



June 21, 2016

U.S. Department of Energy
Office of Energy Policy and Systems Analysis
EPSA-60
QER Meeting Comments
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: QER Meeting Comments

The American Coal Council (ACC) appreciates the opportunity to submit comments to the Department of Energy (DOE) as it develops the second installment of its Quadrennial Energy Review (QER 1.2), an analysis of the United States electricity system from generation to end use. The ACC has been in existence for 34 years and represents the collective business interests of the American coal industry. Our diverse membership base encompasses the entire coal supply chain including mining companies and suppliers, transportation companies and terminals, electric utilities and industrial coal consumers, and many industry support services partners. Since ACC's member companies are involved in turning one of America's most abundant energy resources into reliable and affordable electricity for the United States economy, we have first-hand knowledge of the direct and indirect impacts of new policies and regulations on coal mining and use and a unique, "boots on the ground" perspective. It is from this broad membership perspective that we assess the growing number and scope of regulations affecting electricity sector stakeholders and provide these comments to DOE.

Introduction

Recently, within a six month period in 2015, the Environmental Protection Agency (EPA) issued three regulations massive in scope: 1) the Waters of the United State rule in May, 2) the CO2 emissions rules for the electric sector in August, and 3) the National Ambient Air Quality Standards (NAAQS) for Ozone rule in October. The Waters of the United States and the NAAQS for Ozone rules would affect the electricity sector and far beyond it, extending to virtually every sector of the economy – industrial plants, autos,

agriculture, and more. They are referred to here because of ACC's escalating concerns about EPA-imposed regulations that directly affect the use of coal and the cost of electricity. These rules are fundamentally flawed for numerous reasons, including because of the huge costs of compliance and lack of commensurate environmental benefits, the EPA's failure to appropriately and comprehensively analyze a rule's impacts including by not addressing employment and full public health impacts, and the EPA's failure to provide a cumulative assessment of the impacts of these and other rules. The impacts of these rules will ultimately extend to each and every American household and business and threaten our nation's energy and economic security – the lynchpins of our national security.

It is imperative that the severely detrimental impacts of the surging number of coal-related regulations, including their aggregate impacts when taken together, be reevaluated by regulators and policy makers. A study by Energy Ventures Analysis (EVA) in November 2014 incorporated the cumulative cost impacts of EPA regulations including MATS, regional haze, and the proposed Clean Power Plan (Clean Power Plan or CPP). The study projected residential, industrial, and commercial customers will pay over \$284 billion more in 2020 for electricity and natural gas than in 2012, a 60 percent increase.¹ The average household bill will increase by \$680 in 2020 compared to 2012.² EVA found that on a percentage basis the industrial sector would be hardest hit, with costs 92 percent higher in 2020 than 2012.³ Some of the cost increase is related to higher demand and pricing for natural gas due to the premature shutdown of coal plants.

EPA's final version of the Clean Power Plan CO₂ emissions regulation issued under Clean Air Act (Clean Air Act or CAA) Section 111(d) for existing power sector units is of particular concern to ACC. This rule will predispose electricity generation portfolios and fuel choices for electricity providers and dramatically transform how electricity is produced, distributed, transmitted, and used in the United States. It will undermine the U.S. free market system, and the economy-wide repercussions of such an arbitrary energy and electricity policy change will be disastrous. Fuel choice and diversity will be reduced, coal will be less available to hedge natural gas, and American consumers will pay the price.

Through the QER 1.2 and every other means at its disposal, it is critical that DOE actively support electricity sector stakeholders to ensure that the fundamental objectives

¹ Energy Ventures Analysis, "Energy Market Impacts of Recent Federal Regulations on the Electric Power Sector", p. 4.

² *Id at 5.*

³ *Ibid.*

of providing safe, affordable, and reliable electricity in the U.S. can continue. Rather than the future as EPA regulators have prescribed it through the Clean Power Plan, a true “all of the above” energy policy using the abundance of America’s energy resources, including coal, is the right energy policy choice. EPA must not be allowed to proceed with making a wholesale change in America’s energy policy in the name of environmental policy.

ACC submitted comments to EPA in its proposed CO2 emissions rulemakings for both new⁴ and existing⁵ power sector units in 2014, and we commend these comments to DOE also. Although EPA changed the Clean Power Plan significantly from its proposal to the final version, EPA has not provided stakeholders with the opportunity to submit additional comments in response to the final versions of either the new or existing power sector rules.

The comments below explain our ongoing concerns with EPA’s CO2 rules and incorporate new information and developments pertinent to EPA’s final versions of the rules. These comments address:

- Severe economic impacts to American households and businesses
- Electricity system reliability risks
- Legal challenges and important high court decisions
- Policy disparity for coal and effects of increasing reliance on renewables
- Implications of reduced coal use
- Lack of improvement to the environment or to public health

Severe economic impacts to American households and businesses

The cost burden for the implementation of the Clean Power Plan will be enormous. Economic analyses of the rule have projected dramatically higher costs than EPA’s estimated highest annual cost of \$8.4 billion in 2030⁶.

⁴ Written Comments of the American Coal Council, Environmental Protection Agency Docket ID No. EPA-HQ-OAR-2013-0495 “Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Generating Units”, May 7, 2014. Available at http://c.ymcdn.com/sites/www.americancoalcouncil.org/resource/resmgr/EPA-HQ-OAR-2013-0495_-_ACC_.pdf

⁵ Written Comments of the American Coal Council, Environmental Protection Agency Docket ID No. EPA-HQ-OAR-2013-0602 “Carbon Pollution Emissions Guidelines for Existing Stationary Sources: Electric Utility Generating Units”, November 24, 2014. Available at [http://c.ymcdn.com/sites/www.americancoalcouncil.org/resource/resmgr/Docs/EPA_CAA_111\(d\)_Carbon_Rule_E.pdf](http://c.ymcdn.com/sites/www.americancoalcouncil.org/resource/resmgr/Docs/EPA_CAA_111(d)_Carbon_Rule_E.pdf)

⁶ Environmental Protection Agency, Regulatory Impact Analysis for the Clean Power Plan Final Rule, August 2015, p. ES-22

A November 2015 NERA Economic Consulting (NERA) study of the projected CPP cost impacts⁷ shows the following:

- Total compliance costs of \$220 billion to \$292 billion over a 12-year period
- Average annual compliance costs of \$29 billion to \$39 billion
- Retail electricity rate increases nationally averaging 11% to 14% per year
- Potential for peak year electricity rate increases of at least 20 percent in 28 states
- For the overall economy, losses to U.S. consumers range from \$64 billion to \$79 billion on a present value basis over the same 12-year period

Note that the study included the effects of changes in electricity generation costs, including allowance costs, energy efficiency costs, and increased natural gas costs for non-electric consumers, but did not include associated costs necessary to modify or add to electricity transmission and natural gas pipeline infrastructure.

A study of the CPP by Energy Ventures Analysis⁸ projected an increase in wholesale electricity costs of \$214 billion between the years 2022 and 2030. On top of that, an additional \$64 billion in costs would be incurred to replace an estimated 41,000 MW of power sector generating capacity that will be forced to shut down, enough capacity to supply electricity to 24 million homes. The study results showed that 45 states will incur double digit increases in wholesale electricity costs and 16 of the states will have increases of 25% or more. As with the NERA study, this study did not include any costs for changes to electricity transmission and natural gas infrastructure.

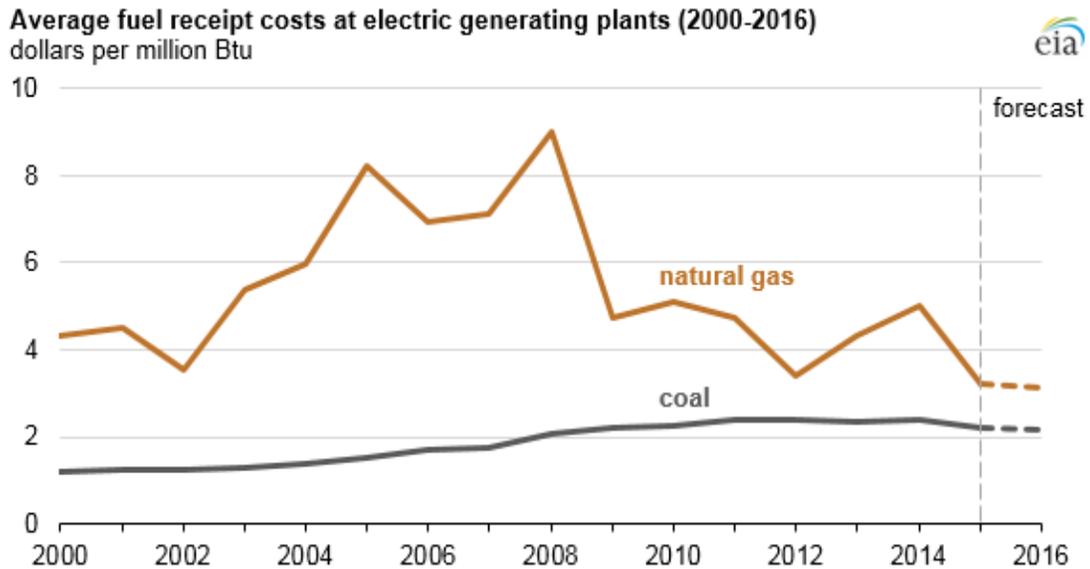
The costs of additions and modifications to electricity transmission and natural gas infrastructure needed due to the CPP can reasonably be expected to be very significant, thereby driving all of the projected economic costs identified above even higher.

One factor with significant potential for impact and variability on the outcome and actual cost burden of the CPP⁹ is the future price of natural gas. The graph below from the Energy Information Administration (EIA) shows the importance of coal in terms of both its low price and price stability over time in comparison to natural gas.

⁷ NERA Economic Consulting, "Energy and Consumer Impacts of EPA's Clean Power Plan", November 7, 2015. Available at <http://www.americaspower.org/nera>

⁸ National Mining Association Press Release "Clean Power Plan Will Add \$214 Billion to Wholesale Electricity Prices, November 17, 2015.

⁹ Energy Information Administration, "Today in Energy", March 16, 2016.



If the Clean Power Plan is implemented, there should be no surprise if even higher and more volatile natural gas prices occur. The robust coal-natural gas marketplace competition that exists today will be significantly reduced as coal plants are shut down and coal demand drops while additional natural gas capacity is brought on and natural gas demand increases. Quite simply, less market competition means higher market prices.

Electricity system reliability risks

In addition to concerns about the huge economic impacts, the risks to electricity availability and reliability posed by the CPP continue to be of great concern. Many stakeholders have expressed this directly to DOE, including at its QER 1.2 public meetings. Compliance with the CPP’s stringent requirements will only be achieved by the reduction of large amounts of coal generation, the increased reliance on natural gas generation, and a major buildout of renewables.

In addressing a question about fuel diversity at the February 4, 2016 QER 1.2 public meeting in Washington, DC, Mr. Gerry Cauley, President of the North American Electric Reliability Corporation (NERC) stated, “I think fuel diversity has a direct correlation to reliability, and a lot of times we don’t really understand that, articulate that and value that.”¹⁰

¹⁰ Department of Energy, “February 4, 2016 Meeting Transcript”, p. 29. Available at <http://energy.gov/epsa/downloads/qer-second-installment-public-meeting-washington-dc>

The importance of fuel diversity to reliability is evident from the “Polar Vortex” winter of 2014. Coal plants throughout much of the country were essential in enabling electric generators to meet electricity demand and avoid brownouts or blackouts during this time, as natural gas supply and deliverability issues were experienced in some regions. Many of these same coal plants that were essential in meeting electricity needs during that winter have been shut down beginning in 2015 due to EPA’s Mercury and Air Toxics regulation, and many more would be forced to shut down because of the CPP. It should also be noted that natural gas prices increased that winter and resulted in higher electricity bills. EIA reported the Henry Hub spot price beginning the winter at \$3.50/mmbtu and reaching \$8.15/mmbtu in February.¹¹ The price in New York City skyrocketed to \$120/mmbtu in January.¹²

The increasing reliance of the electricity system on natural gas and the resultant impacts to reliability have been the subject of focus by NERC. In May 2016, NERC released a “Short Term Special Assessment – Operational Risk Assessment with High Penetration for Natural Gas-Fired Generation” (Assessment). The Assessment focused on areas in the U.S. Bulk Power System (BPS) where natural gas generation exceeds 40 percent, finding that heavier reliance on natural gas generation makes these areas increasingly vulnerable to issues related to gas supply unavailability.

In the Assessment, NERC stated “As growth in natural gas demand increases from the electric sector, pipeline transportation constraints, storage limitation, and contingencies on gas infrastructure will have a greater impact on gas-fired generation. Overdependence on a single fuel type increases the risk of common-mode or single-point-of-failure disruptions as experienced during recent extreme weather events, like the 2014 Polar Vortex.”¹³

As ACC noted in its comments to EPA on its proposed Section 111(b) CO₂ rule for new electric generating units, an important distinction between the use of coal and natural gas for electricity generation is the ability of coal to be stored in inventory at power plants. A stockpile onsite allows for a quick response to changes in generation demand or protection from real-time fuel supply. There is no such buffer for natural gas plants so the effects of a supply disruption to plant operations, and thus dispatch availability, are immediate.

¹¹ Energy Information Administration, Natural Gas Market Digest: Natural Gas (2013-2014), June 12, 2014. Available at http://www.eia.gov/naturalgas/review/winterlookback/2013/#tabs_Prices-3

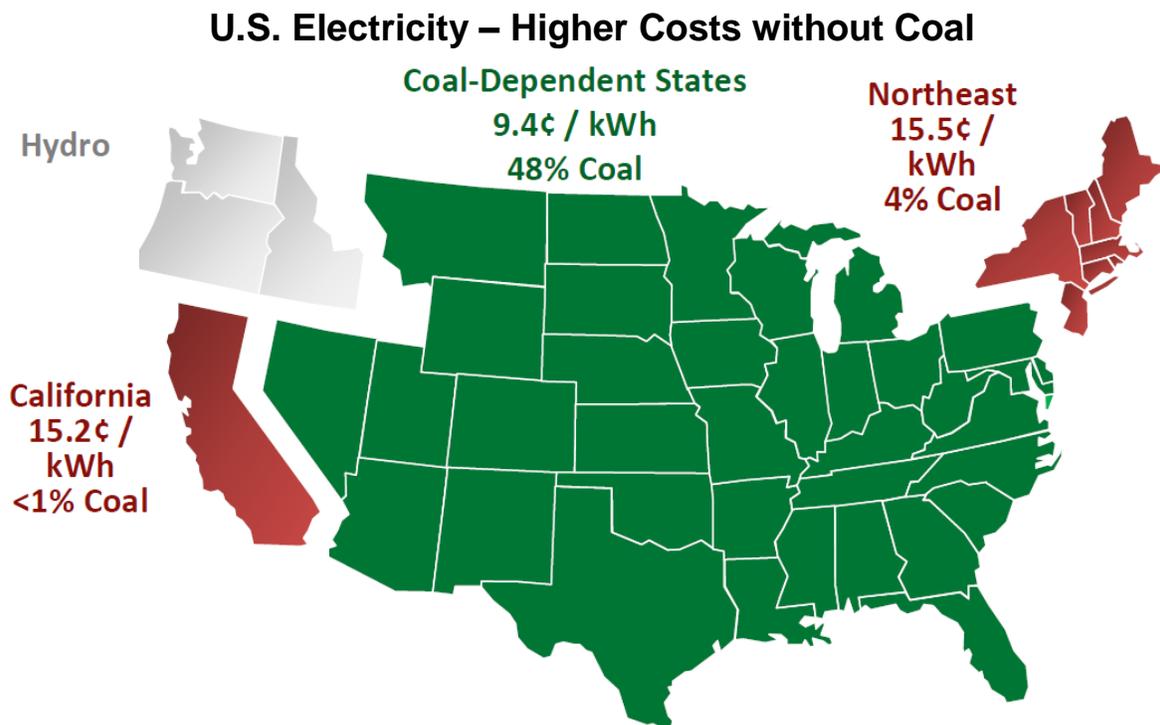
¹² *Ibid.*

¹³ North American Electric Reliability Corporation, “Short Term Special Assessment – Operational Risk Assessment with High Penetration for Natural Gas-Fired Generation”, May 2016, p. iv.

NERC's Assessment pointed to the recent outage of the "operationally-critical" Aliso Canyon natural gas storage facility in California as the most recent example of the increasing natural gas-related risks:

"The challenges faced in California represent a series of risks that have been layered into the system over the past decade: significant dependency on a single and just-in-time delivery fuel source, specifically for ramping capability to meet load and generation variability; reduced amount of baseload and dispatchable resources; increasing amounts of variable and distributed resources; increasing need of system flexibility; gas system dependency on storage to maintain operating pressure; and a lack of clear understanding of natural gas operational characteristics and potential impacts on BPS operations."¹⁴

These reliability warnings alone are reason to change course on the Clean Power Plan. It is precisely the move away from coal generation that California and the Northeast have already undertaken that EPA prescribes for the rest of the country. And not coincidentally, California and the Northeast have the highest electricity costs in the country, as exhibited by the data contained in the graphic below.¹⁵



¹⁴ North American Electric Reliability Corporation, "Short Term Special Assessment – Operational Risk Assessment with High Penetration for Natural Gas-Fired Generation", May 2016, p. iv.

¹⁵ Energy Information Administration, Electric Power Monthly, February 2015. 2014 average retail electricity prices for electric power sector per kWh. ID, OR, and WA excluded due to hydropower.

The Northeast experienced some of the most extreme impacts of the 2014 Polar Vortex, including increased electricity costs due to spiking natural gas prices associated with deliverability issues.

California and the Northeast are good proxies for what will occur elsewhere in the U.S. under the Clean Power Plan. They are clear evidence that the imposition of the CPP is unwise from either a cost or reliability standpoint.

Compounding the reliability concerns is the structure of the reliability safety valve EPA added in the final Clean Power Plan, which addresses only short term dislocations. It allows just a one-time, 90 day reprieve from emissions standards. It does not provide a mechanism, save the *assumed* availability of an actively traded CO2 emissions market, to address emissions and thus maintain reliability in the face of an unexpected situation resulting in an extended event. This is not an acceptable “solution” to a significant concern expressed by the multitude of stakeholders that implored EPA to include a robust reliability safety valve in the final rule.

Other comments about reliability implications come from Mr. Charles McConnell, Executive Director of the Energy and Environment Initiative at Rice University in Texas and former Assistant Secretary of Energy at DOE in 2011 and 2012. Mr. McConnell recently testified on the EPA Clean Power Plan before the U.S. House of Representatives Committee on Space, Science, and Technology, Subcommittee on Environment. In his testimony, he made the distinction between resource adequacy and reliability, criticizing the EPA’s preference for only addressing resource adequacy (generating capacity) in its interagency contact with DOE as it considered the Clean Power Plan during Mr. McConnell’s DOE tenure. He went on to state that it was “deliberately structured to avoid input that would highlight the rule’s potential damage to electric reliability”.¹⁶ ACC agrees that reliability is indeed the appropriate reference. It’s not generating capacity that keeps people from freezing in the winter and exposure to heat-related illness in the summer, it’s the reliable 24/7 operation of that capacity to provide electricity when and where it is needed.

Legal challenges and important high court decisions

The unprecedented nature and design of EPA’s Clean Power Plan resulted in a huge response, with nearly 160 petitioners suing EPA. This includes 27 states, 25 trade

¹⁶ Written Testimony of Charles D. McConnell, Executive Director, Energy and Environment Initiative, Rice University, before the Senate Energy and Natural Resources Committee, May 26, 2016. Available at <https://science.house.gov/legislation/hearings/environment-subcommittee-hearing-impact-epa-s-clean-power-plan-states>

associations, 71 power companies, 10 mining companies, and 8 labor unions.¹⁷ Three recent legal decisions underscore the importance of the Clean Power Plan litigation:

- January 2016 – the U.S. Court of Appeals for the District of Columbia Circuit granted expedited hearing of the case
- February 2016 – the U.S. Supreme Court (SCOTUS) issued an *unprecedented* stay of the Clean Power Plan rule, the first time SCOTUS granted a stay before the lower court ruled on the legal merits of a case
- May 2016 – the U.S. Court of Appeals for the District of Columbia Circuit made a rare decision for the full circuit court to hear the Clean Power Plan case without a three-judge panel first hearing the case and issuing a panel decision

These three decisions show significant concerns about the Clean Power Plan by our nation's senior legal authorities.

EPA's design of the CPP strayed significantly from its past practice, showing how far afield it has gone from its prior use of Clean Air Act Section 111(d). EPA manipulated the Best System of Emission Reduction (BSER) in the CPP such that it would apply to the entire electricity system of the United States rather than to point-source emissions as EPA had previously interpreted and applied this Section. Furthermore, EPA departed from establishing specific, adequately demonstrated control technologies to reduce emissions at the point-source as it had in earlier applications of Section 111(d).

Policy disparity for coal and effects of increasing reliance on renewables

In order to regulate CO₂ emissions from existing power sector units under Clean Air Act Section 111(d), EPA first had to issue standards for new power sector units under CAA Section 111(b). EPA did so in a manner that distinctly disadvantages coal. The limit of 1,400 lbs. CO₂/MWH for coal units requires Carbon Capture and Storage (CCS) technology for compliance. In the case of natural gas units, CCS is not required and existing technology can meet the 1,100 lbs. CO₂/MWH limit.

Duke Energy Corporation (Duke Energy) is one of the largest utilities in the U.S. and also one of the nation's biggest coal consumers. The following excerpted quotes are taken from a recent Wall Street Journal interview on coal's future with Ms. Lynn Good,

¹⁷ U.S. Chamber of Commerce Litigation Center, "Chamber of Commerce, et al v. EPA (ESPS Rule)", available at <http://www.chamberlitigation.com/chamber-commerce-et-al-v-epa-esps-rule>

Duke Energy's Chairman, President, and Chief Executive Officer.¹⁸ They expose the heart of the problems created by EPA's CO2 emissions rules:

- 1) "Under the rules that exist today, you can't build a new coal plant without capture and sequestration [of carbon], and at this point we don't have a viable technology that is economic for that."
- 2) "I also think that as a nation we haven't invested as much in research and development around [carbon capture] as we have other technologies."....."I believe that for us to meet the broader aspiration around climate change, carbon capture is going to be important....."
- 3) "But I think we need to recognize that running a 24/7 power system requires 24/7 power. And the options we have today for 24/7 power are nuclear, natural gas and coal."

As to these three statements, the last one relates to the reliability issue which ACC addressed in the section above on electricity system reliability risks.

With regard to statement 1), ACC is greatly concerned that EPA has put the technology cart before the horse in the CAA section 111(b) rule. This should concern DOE as well. CCS not yet been developed enough to be technologically or commercially feasible in utility scale application. This rule makes it clear to private investors that the development of technology for new coal plants in the U.S. including CCS and high efficiency, low emissions (HELE) technology cannot progress. Furthermore, it will stifle coal technology development and deployment for existing coal plants. Unfortunately, concurrently with EPA's release of the CO2 emissions rules, DOE's support for important CCS projects has lessened. DOE ceased funding of the FutureGen project in Illinois in 2015, and cancelled the project in 2016.¹⁹ This was followed by the recent announcement that DOE will suspend funding for the Texas Clean Energy Project.²⁰

With regard to statement 2), investments in developing CCS lag other technology investments by a wide margin. The National Coal Council released a study in November 2015 addressing this policy disparity issue and making recommendations for change to

¹⁸ Wall Street Journal interview with Amy Harder, "Duke's Lynn Good Looks into the Future of Coal", April 12, 2016, available at <http://www.wsj.com/articles/dukes-lynn-good-looks-into-the-future-of-coal-1460502912>

¹⁹ Carbon Capture & Storage Technologies@MIT, "Future Gen Fact Sheet: Carbon Dioxide Capture and Storage Project, available at <https://sequestration.mit.edu/tools/projects/futuregen.html>

²⁰ Inside Climate News, "Energy Department Suspends Funding for Texas Carbon Capture Project, Igniting Debate", May 15, 2016. Available at <http://insideclimatenews.org/news/12052016/departments-energy-moniz-carbon-capture-ccs-climate-change-texas-clean-energy-project>

DOE. The chart below from the study details the lack of parity between incentives for renewables and for CCS.²¹

Figure A.1. Incentives for Renewable Electricity Generation Compared with Electricity Generation with CCS

<u>INCENTIVE</u>	<u>RENEWABLES</u>	<u>CCS</u>
<u>DOE Budget (2012-2016)¹³</u>		
FY 2016 (Requested)	\$645 Million	\$224 Million
FY 2015	\$456 Million	\$188 Million
FY 2014	\$450 Million	\$200 Million
FY 2013	\$480 Million	\$186 Million
FY 2012	\$480 Million	\$182 Million
Total DOE Budgets:	\$2.5 Billion	\$980 Million <i>(CCS Demonstration: \$0)</i>
<u>Tax Credits (2010-2014)¹⁴</u>		
Investment Tax Credit	\$2.1 Billion	\$1 Billion
Production Tax Credit	\$7.6 Billion	\$0 ¹⁵
ARRA §1603 Grants in Lieu of Credit	\$24 Billion	\$0
Investment in Advanced Energy Property	\$2.1 Billion	\$0
Accelerated Depreciation for Energy Property	\$1.5 Billion	\$0
Total Revenue Cost:	\$37.3 Billion	\$1 Billion
<u>Other Federal Programs</u>		
Loan Guarantees (EPAAct '05 §1703)	Yes (\$13.9 billion)	Yes (\$0)
Mandatory Purchase Requirement (PURPA § 210)	Yes	No
Siting and Interconnection Preferences (e.g., FERC Order 792)	Yes	No
Clean Energy Credits (EPA, 111(d) Existing Power Plant Rule)	Yes	No
<u>State Programs</u>		
Net Metering	44 States	0 States
Renewable Energy Standards	29 States	5 States (CCS applied to standard: 0)

In particular, \$37 billion in tax credits went to renewables and only \$1 billion to CCS for the period 2010-2014. The tax credits for wind and solar are widely recognized as successful in bringing the costs of those technologies down, facilitating their rapid growth and deployment, and putting them on course to become self-sustaining industries. State renewable programs and mandates have also been instrumental for the development of renewables.

Beyond the disparity issue, U.S. policy regarding future electricity generation and transmission resources must change to appropriately account for the consequences of all such resources, including the lack of efficiency inherent in renewables. With

²¹ National Coal Council, "Leveling the Playing Field: Policy Parity Carbon Capture and Storage Technologies", November 12, 2015, p. 2.

increasing amounts of renewable generation, additional baseload generation must be retained or new sources built in order to deliver 24/7 electricity. If the same amount of conventional generating capacity or more is needed to assure electric system reliability with or without renewables, what is the net benefit of adding those intermittent resources? When also considering the impacts to wildlife and the huge land resources required to build new renewables generation under the Clean Power Plan, renewables are shown to be neither the model of efficiency nor environmental sustainability.

Mr. Charles McConnell addressed the issue of sustainability in the afore-mentioned recent House testimony on the EPA Clean Power Plan in the following way:

“ ‘Sustainable’ means it is accessible – meaning not only that we have steady access to the energy source to make it, but that it can produce consistently available, “always on” power, affordable, which means we’re not jacking up consumers costs by using it, and environmentally responsible, and I submit to you that every major source of energy we have today can be used in an environmentally responsible manner.”²²

Mr. McConnell characterized the CPP as “in effect a mandated federal renewable portfolio standard”.²³ He mentioned that renewables are providing less than 15 percent of their installed capacity MWHs to the grid in Texas.²⁴ EIA has indicated that with more than 16,000 MWs, Texas leads the nation in wind generation capacity.²⁵ Applying the 15% to the 16,000 MW in Texas roughly translates to a net contribution of only 2,400 MW for wind availability in Texas. Mr. McConnell also tied the renewables issue back to costs, noting “...how historically low natural gas prices which set wholesale prices in the Texas ERCOT market are masking the significant increases in transmission costs.”²⁶

The policy parity issue and concerns about heavier reliance on renewables due to the Clean Power Plan reinforce the need to change the U.S. electricity policy path to a more robust and balanced “all of the above” approach.

²² Written Testimony of Charles D. McConnell, Executive Director, Energy and Environment Initiative, Rice University, before the Senate Energy and Natural Resources Committee, May 26, 2016. Available at <https://science.house.gov/legislation/hearings/environment-subcommittee-hearing-impact-epa-s-clean-power-plan-states>

²³ *Ibid.*

²⁴ *Ibid.*

²⁵ Energy Information Administration, “Texas State Profile and Energy Estimates”, available at <http://www.eia.gov/state/?sid=TX>

²⁶ Written Testimony of Charles D. McConnell, Executive Director, Energy and Environment Initiative, Rice University, before the Senate Energy and Natural Resources Committee, May 26, 2016. Available at <https://science.house.gov/legislation/hearings/environment-subcommittee-hearing-impact-epa-s-clean-power-plan-states>

Implications of reduced coal use

EIA issued the early release version of its 2016 Annual Energy Outlook (AEO 2016) on May 17, 2016. This includes its latest assessment of the implications for coal under EPA's Clean Power Plan, with coal use projected to drop dramatically. Coal use as a percentage share of electricity generation would decline from 33% in 2015²⁷ to 18% in 2040.²⁸ For reference, during most of the decade beginning in 2000, coal's electricity generation share was about 50%.

EIA forecasts coal production decreasing by 150 million tons in 2016, noting that would be the biggest drop since they began collecting data in 1949.²⁹ EIA projects 40-45 GW of coal plant shutdowns in 2016 for compliance with EPA's MATS rule.³⁰

An additional 55 GW of coal generating capacity must be shuttered during the AEO 2016 forecast period to 2040 for CPP compliance, according to EIA.³¹ With current coal capacity in the U.S. estimated at 285 GW,³² the coal fleet will be reduced to 185-190 GW. Coal production would decline from 870 million tons in 2015 to 640 million tons in 2040.³³

In the AEO 2016, EIA projects wind generation will increase nearly 150% from 2015 to 2040, and solar will grow nearly 12-fold over the period. In just the five years between 2016 and 2021, EIA projects that 112 GW of new wind and solar generation will be added due to the CPP.³⁴

Coal is already paying a high price for EPA rules, including the MATS rule. In June 2015, the U.S. Supreme Court struck down the rule on the basis of cost. Unfortunately, the rule had gone into effect in April 2015, and power generators had been put in the position of making compliance plans (premature shutdown or adding expensive controls) since early 2012 even as the rule wound its way through the courts. The result is the premature shutdown of far more than the 5 gigawatts than EPA projected in the MATS rule, as shown by the 40-45 gigawatts EIA is projecting for MATS in 2016 alone.

The Clean Power Plan's major impact on coal production will push both electricity rates and unemployment higher. According to the National Mining Association, GDP will drop

²⁷ Energy Information Administration, "Short Term Energy Outlook", May 2016, p.11.

²⁸ Energy Information Administration, "AEO 2016: Summary of Two Cases", May 17, 2016, p.22.

²⁹ Energy Information Administration, "Short Term Energy Outlook", May 2016, p.10.

³⁰ Energy Information Administration, "AEO 2016: Summary of Two Cases", May 17, 2016, p. 27.

³¹ *Ibid.*

³² American Coalition for Clean Coal Electricity, "Coal Facts", March 9, 2016, p. 1.

³³ Energy Information Administration, "AEO 2016: Summary of Two Cases", May 17, 2016, p. 36.

³⁴ *Id at 30.*

by \$60 billion and there will be 357,000 fewer jobs in 2030 than without the rule, jobs that pay an average annual wage of \$87,300 with good benefits.³⁵

Thus, the newly-released EIA AEO 2016 provides even more substantiation of the severely negative implications of EPA's takeover of electricity policy via the Clean Power Plan.

Lack of improvement to the environment or to public health

There has been much discussion about the lack of climate and environmental improvements from the Clean Power Plan. Even the EPA has acknowledged the negligible impact of its climate regulations. During a U.S House of Representatives hearing of the Science, Space, and Technology Committee (Committee) on EPA's regulatory initiatives, Committee Chairman Lamar Smith asked EPA Administrator Gina McCarthy about the justification for the Clean Power Plan, saying it would only reduce global temperature by 0.01 degree Celsius. According to the press release posted by the Committee afterwards, "Administrator McCarthy did not dispute that estimate, and indicated the regulation is intended to urge other nations to act on their own emissions. When asked if she considers 0.01 degrees to be a significant contribution to halting climate change, Administrator McCarthy said, 'No, the value of this rule is not measured in that way. It is measured in showing strong domestic action which can actually trigger global action to address what is necessary action.'"³⁶

Put another way by Mr. Charles McConnell in his afore-mentioned House testimony on the CPP, "To get some perspective on how irrelevant EPA's plan is, after exacting tremendous pain on the U.S. economy and ratepayers, a full year's worth of annual reductions in 2025 would be offset by Chinese emissions in just three weeks."³⁷ Mr. McConnell also testified that sea level rise would be reduced by only 1/100th of an inch, which equates to the width of two human hairs.³⁸

In making its cost-benefit case for the Clean Power Plan, EPA continues its controversial approach of including air quality co-benefits and double counting the

³⁵ National Mining Association, "Administration Experts: CPP is Costly, "Stupid" " May 25, 2016. Available at <http://www.countoncoal.org/2016/05/25/administration-experts-cpp-costly-stupid/>

³⁶ U.S. House of Representatives House Science, Space, and Technology Committee, Press Release "Members Question EPA Administrator on Lack of Transparency, Independence", July 9, 2015. Available at <https://science.house.gov/news/press-releases/members-question-epa-administrator-lack-transparency-independence>

³⁷ Written Testimony of Charles D. McConnell, Executive Director, Energy and Environment Initiative, Rice University, before the Senate Energy and Natural Resources Committee, May 26, 2016. Available at <https://science.house.gov/legislation/hearings/environment-subcommittee-hearing-impact-epa-s-clean-power-plan-states>

³⁸ *Ibid.*

impact of reductions in emissions regulated elsewhere. In the CPP, EPA includes the co-benefits of reduced exposure to particulate matter and ozone associated with reductions of (non-CO₂) emissions of SO_x and NO_x.³⁹ In the estimates of the co-benefits using a 3% discount rate, EPA calculated air quality co-benefits at \$14-\$34 billion.⁴⁰ This equates to 41% to 63% of EPA's total calculated benefits of the rule. At the very least, this significantly skews EPA's analysis. Furthermore, EPA mixes and merges references to the impacts of reducing CO₂ and reducing these other emissions in the information on public health benefits available on its website. It refers to the CPP as cutting "hundreds of thousands of harmful soot and smog-forming particle pollution that makes people sick", and lists reductions of premature deaths, heart attacks, asthma attacks and missed work and school days. This confuses the public into believing that CO₂ emissions are somehow linked with asthma and heart disease. They are not.

EPA's approach on cost-benefit fails to include important effects of other human health aspects of its rules. A group of health care professionals (who also serve in the U.S. Congress) wrote a letter to EPA Administrator Gina McCarthy on March 11, 2014⁴¹ shortly after EPA issued its proposed rule for CO₂ from new generating sources. In that letter, they referenced a report published by Senator John Barrasso that demonstrated that high costs due to EPA regulations have profound negative impacts on public health. The report found the following impacts from unemployment due to EPA regulation:

- 1) Increases the likelihood of hospital visits, illnesses, and premature deaths in communities due to joblessness
- 2) Raises healthcare costs, raising questions about the claimed health savings of EPA's regulations
- 3) Hurts children's health and family well-being

In the letter the health professionals emphasized the public health consequences of access to reliable electricity, and noted that the U.S. Centers for Disease Control and Prevention recognizes that reliable electric power is essential for food safety, safe drinking water, and protection against the health consequences of extreme cold and heat. They stated that EPA must take into account the net impact of their rules on health benefits, including those adverse effects plausibly associated with unemployment and the increased cost of energy. ACC agrees.

³⁹ Environmental Protection Agency, Regulatory Impact Analysis for the Clean Power Plan Final Rule, August 2015, p. ES-22

⁴⁰ Environmental Protection Agency, Regulatory Impact Analysis for the Clean Power Plan Final Rule, August 2015, p. ES-22

⁴¹ Partnership for Affordable Clean Energy <http://energyfairness.org/wp-content/uploads/2014/08/Doctors-Caucus-Letter.pdf>

Conclusions

EPA's CO2 rules pursue a misguided path on energy policy for the United States. Coal technology advancement would cease and the Clean Power Plan would inappropriately put EPA, the environmental regulator, on a path to control our energy and electricity. EPA's Clean Power Plan is unreasonable, unrealistic, and unworkable. It would impose enormous costs and risks on American households and businesses.

The American Coal Council again stresses the need for DOE to actively support electricity sector stakeholders to ensure that the fundamental objectives of providing safe, affordable, and reliable electricity in the U.S. can continue. Instead of overreaching regulations prescribed by EPA and others, an "all of the above" strategy using the abundance of America's energy resources, advancing technology solutions, and remedying the policy disparity issue is a far better approach.