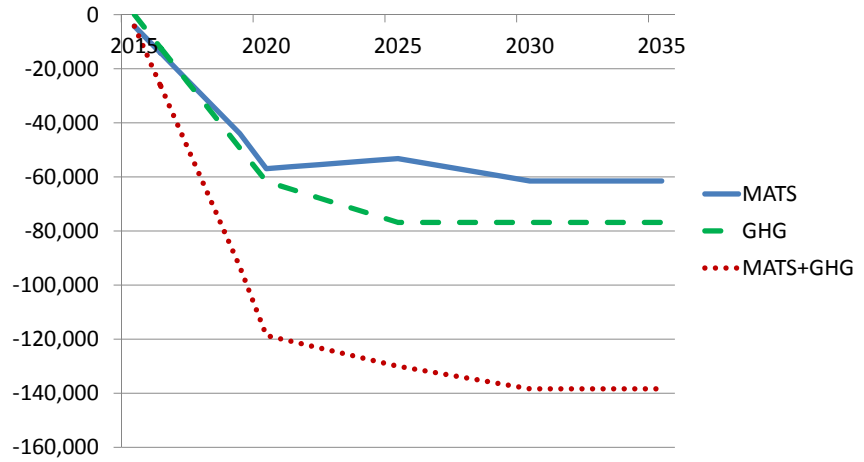
Source: US EPA Regulatory Impact Analyses for MATS (Dec. 2011) and Proposed Clean Power Plan Rule (June 2014).

Coal generation base case, MATS and MATS + GHG, 2015-2035 (In 000 MWHs)



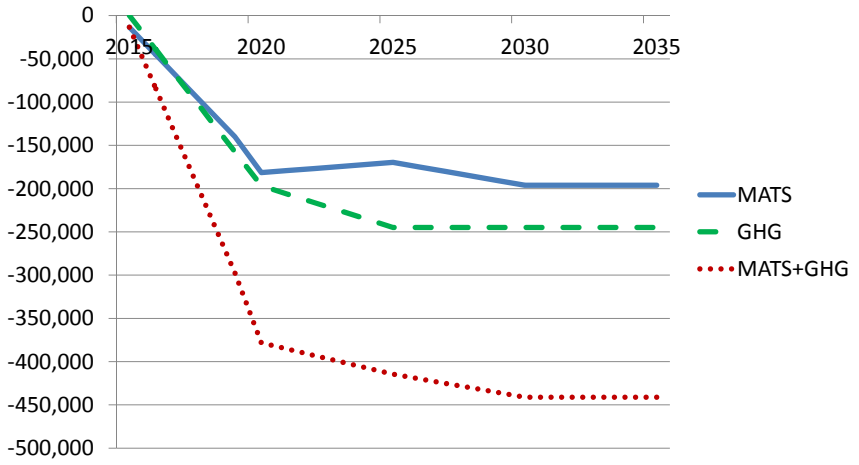
Source: US EPA MATS and Clean Power Plan RIAs. Coal generation reductions for the Clean Power GHG rule are assumed to begin in 2016.

Estimated direct utility, coal and rail job losses, MATS, GHG and MATS + GHG, 2015-2035



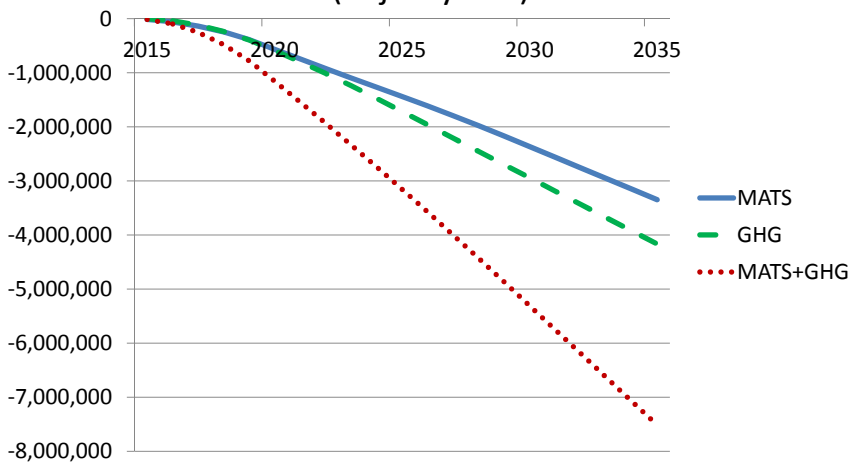
Source: US EPA MATS and Clean Power Plan Regulatory Impact Analyses. Direct job losses estimated at 0.17 job/GWh based on Energy Ventures Analysis (2007).

Estimated direct and indirect utility, coal, and rail job losses, MATS, GHG, and MATS + GHG, 2015-2035



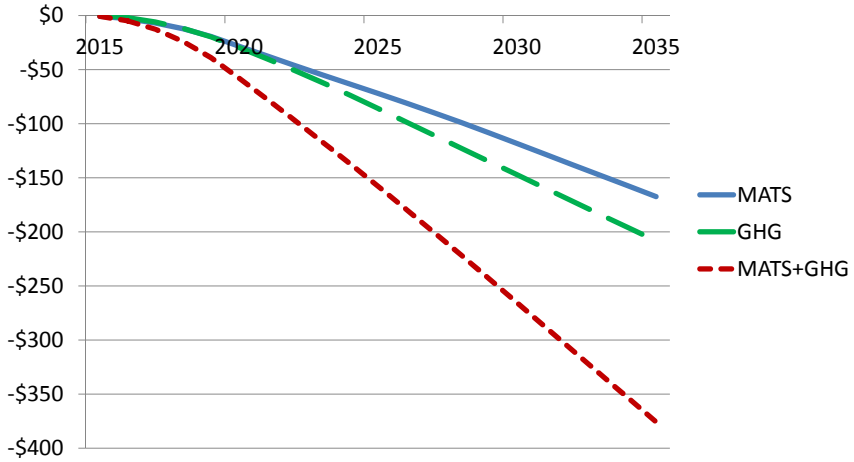
Source: US EPA MATS and Clean Power Plan Regulatory Impact Analyses. Direct and indirect job losses estimated with Dept. of Commerce RIMS II electric utility jobs multiplier of 3.18 total jobs per one direct job.

Estimated cumulative direct and indirect utility, coal and rail job-year losses, MATS, GHG, and MATS + GHG, 2015-2035 (In job-years)



Source: US EPA MATS and Clean Power Plan RIAs, Energy Ventures Analysis (2007), and US Dept. of Commerce RIMS II electric utility multiplier.

Estimated cumulative direct and indirect utility, coal and rail wage and benefits losses, MATS, GHG, and MATS + GHG, 2015-2035
(In undiscounted billion 2014 $)



Source: US EPA MATS and Clean Power Plan RIAs, Energy Ventures Analysis (2007), and US Dept. of Commerce RIMS II electric utility multiplier. Assumes average wages and benefits of $50,000 per job-year.