

IMPACTS OF EPA'S CARBON PROPOSAL ON VIRGINIA

BACKGROUND

- In 2013, nuclear power provided 38% of Virginia's electricity, with coal providing 28%, natural gas 29%, hydroelectric power 1%, and other renewables and other sources 4%.ⁱ Virginia's average electricity price of 9.01 cents/kWh was 11% below the national average.ⁱⁱ
- Currently, coal is responsible for nearly 40,000 direct and indirect jobs in Virginia.ⁱⁱⁱ
- Despite below-average electricity prices, many Virginia families are struggling with high energy costs. The 1.2 million low-income and middle-income families in Virginia -- 41% of the state's households -- spend 20% of their after-tax income on energy.^{iv} In addition, 27% of Virginia households receive Social Security.^v Lower income families and Social Security recipients are especially vulnerable to increases in energy prices.^{vi}
- Virginia utilities have announced the retirement of 16 coal units (totaling 2,349 MW) due to EPA policies. Nationwide, utilities have announced the retirement or conversion of 381 coal units (totaling 60,104 MW) in 36 states due to EPA policies.^{vii}

EPA'S CARBON PROPOSAL

- In June, EPA proposed its "Clean Power Plan" (CPP) to reduce carbon dioxide (CO₂) emissions from existing coal-fired and natural gas-fired power plants in 49 states, including Virginia. EPA plans to

finalize the proposal in June of next year.

- Under the EPA proposal, Virginia will be required to reduce the CO₂ emissions rate of its electric generating fleet by 38%.^{viii} EPA's proposal will force Virginia to change the way the state generates electricity, reduce the amount of electricity used by Virginia consumers, and significantly increase the price of electricity.
- EPA *assumed* the following in setting Virginia's emissions rate:
 - The efficiency of existing coal-fired units can be improved by 6%;^{ix}
 - Electricity generation from natural gas can be increased by 27%;^x
 - Electricity from coal can be reduced by 44%;^{xi}
 - Electricity from renewable energy sources can be increased by 375%;^{xii} and
 - Virginia consumers can reduce electricity use by almost 10%.^{xiii}
- This year, the Virginia legislature passed legislation (SB 615) requiring a study of the economic and other impacts of EPA's CPP proposal. In total, over 30 states have expressed opposition to the approach EPA has included in its proposal. Thirteen states have also joined litigation challenging EPA's proposal.^{xiv}

SERIOUS ECONOMIC AND RELIABILITY IMPACTS

- Modeling by NERA Economic Consulting projects that the CPP will cause a 13% increase in electricity prices for Virginia consumers, with a peak year increase of 16%.^{xv}
- Another independent study conducted for the National Mining Association estimates similar impacts, including a peak year wholesale electricity price increase of 12.4% for Virginia consumers.^{xvi}
- NERA also projects double digit electricity price increases in 42 other

states, as well as nationwide costs averaging \$41 billion to \$73 billion per year. NERA's projections include \$560 billion that consumers nationwide will have to spend to reduce their electricity use.^{xvii}

- EPA acknowledges that electricity generation from coal will decline by nearly 30% nationwide.^{xviii} NERA also projects that electricity generation from coal will decline by at least 29%. As a result, domestic coal consumption will decline by 240 million tons or more in 2020.^{xix} This will affect demand for Virginia coal because the majority of Virginia coal is shipped to 20 other states, as well as overseas.^{xx} EPA also estimates coal prices will decline by as much as 18%.^{xxi}
- Grid operators and electric utilities in many parts of the country are expressing serious concerns about the threat of EPA's proposal to electric reliability.^{xxii}

NO BENEFITS

- In 2013 the U.S. electric sector emitted 2.05 billion metric tons of CO₂, representing approximately 4% of global anthropogenic greenhouse gas emissions.^{xxiii}
- Analysis based on another EPA rulemaking shows that the climate effects of the EPA proposal are meaningless. For example, the atmospheric CO₂ concentrations would be reduced by less than 0.5%; global average temperature increase would be reduced by less than 2/100^{ths} of a degree Fahrenheit; and sea level rise would be reduced by 1/100th of an inch (the thickness of three sheets of paper).^{xxiv}
- To justify the EPA proposal, its supporters argue that the U.S. must show global leadership in reducing CO₂ emissions. However, other countries are abandoning pledges to reduce emissions or are increasing emissions regardless of their pledges. According to the

Washington Post, many industrialized countries are not expected to meet their commitments to reduce CO₂ emissions.^{xxv}

November 3, 2014

ⁱ U.S. Energy Information Administration, *Electric Power Monthly*, February 2014.

ⁱⁱ *Ibid.*

ⁱⁱⁱ National Mining Association, <http://www.countoncoal.org/states/>.

^{iv} Eugene M. Trisko, *Energy Cost Impacts on Virginia Families*, December 2013.

^v *Ibid.*

^{vi} *Ibid* and The 60 Plus Association, *Energy Bills Challenge America's Fixed-Income Seniors*, 2014.

^{vii} ACCCE, *Coal Unit Shutdowns as of October 23, 2014*. Retirements and conversions are based on public announcements by the coal unit owners.

^{viii} The percentage reduction is relative to emission rates in 2012. The Virginia emissions rate goal is from Table 8, pages 346 – 348, of EPA's proposal, and 2012 emission rates are found in EPA's *Goal Computation Technical Support Document*, June 2014. <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602tsd-goal-computation.pdf>.

^{ix} EPA, *GHG Abatement Measures* technical support document, June 2014. EPA assumes the heat rate of every coal-fired electric generating unit can be improved by 6%.

^x EPA, *Technical Support Document (TSD) for the CAA Section 111(d) Emission Guidelines for Existing Power Plants: Goal Computation Technical Support Document*, June 2014, Appendix 1.

^{xi} *Ibid.*

^{xii} EPA, *Technical Support Document (TSD) for the CAA Section 111(d) Emission Guidelines for Existing Power Plants: GHG Abatement Measures*, June 2014, Table 4.9.

^{xiii} EPA, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants*, June 2014, Table 3.3.

^{xiv} Petition for Review, *West Virginia v. EPA*, Case No 14-1146 (D.C. Cir. filed Aug. 1, 2014); Brief of the States of West Virginia, Alabama, Alaska, Kentucky, Nebraska, Ohio, Oklahoma, South Carolina, and Wyoming as *Amici Curiae* in Support of the Petitioner, *In Re: Murray Energy Corporation v. EPA*, Case No. 14-1112, (D.C. Cir. filed June 25, 2014).

^{xv} NERA Economic Consulting, *Potential Impacts of the EPA Clean Power Plan*. An annual average increase of 13% means that electricity prices are projected to be 13% higher each year, on average, under EPA's proposal than electricity prices would be in the absence of the proposal.

^{xvi} *EPA Clean Power Plan: Costs and Impacts on U.S. Energy Markets*, Energy Ventures Analysis, August 2014 <http://www.countoncoal.org/states/>

^{xvii} NERA Economic Consulting, *Potential Impacts of the EPA Clean Power Plan*.

^{xviii} EPA, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power*

Plants and Emission Standards for Modified and Reconstructed Power Plants, June 2014.

^{xix} NERA Economic Consulting, *Potential Impacts of the EPA Clean Power Plan*.

^{xx} EIA, *Virginia State Profile and Energy Estimates*, <http://www.eia.gov/state/?sid=VA>.

^{xxi} EPA, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants*, June 2014

^{xxii} Southwest Power Pool, *Grid Reliability and Transmission Buildout Issues*, presentation to Arkansas DEQ Stakeholder Meeting, October 1, 2014; Midwest Independent System Operator, *Clean Power Plan: MISO Analysis Update for ADEQ/APSC Stakeholder Meeting*, October 1, 2014; and American Electric Power, *Transmission Challenges with the Clean Power Plan*, September 2014.

^{xxiii} IPCC, *Climate Change 2014: Mitigation of Climate Change: Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*; EIA, *Monthly Energy Review*, February 2014.

^{xxiv} ACCCE, *Climate Effects of EPA's Proposed Carbon Regulations*, June 2014.

^{xxv} Steven Mufson, *All over the planet, countries are completely missing their emissions targets*, (September 23, 2014) <http://www.washingtonpost.com/blogs/wonkblog/wp/2014/09/23/all-over-the-planet-countries-are-completely-missing-their-emissions-targets/>