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EPA'S CO2 REGULATIONS FOR NEW AND EXISTING POWER PLANTS: LEGAL PERSPECTIVES

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

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EPA'S CO_2 REGULATIONS FOR NEW AND EXISTING POWER PLANTS: LEGAL PERSPECTIVES

THURSDAY, OCTOBER 22, 2015

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND POWER,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 2:03 p.m., in room 2123 Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Members present: Representatives Whitfield, Olson, Shimkus, Pitts, Latta, Harper, McKinley, Griffith, Johnson, Long, Flores, Mullin, Hudson, Rush, McNerney, Tonko, Engel, Green, Capps, Doyle, Castor, Welch, Loebsack, and Pallone (ex officio).

Staff present: Will Batson, Legislative Clerk; Leighton Brown, Press Assistant; Allison Busbee, Policy Coordinator, Energy and Power; Rebecca Card, Staff Assistant; Tom Hassenboehler, Chief Counsel, Energy and Power; Mary Neumayr, Senior Energy Counsel; Chris Sarley, Policy Coordinator, Environment and the Economy; Dan Schneider, Press Secretary; Peter Spencer, Professional Staff Member, Oversight and Investigations; Christine Brennan, Democratic Press Secretary; Jeff Carroll, Democratic Staff Director; Caitlin Haberman, Democratic Professional Staff Member; Rick Kessler, Democratic Senior Advisor and Staff Director, Energy and Environment; John Marshall, Democratic Policy Coordinator; Alexander Ratner, Democratic Policy Analyst; Timia Crisp, Democratic AAAS Fellow; and Josh Lewis, Democratic EPA Detailee.

Mr. WHITFIELD. I would like to call the hearing to order this afternoon. And I know we have a number of our friends on that side of the aisle and a number over here, and I know that Mr. Rush and Mr. Pallone are on their way. And I am sure by the time I finish my statement, we can go right to them for their statement.

So at this time I would like to recognize myself for a 5-minute opening statement.

OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Two weeks ago, we reviewed the substance of EPA's CO_2 regulations for new and existing power plants, all 3,000 pages of them, with EPA Acting Assistant Administrator Janet McCabe. Today's hearing will focus on the legality of this complicated and far-reach-

ing scheme to commandeer each State's electricity system and replace it with a cap-and-trade approach similar to the ones that Congress has repeatedly rejected. And I say that because I think that is what the Federal Implementation Plan is going to be.

There is nothing in the Clean Air Act that even suggests such sweeping agency action is authorized. Indeed, these rules are unprecedented in the 45-year history of this statute. If Congress wanted to authorize a comprehensive transformation of the way America gets its electricity, it would have said so. If Congress wanted to see a wholesale Federal takeover of State authority on electricity policy, it would have said so. And if Congress wanted to largely write fossil fuels out of America's energy future, it would have said so.

In my view, the discrepancy between what EPA is trying to do and what the Clean Air Act actually allows it to do is so wide that I, along with others, would be flabbergasted if the Court ruled this action is legal. I might also say there are serious constitutional concerns with what many see as an executive branch power grab at the expense of the legislative branch and the States.g

I might add that some of the same reasons EPA's power plant rules are bad law are also the reasons they are bad policy, particularly in the way the Agency treats the States. The 1970 Clean Air Act set out a working partnership between the Federal Government and States stating clearly that air pollution prevention and control are the primary responsibility of State and local governments. In contrast, unilateral EPA micromanagement of electricity generation is a recipe for higher bills, reduced reliability, and job losses that are well out of proportion to any environmental benefit.

The fact that 16 States—and we think there are even going to be more—believe they have no choice—they can't sit down and talk to EPA about this—they have no choice but to sue the Agency over these rules is a sure sign of an unhealthy Federal-State relationship and a policy that won't work. The House passed the Ratepayer Protection Act to address the legal and policy shortcomings of the rule for existing power plants. This bill would extend the State compliance deadlines so that the rule's costly provisions would not take effect until judicial review is complete.

We all recognize that even EPA itself had reversed 20 years of legal opinions about the use of 112 and 111(d). And without accusing anyone of anything, it is very easy to conclude that the reason they reversed this was that it was the only way that they could institute this extreme, radical, unprecedented plan in time for the President to go to Paris next month and proclaim that American is doing more than anyone else.

And that is OK, but if it is illegal, that should be of concern to all of us. And there are many people who believe it is illegal. But we will have the opportunity to get into this because we have a lot of legal scholars here today, and this is one of those issues that many legal scholars are really focused on, as are many Americans, whatever they may be doing in our society.

So I look forward to our discussion today with the legal issues, with EPA's power plant rules, and the concerns that are raised because of this extreme, unprecedented action.

[The prepared statement of Mr. Whitfield follows:]

PREPARED STATEMENT OF HON. ED WHITFIELD

Two weeks ago we reviewed the substance of EPA's CO_2 regulations for new and existing power plants, all 3,000 pages of them, with EPA Assistant Administrator Janet McCabe. Today we continue our scrutiny of these rules as the agency begins the process of imposing its requirements on the States.

Today's hearing will focus on the legality of this complicated and far-reaching scheme to commandeer each State's electricity system and replace it with a cap-and-trade approach similar to the ones that Congress has repeatedly rejected.

There is nothing in the Clean Air Act that even suggests such sweeping agency action is authorized. Indeed, these rules are unprecedented in the 45-year history of this statute. If Congress wanted to authorize a comprehensive transformation of the way America gets its electricity in order to address global warming, it would have said so. If Congress wanted to see a wholesale Federal takeover of State authority on electricity policy, it would have said so. And if Congress wanted to largely write fossil fuels out of America's energy future, it would have said so as well.

In my view, the discrepancy between what EPA is trying to do and what the Clean Air Act actually allows is so wide that I am confident that these rules will not withstand judicial scrutiny. There are also serious Constitutional concerns with what many see as an Executive branch power grab at the expense of the legislative branch and the States.

I might add that some of the same reasons EPA's power plant rules are bad law are also the reasons they are bad policy, particularly in the way the agency treats the States. The 1970 Clean Air Act set out a working partnership between the Federal Government and States stating quite clearly that air pollution prevention and control are the primary responsibility of State and local governments. In contrast, unilateral EPA micromanagement of electricity generation is a recipe for higher bills, reduced reliability, and job losses that are well out of proportion to any environmental benefits.

The fact that 16 States believe they have no choice but to sue the agency over these rules is a sure sign of an unhealthy Federal-State relationship and a policy that won't work. The House passed the Ratepayer Protection Act to address the legal and policy shortcomings of the rule for existing power plants. This bill would extend the State compliance deadlines so that the rule's costly provisions would not take effect until judicial review is complete.

The value of this "time out" was clearly demonstrated by the recent Supreme Court decision finding EPA's Mercury MACT rule to be legally flawed. Unfortunately, this decision came after many affected utilities had already initiated costly compliance steps, including the irreversible decision to close several coal-fired power plants. Similarly, the existing source rule as written would require costly and potentially irreversible steps to be taken before we know the legal status of the rule. I believe that the EPA has made clear by their comments following this decision that their goal is to compel States to begin complying with the existing plant rule now so that in the event that the Supreme Court rules against them, decisions will have already been made.

The whole regulatory scheme before us today rests on an implicit deception—a bait and switch. The plain words of the statute make clear the limited authority EPA has to regulate performance standards for fossil-fueled power plants. But rules before us, as we'll hear today, go well beyond mere performance standards. In the guise of performance standards the agency has created a compliance schedule and complicated incentive scheme that lock States into making expensive and far reaching choices concerning their electricity systems as soon as possible, before the long term implications of their decisions can be evaluated, or the long term implications of EPA's regulatory overreach can be understood.

Mr. WHITFIELD. And at this time, I yield back my 11 seconds and recognize the distinguished gentleman from Illinois, Mr. Rush, for a 5-minute opening statement.

OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. RUSH. I want to thank you, Mr. Chairman.

Mr. Chairman, today, we are holding yet another in what has now become an endless series of hearings on the Clean Power Plan. Today, we will once again be focusing on the legal perspectives,

which was exactly the same focus of a similar hearing on this very same topic back in March of this year.

Mr. Chairman, this subcommittee has taken valuable time to repeatedly examine the costs of the CPP, the legality of the plan, and ways to repeal or eliminate or hinder or obfuscate the CPP in using legislative means or whatever means that your side might find usable at the time.

However, Mr. Chairman, I must bring to your attention that this very same subcommittee of jurisdiction has yet to hold a single hearing in this Congress on the underlying reason why a plan such as this is even necessary, not a single hearing, Mr. Chairman, to address the very important critical issue of climate change, global climate change. In fact, Mr. Chairman, it would appear that the majority's side is even hesitant to even utter the phrase climate change unless it is doing so in a mocking, sneering, or contemptuous manner. Mr. Chairman, your side is still bent, still determined to keep their head buried deep beneath the ever-changing sand of ignoring climate change.

Mr. Chairman, in the midst of all these hearings on the CPP, I urge, plead with the majority to also hold at least one hearing—you can set a time limit, 15 minutes, a half an hour, hour, 2 hours, whatever time limit you want to set on the hearing—just hold a hearing on the issue of climate change.

As a matter of fact, Mr. Chairman, I just wanted to say that the ranking member of the full committee and I will be formally submitting another letter to you and Chairman Upton requesting a hearing in the very near future on climate change.

Mr. Chairman, I want to underline our request by asking you and the members of the other side, let's bring this issue of climate change up for discussion. Let's hold a transparent and substantive debate on the merits of both sides of the argument. Is there something called climate change, or is that just a figment of most of the American people and the scientific community and the experts, is that just a figment of our imagination?

Mr. Chairman, the American people deserve to hear their elected representatives voicing their opinions on what many believe to be the most consequential issue facing our time. If my colleagues on the other side of the aisle truly believe that the overwhelming majority of the world's scientists and climatologists are either wrong, they are misguided, or they are in some ways in cahoots in pulling off a global hoax, then let's discuss this openly in a public hearing.

Even as we sit here today debating whether the EPA has the authority to legally put forth rules to increase the Nation's common emissions, the National Oceanic and Atmospheric Administration released a report just yesterday stating that September was the warmest month globally in the history of this Nation, the history of this world that we live in. The NOAA reports that the average global surface temperature in September was 1.62 degrees Fahrenheit warmer than the 20th century average.

Additionally, the agency noted that September was the fifth straight month to bring the high temperature mark this very year, and that January through September saw the warmest temperatures since 1880—you and I can remember that—since 1880 when this data was first reported.

Mr. Chairman, the NOAA reports that the temperatures on land were 2.09 degrees Fahrenheit higher than the average in September, and that the U.S. experienced its second warmest September on record. We cannot afford to simply ignore science, ignore data, ignore the experts, and ignore the signs that Mother Nature continues to show us.

Mr. Chairman, as we finish today's exercise in futility, this exercise of debating the legality of this rule which the courts will ultimately decide anyway, I would urge the majority to immediately, again, plead with the majority to immediately schedule a hearing on the merits of global climate change.

Mr. Chairman, with that I yield back the balance of my time.

[The prepared statement of Mr. Rush follows:]

PREPARED STATEMENT OF HON. BOBBY L. RUSH

Mr. Chairman, today we are holding yet another, in what has now become a series of hearings on the Clean Power Plan.

Today, we will again be focusing on the legal perspectives, which was the exact same focus of a similar hearing on this very same topic back in March.

Mr. Chairman, this subcommittee has taken valuable time to repeatedly examine the cost impacts of the CPP, the legality of the plan, and ways to do away with the Clean Power Plan legislatively.

However, this subcommittee of jurisdiction has yet to hold a single hearing in this Congress on the underlying reason why a plan such as this is even necessary, namely to address climate change.

In fact, Mr. Chairman, it would appear that the majority side is hesitant to even utter the phrase climate change, unless it is doing so in a mocking, sneering, or contemptuous manner.

Mr. Chairman, it the midst of all of these hearings on the Clean Power Plan, I urge the majority to also hold a hearing on the issue of climate change.

In fact, Mr. Pallone and I will be formally submitting a letter to you and Chairman Upton requesting a hearing in the very near future on climate change.

Let's bring this issue of climate change up for discussion and hold a transparent and substantive discussion on the merits of the arguments of both sides of this debate.

Mr. Chairman, the American people deserve to hear their elected representatives voice their opinions on what many believe to be the most consequential issue facing our time.

If my colleagues on the other side truly believe that the overwhelming majority of the world's scientists and climatologist are either wrong, misguided, or are in cahoots in pulling off a global hoax, then let's discuss this openly in a public hearing.

Mr. Chairman, even as we sit here debating whether the EPA has the authority to legally put forth rules to decrease the Nation's carbon emissions, the National Oceanic and Atmospheric Administration released a report just yesterday stating that September was the warmest month globally on record.

NOAA reports that the average global surface temperature in September was 1.62 degrees Fahrenheit warmer than the 20th century average.

Additionally, Mr. Chairman, the agency noted that September was the fifth straight month to break the high temperature mark this year, and January through September saw the warmest temperatures since 1880 when this data was first recorded.

Mr. Chairman, NOAA reports that temperatures on land were 2.09 degrees Fahrenheit higher than average in September, and the U.S. experienced its second-warmest September on record.

Mr. Chairman, this subcommittee cannot afford to simply ignore science, ignore data, ignore the experts, and ignore the signs that Mother Nature continues to show us.

After we finish today's exercise of debating the legality of this rule, which the Courts will ultimately decide anyway, I would urge the majority to immediately schedule a hearing on the merits of the climate change debate.

The members of this subcommittee, as well as the American people, would be well served to hear from the experts so that well-informed decisions can be made regarding this issue.

Thank you, Mr. Chairman, and with that I yield back.

Mr. WHITFIELD. Now, Mr. Rush, I want you to know I let you go 8 minutes in that opening statement——

Mr. RUSH. Well, thank you, Mr. Chairman.

Mr. WHITFIELD [continuing]. Because I wanted you to be sure——

Mr. RUSH. I feel very, very passionate about this issue.

Mr. WHITFIELD. I wanted you to have plenty of time to talk about climate change.

Now, Mr. Upton is not here today. Is there anyone on our side of the aisle that would like to make a comment or discuss the legality or talk about China or——

OK. Seeing no one, the Chair will recognize the gentleman from New Jersey, Mr. Pallone, for 5 minutes.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

Let me begin by quoting President Obama, who recently said "climate change is no longer some far-off problem. It is happening here. It is happening now. We can't wait for some future generation to take action, and we know that any meaningful action must include drastically reducing our carbon emissions in order to have any chance of preventing the worst impacts of a changing climate."

And that is why EPA has taken action by finalizing a workable plan to reduce emissions of carbon pollution from power plants, which are the largest uncontrolled source of manmade greenhouse gases in the U.S. The Clean Power Plan outlines a path to cleaner air, better health, a safer climate, and a stronger economy. And the rule also gives States flexibility to choose how to achieve their emission-reduction goals, which are State-specific and cost-effective.

And this is a moderate and reasonable approach and falls well within the legal authority and responsibility of the EPA to address carbon pollution from power plants. But I am sure we are going to hear a different story from our Republican friends today. Today's hearing is the seventh on this particular rule and the second hearing purportedly to examine the legal problems with the Clean Power Plan.

We should not heed the absurd arguments made on behalf of companies that profit from the status quo. Make no mistake, many of the arguments presented today are well-known, that EPA's plan is not legal, that it is unworkable, that some States may refuse to participate. We have heard these claims during previous hearings and debates on the House Floor. We have heard them in the numerous premature attacks on the Clean Power Plan and EPA's carbon standards for new power plants that have already been rejected by multiple Federal courts.

And despite the zeal of the rule's opponents, all of these arguments have been soundly refuted and dismissed at every turn. Constantly repeating misguided assertions will not magically make them legitimate or true. Frankly, these frivolous lawsuits are just

wasting taxpayer dollars in the name of attacking any action by this administration to address climate change and carbon pollution.

And all of this is to say that we are on a well-trodden path, and I believe committee time could be put to better use. The truth is Congress overwhelmingly passed the Clean Air Act, a Republican President signed it into law, and now EPA is fulfilling its executive duty to take care that the laws be faithfully executed. EPA is doing the job we asked them to do, and it is time Members accept that the Clean Power Plan is on solid legal ground and just move on.

As I have said before, Mr. Chairman, those making the arguments heard today aren't really interested in finding solutions to our carbon pollution problem. They aren't interested in developing a plan to help us reduce emissions while still maintaining a safe, reasonably priced electricity system. They are more than welcome to ignore the facts and more than welcome to reject any reasonable plan to address climate change, but history will not treat them kindly. History is on the side of those who want to act on climate change, those who believe in the power of American innovation and our ability to successfully meet any challenge, and who look to the future rather than the past.

We have already wasted too much time listening to the arguments against the Clean Power Plan and on legislation to "just say no" to climate action. Now, Congress must turn the page, and what we cannot do, as President Obama said—and I will quote him again—is "condemn our children to a planet beyond their capacity to repair."

I yield back. Thank you, Mr. Chairman.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Let me begin by quoting President Obama, who recently said, "Climate change is no longer some far-off problem; it is happening here, it is happening now." We cannot wait for some future generation to take action. And we know that any meaningful action must include drastically reducing our carbon emissions, in order to have any chance of preventing the worst impacts of a changing climate.

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But I'm sure we will hear a different story from Republicans. Today's hearing is the seventh on this particular rule, and the second hearing purportedly to examine the "legal problems" with the Clean Power Plan.

We should not heed the absurd arguments made on behalf of companies that profit from the status quo. Make no mistake, many of the arguments presented today are well known: that EPA's plan is not legal, that it is unworkable, and that some States may refuse to participate. We have heard these claims during previous hearings and debates on the House Floor. We have heard them in the numerous premature attacks on the Clean Power Plan and EPA's carbon standards for new power plants that have already been rejected by multiple Federal courts.

And despite the zeal of the rule's opponents, all of these arguments have been soundly refuted and dismissed at every turn. Constantly repeating misguided assertions will not magically make them legitimate or true. Frankly, these frivolous lawsuits are just wasting taxpayer dollars in the name of attacking any action by this administration to address climate change and carbon pollution.

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As I've said before, those making the arguments heard today aren't really interested in finding solutions to our carbon pollution problem. They aren't interested in developing a plan to help us reduce emissions while still maintaining a safe, reasonably priced electricity system. They are more than welcome to ignore the facts. They are more than welcome to reject any reasonable plan to address climate change. But history will not treat them kindly. History is on the side of those who want to act on climate change; those who believe in the power of American innovation and our ability to successfully meet any challenge, and who look to the future rather than the past.

We have already wasted too much time listening to the absurd arguments against the Clean Power Plan and on legislation to "just say no" to climate action. Now Congress must turn the page. What we cannot do, as President Obama said, is "condemn our children to a planet beyond their capacity to repair."

Thank you.

Mr. WHITFIELD. The gentleman yields back. And that concludes the opening statements.

And I want to welcome our panel today of five all well-versed legal scholars on these issues. And I am going to introduce each of you individually before you give your opening statement rather than doing it in advance. And so for the first introduction of our first witness, I am going to call on the distinguished gentleman from West Virginia for that purpose, Mr. McKinley.

Mr. MCKINLEY. Thank you. Thank you, Mr. Chairman.

I am pleased to welcome the Solicitor General of West Virginia, Elbert Lin. The Solicitor General, Mr. Lin, oversees the Office of the Attorney General's appellate practice, legal opinions, and Federal litigation. Formerly a partner at Wiley Rein, he assisted clients with a wide variety of litigation in regulatory matters with a particular expertise in administrative, appellate, and constitutional law.

West Virginia is lucky to have his expertise, and I thank you, Mr. Lin, for coming before our committee today, and we look forward to your testimony.

Thank you, Mr. Chairman.

Mr. WHITFIELD. So, Mr. Lin, you will be recognized for 5 minutes, and then we will go to the other panelists. Thank you.

STATEMENTS OF ELBERT LIN, SOLICITOR GENERAL, STATE OF WEST VIRGINIA; ALLISON WOOD, PARTNER, HUNTON & WILLIAMS, LLP; RICHARD REVESZ, LAWRENCE KING PROFESSOR OF LAW, DEAN EMERITUS, AND DIRECTOR, INSTITUTE FOR POLICY INTEGRITY, NEW YORK UNIVERSITY SCHOOL OF LAW; EMILY HAMMOND, ASSOCIATE DEAN FOR PUBLIC ENGAGEMENT, PROFESSOR OF LAW, GEORGE WASHINGTON UNIVERSITY LAW SCHOOL; AND RAYMOND L. GIFFORD, PARTNER, WILKINSON BARKER KNAUER, LLP

STATEMENT OF ELBERT LIN

Mr. LIN. Thank you, Congressman McKinley, Mr. Chairman, members of the committee. I am honored to testify about the legality of EPA's carbon dioxide standards for fossil fuel-fired power plants.

As noted by Congressman McKinley, I am the Solicitor General for the State of West Virginia. My boss, West Virginia Attorney General Patrick Morrisey, has been a leader over the last year in litigation concerning the so-called Clean Power Plan, EPA's effort to regulate carbon dioxide emissions from existing fossil fuel-fired power plants under section 111(d) of the Clean Air Act.

So while there are numerous legal deficiencies with all aspects of EPA's new carbon dioxide standards, I will focus on two of the major legal defects with the section 111(d) rule. First, EPA has exceeded its authority under section 111(d) by using three wide-ranging building blocks to calculate statewide carbon dioxide emission limits. Block 1 assumes a reduction in carbon dioxide emissions based on greater efficiency from coal-fired power plants. Block 2 then assumes an additional reduction based on substituting coal-fired power generation with natural gas-fired generation. And block 3 reduces the carbon dioxide target further based on substituting coal-fired power with renewable energy like wind and solar.

These building blocks attempt not just to regulate the efficiency of power plants themselves but to favor one form of electric generation over another and to require States to completely reorder their energy portfolios. Indeed, the White House fact sheet released with the final rule described it as an effort to "drive a more aggressive transformation of the domestic energy industry." This is sometimes described as EPA's attempt to regulate beyond the fence line of the individual power plants, and it is not lawful.

By its plain text, section 111(d) concerns only the reduction of emissions through measures that can be applied to improving an individual source's performance. What EPA claims is what the Supreme Court once called "an unheralded power to regulate a significant portion of the American economy without a clear statement from Congress." The last time that happened in a case called Utility Air Regulatory Group v. EPA, the Supreme Court reversed the Agency.

EPA's obvious goal is to push States toward a cap-and-trade system. The Agency describes emissions trading as an integral part of its analysis, its proposed Federal plan is a cap-and-trade regime, and it puts great weight on the fact that Congress passed a cap-and-trade program for sulfur dioxide in Title IV of the Clean Air Act. But that is precisely the point. The cap-and-trade regime in Title IV is a clear statement from Congress. The one advanced by the rule, in contrast, was specifically rejected by Congress in 2009.

A second problem with the section 111(d) rule is that EPA is already regulating fossil fuel-fired power plants from mercury and other emissions under section 112 of the Clean Air Act. The text of section 111(d) in the U.S. Code says it does not apply to any air pollutant emitted from a source category which is regulated under section 112. This is the so-called 112 exclusion. As EPA itself has long admitted, a literal reading of this text means that EPA cannot use section 111(d) to reach emissions from a source category already regulated under section 112.

To escape this literal reading, EPA argued in the proposed rule that this text doesn't tell the whole story. It argued that in 1990, Congress actually passed two versions of the 112 exclusion, which

the EPA means the statute is ambiguous and subject to the Agency's interpretation.

In our litigation and in comments to EPA, we pointed out the significant flaws with this theory, and as a result, in the final rule EPA changed tactics. Now, for the first time in 25 years, EPA claims that the literal text of the 112 exclusion as it appears in the U.S. Code is ambiguous. According to EPA, Congress was unclear when it referred to sources "regulated under section 112." That phrase, EPA contends, can be read to limit the exclusion not only to sources regulated under section 112 but also to pollutants listed under 112. And because carbon dioxide is not listed under section 112, EPA argues, the exclusion does not apply.

But this novel approach, EPA's backup to its previous backup position, does not get EPA out from under the 112 exclusion. Despite its claim, the statute is quite clear. It refers to source categories regulated under section 112, not air pollutants listed under section 112. So what EPA is doing is rewriting the statue, which it is of course not permitted to do.

The section 111(d) rule is thus unlawful in at least two ways: It relies on expressly picking winners and losers in the energy field, and it violates the section 112 exclusion.

Thank you again for this opportunity, and I look forward to your questions.

[The prepared statement of Mr. Lin follows:]

Hearing on EPA's CO_2 Regulations for New and Existing Power Plants: Legal Perspectives

Testimony of Elbert Lin, Solicitor General of the State of West Virginia

U.S. House Committee on Energy and Commerce
Subcommittee on Energy and Power

October 22, 2015

I. Introduction

I appreciate the invitation to appear before this Subcommittee to address EPA's now-final rules regulating fossil fuel-fired power plants under Section 111 of the Clean Air Act. My name is Elbert Lin, and I am the Solicitor General of the State of West Virginia in the Office of Attorney General Patrick Morrisey. Under the leadership of General Morrisey, the State of the West Virginia has been over the past year at the forefront of the legal challenges to EPA's Section 111(d) Rule, which regulates existing power plants. The Section 111(d) Rule—called the "Clean Power Plan" by EPA—was unlawful when EPA first proposed it in 2014 and remains unlawful today. My testimony today will focus on the Power Plan and explain why the Rule does not survive legal scrutiny on several grounds.

II. The Power Plan Is Unlawful

On August 3, 2015, the EPA Administrator signed as final the Power Plan, which sets aggressive carbon dioxide emission limitations on each State based on what the agency believes the State can meet by shifting from coal-fired energy to natural gas and renewable energy resources. EPA claims Congress gave it authority to promulgate the Power Plan under Section 111(d) of the Clean Air Act ("CAA"), 42 U.S.C. 7411(d). EPA is wrong. The plain language of Section 111(d) does not authorize the Power Plan, and therefore the entire rule is illegal.

A. Background

1. Section 111 of the Clean Air Act

In 1970, Congress enacted Section 111 of the CAA, entitled "standards of performance for new stationary sources." Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 111, 84 Stat. 1676, 1683. As its name indicates, the central focus of Section 111 is the regulation of emissions from *new* sources. Under Section 111(b), EPA is permitted to establish emission standards for "categor[ies] of sources," under certain circumstances. Section 111(b) is a robust program, which EPA has employed "for more than 70 source categories and subcategories . . . [including] fossil fuel-fired boilers, incinerators, sulfuric acid plants . . . ." 73 Fed. Reg. 44,354, 44,486-87 nn.239 & 242 (July 30, 2008).

Although the primary focus of Section 111 is national regulation of "new source[s]," Section 111(d) provides a more limited program for State-based regulation of emissions from certain existing sources. If EPA has issued a federal new source standard under Section 111(b) for a category of sources, Section 111(d) authorizes EPA in some situations to issue guidelines for States to develop existing standards for the same category of sources. 42 U.S.C. § 7411(d). Relevant to the Power Plan, Section 111(d) includes a provision that prohibits EPA from requiring States to develop an existing source performance standard for "any air pollutant . . . emitted from a source category which is regulated under [Section 112 of the CAA]." *Id.* This has been referred to as the "Section 112 Exclusion," which is discussed more fully below.

EPA has successfully invoked Section 111(d) only a few times and in limited circumstances. "Over the last forty years, under CAA section 111(d), [EPA] has regulated four pollutants from five source categories." Power Plan at 209.[1] In each case, the regulations were directed at pollutants emitted by specialized industries, such as acid mist emitted from sulfuric

[1] The Power Plan may be found at: http://www3.epa.gov/airquality/cpp/cpp-final-rule.pdf.

acid plants. *Id.* As EPA itself explained long ago, Section 111(d) is designed to address unique, industry-specific pollution problems, where pollutants are "highly localized and thus an extensive procedure, such as the SIPs require, is not justified." 40 Fed. Reg. 53,340, 53,342 (Nov. 17, 1975)). Under Section 111(d), EPA said, "the number of designated facilities per State should be few," and the required state plans will be "much less complex than the SIPs" that regulate criteria pollutants under CAA Section 110. *Id.* at 53,349.

2. Section 112 of the Clean Air Act

Also in 1970, Congress adopted Section 112 of the Clean Air Act. *See* Pub. L. No. 91-604, § 112, 84 Stat. at 1685-86. As originally enacted, Section 112 required EPA to list and then regulate hazardous air pollutants ("HAPs"). HAPs were defined narrowly as pollutants that "may cause, or contribute to, an increase in mortality or an increase in serious irreversible[] or incapacitating reversible[] illness." *Id.* In 1990, Congress undertook a comprehensive expansion of the reach and severity of Section 112. The new Section 112 established a preliminary list of 189 HAPs to be regulated. It also permitted EPA to add more HAPs to this list when EPA determines that a pollutant may present "a threat of adverse human health effects" "through inhalation or other routes of exposure" or "adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise." 42 U.S.C. § 7412(b). Furthermore, Congress required EPA to publish a list of "source categories" that emit HAPs. *Id.* § 7412(c). Whether a source category is listed under Section 112, or removed after being listed, depends upon a variety of factors. *Id.* For each listed source category under Section 112, Congress required EPA to "impose[] specific, strict pollution control requirements on both new and existing sources of HAPs," reflecting "the . . . 'best available control technology.'" *New Jersey v. EPA*, 517 F.3d 574, 578 (D.C. Cir. 2008) (quoting S. Rep. No. 101-228, at 133 (1989)).

As EPA has explained, "the entire concept of 'source categories' in [S]ection 112 was new in 1990." Final Brief, EPA, *New Jersey v. EPA*, No. 05-1097, 2007 WL 2155494, at n.40 (D.C. Cir. July 23, 2007).

The 1990 Amendments provided special treatment under Section 112 for the category of sources known as "electric utility steam generating units," commonly referred to as power plants. Congress required EPA to study the "hazards to public health reasonably anticipated to occur as a result of" HAPs emitted from power plants before EPA determined whether to list them under Section 112. 42 U.S.C. § 7412(n)(1)(A). EPA was then to determine, based on that study, whether it is "appropriate and necessary" to regulate power plants under Section 112. *Id.*

3. The Section 112 Exclusion

As noted above, the Section 112 Exclusion is a statutory limitation on EPA's Section 111(d) authority, which Congress changed when it revised and strengthened Section 112 in 1990. Before the 1990 Amendments, the Section 112 Exclusion barred EPA from requiring States to regulate under Section 111(d) the emission from existing sources of "any air pollutant . . . included on a list published under section [112](b)(1)(A)." *See* Pub. L. No. 101-549, § 108(g), 104 Stat. 2399 (1990). At the time, that was the list of pollutants deemed by EPA to be HAPs under the narrow pre-1990 criteria. *See* 70 Fed. Reg. 15,994, 16,030 (Mar. 29, 2005).

But in 1990, Congress fundamentally changed the Section 112 Exclusion, in light of its decisions to significantly expand the scope of what constitutes a HAP and to require regulation under Section 112 by "source category." Specifically, Congress amended the Exclusion to prohibit EPA from requiring States to regulate under Section 111(d) the emission of "any air pollutant . . . emitted from a source category which is regulated under section [112]." Pub. L. No. 101-549, § 108, 104 Stat. 2399 (codified at 42 U.S.C. § 7411(d)(1)). As EPA has

consistently conceded, "a literal reading" of this language means "that a standard of performance under section 111(d) cannot be established for any air pollutant—HAP and non-HAP—emitted from a source category regulated under section 112." 70 Fed. Reg. at 16,031; *accord* EPA, Legal Memorandum, at 26 (June 2014), EPA-HQ-OAR- 2013-0602-0419 ("2014 Legal Memo").[2]

According to EPA itself, the legislative history of the 1990 Amendments shows that the revision of the Section 112 Exclusion to "shift [its] focus to source categories" from air pollutants was "no accident." 2007 EPA Brief, 2007 WL 2155494 (quotations omitted). The House of Representatives—where the 1990 revision to the Section 112 Exclusion originated—"sought to change the focus of section 111(d) by seeking to preclude regulation of those pollutants that are emitted from a particular source category that is actually regulated under section 112." 70 Fed. Reg. at 16,031. This policy change reflected the House's judgment that EPA should not be permitted to require state-by-state regulation of an existing source category under Section 111(d), when that category already had to comply with the more stringent national emission standards being introduced by amendment into Section 112. 70 Fed. Reg. at 16,031. This "desire" to avoid "duplicative regulation" of existing source categories makes sense, given that it may not be feasible for already up-and-running facilities to comply with Section 112's stringent requirement and also regulation imposed by States under Section 111(d). 70 Fed. Reg. at 16,032. EPA has noted that Congress seemed especially concerned about "duplicative or otherwise inefficient regulation" of existing power plants, 70 Fed. Reg. at 15,999, and that the change of the Section 112 Exclusion from pollutants to "source categories" was intended to work in tandem with EPA's obligation to study power plants under Section 112(n). Congress wanted

[2] The 2014 Legal Memo may be found here: http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf.

to make EPA choose between regulating HAP emissions from existing power plants under the national standards of Section 112, or all emissions from those power plants under the state-by-state standards of Section 111(d). 70 Fed. Reg. at 15,995, 16,031.

The U.S. Court of Appeals for the D.C. Circuit and the United States Supreme Court have discussed the Section 112 Exclusion on two important occasions.

First, in *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008), the D.C. Circuit struck down EPA's attempt to require under Section 111(d) that the States regulate the emission of mercury from existing power plants. 70 Fed. Reg. 28,606 (May 18, 2005). The critical issue was that EPA had previously determined under Section 112(n) to regulate power plants under Section 112. 70 Fed. Reg. 15,994. To avoid the Section 112 Exclusion, EPA sought to reverse that prior determination, *id.*, but the D.C. Circuit would not allow it. The court held that, if EPA wanted to undo Section 112 regulation of power plants, the agency had to follow the procedures for de-listing a source category under Section 112(c)(9). *New Jersey*, 517 F.3d at 582. Because EPA had not followed those procedures, power plants remained regulated under Section 112, and thus were prohibited by the Section 112 Exclusion from being regulated under Section 111(d). *Id.* at 583.

Second, in 2011, the Supreme Court confronted Section 111(d) in *American Electrical Power Company, Inc. v. Connecticut*, 131 S. Ct. 2527 (2011) ("*AEP*"). In *AEP*, the Court held that there was no action for federal common law public nuisance to abate carbon dioxide emissions from power plants. *Id.* at 2537. The Court explained that Congress has granted EPA the authority to require States to regulate carbon dioxide emissions under Section 111(d), and that the mere existence of this authority preempts any federal abatement cause of action, regardless of whether EPA has exercised that authority. *Id.* at 2537-38. The Court noted,

however, that there are statutory "exception[s]" to EPA's authority under Section 111(d). *Id.* at 2537 n.7. As relevant here, "EPA may not employ [Section 111(d)] if existing stationary sources of the pollutant in question are regulated under . . . the 'hazardous air pollutants' program, [Section 112]." *Id.*

4. EPA Regulates Power Plants Under Section 112

On February 16, 2012, EPA finalized a national emission standard for new and existing power plants under Section 112. 77 Fed. Reg. 9,304 (Feb. 16, 2012) ("MATS Rule"). In this rule, EPA reaffirmed the agency's 2000 decision that it is "necessary and appropriate" for power plants to be listed as a "source category" under Section 112, and proceeded to impose on those plants significant regulations, which will cost over $9 billion per year. *See* 77 Fed. Reg. at 9,365-75; EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards at 1-3–3-13 (Dec. 2011), EPA-HQ-OAR-2009-0234-20131. Even though the Supreme Court ruled earlier this year in *Michigan v. EPA*,135 S. Ct. 2699 (2015), that EPA acted unlawfully when it refused to consider costs, the Supreme Court did not vacate the rule. Further litigation over the future of the MATS Rule is ongoing in the D.C. Circuit and the regulation remains in effect.

5. EPA Finalizes the Power Plan

On August 3, 2015, the EPA Administrator signed the Power Plan. Under the guise of imposing "standards of performance" on existing coal-fired power plants under Section 111(d), the Power Plan is based primarily on what EPA believes each State can achieve by shifting its energy portfolio away from coal-fired power and fossil fuels generally. Two features of the Rule are relevant here.

First, EPA justifies the Power Plan as a regulation of coal-fired power plants, even though those plants are extensively regulated under Section 112. *See* 77 Fed. Reg. 9,304 (Feb.

16, 2012) (imposing Section 112 regulations on power plants). As noted above, the Section 112 Exclusion prohibits EPA from regulating a source category under Section 111(d) where that category is "regulated under [Section 112]." 42 U.S.C. § 7411(d)(1)(A). Abandoning its position of the last 20 years, EPA now claims that "the phrase 'regulated under section 112' refers only to the regulation of HAP emissions." Power Plan at 267. And because EPA has not (yet) decided to regulate carbon dioxide as a HAP under Section 112, the agency argues that it may impose carbon dioxide limitations under Section 111(d) on power plants, regardless of whether EPA has regulated those plants under Section 112.

Second, the Power Plan requires the States to fundamentally reorganize their energy grids, to reduce reliance on coal-fired power plants and fossil fuels more generally. EPA has mandated that the States design State Plans to achieve carbon dioxide emissions targets that EPA calculated based on three "building blocks": (1) altering coal-fired power plants to increase their efficiency; (2) shifting reliance on coal-fired power to natural gas; and (3) shifting reliance on coal-fired power to low or zero-carbon energy generation like wind and solar. Power Plan at 230. Blocks 2 and 3 represent across-the-board energy policy changes, aimed explicitly at reducing reliance on coal-fired energy, and block 3 in particular seeks to shift away from fossil fuels more generally. As justification for this approach, EPA asserts that Section 111(d) authorizes the agency to base a rule on any measures that "shift[] generation from dirtier to cleaner sources." Power Plan at 325. That is, EPA believes that Section 111(d) permits it to force States to design plans that will shift a State's energy portfolio toward different, "cleaner" sources.

B. The Clean Power Plan Violates the Section 112 Exclusion

1. The Section 112 Exclusion, as amended in 1990, prohibits EPA from regulating under Section 111(d) "any air pollutant" emitted from a "source category . . . regulated under [Section

112]." 42 U.S.C. § 7411(d)(1). As EPA has repeatedly concluded, starting in the Clinton Administration and continuing to the proposed version of the Power Plan itself, the "literal" terms of this text prohibit EPA from requiring States to regulate a source category under Section 111(d) when EPA regulates that source category under Section 112.[3] Or, as the Supreme Court has explained, "EPA may not employ [Section 111(d)] if existing stationary sources of the pollutant in question are regulated . . . under [Section 112]." *AEP*, 131 S. Ct. at 2537 n.7.

The current Exclusion reflects the substantial changes that Congress made to Section 112 in 1990. Before the 1990 Amendments, Section 112 and Section 111(d) were complementary provisions, each covering different pollutants. While Section 112 applied only to an extremely narrow category of pollutants, Section 111(d) applied to all pollutants not covered by Section 112 or the CAA's National Ambient Air Quality Standards.[4] But in 1990, Congress changed the focus of Section 112 from individual pollutants to source categories, and also vastly expanded the pollutants covered under Section 112 with language very similar to that in Section 111(d).[5] Since 1990, EPA has never identified any pollutant that falls within one definition but not the other, including carbon dioxide.[6]

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[3] *See* EPA, Legal Memorandum at 26 (June 2014); Brief of EPA, *New Jersey v. EPA*, No. 05-1097, 2007 WL 2155494 (D.C. Cir. July 23, 2007); 70 Fed. Reg. 15,994, 16,031 (Mar. 29, 2005); 69 Fed. Reg. 4,652, 4,685 (Jan. 30, 2004); EPA, Air Emissions from Municipal Solid Waste Landfills—Background Information for Final Standards and Guidelines, Pub. No. EPA-453/R-94-021, 1-5–1-6 (1995).

[4] Before 1990, Section 112 applied to pollutants that "may cause, or contribute to, an increase in mortality or an increase in serious irreversible[] or incapacitating reversible[] illness." Pub. L. No. 91-604, § 112, 84 Stat. 1676, 1685-86 (1970).

[5] *Compare* 42 U.S.C. § 7412(b)(2) (any pollutants "which present, or may present . . . a threat of adverse human health effects . . . or adverse environmental effects . . ."), *with* 42 U.S.C. § 7411(b)(1)(A) (any pollutants "which may reasonably be anticipated to endanger public health or welfare").

[6] *See* 73 Fed. Reg. 44,354, 44,493-95 (July 30, 2008).

Given the fundamental change in the relationship between Sections 112 and 111(d), Congress revised the Exclusion to prohibit EPA from regulating under Section 111(d) any "source category . . . regulated under [Section 112]." 42 U.S.C. § 7411(d)(1). As EPA itself has explained, the House of Representatives—which originated the 1990 revision to the Exclusion—"sought to change the focus of section 111(d) by seeking to preclude regulation of those pollutants that are emitted from a particular source category that is actually regulated under section 112." 70 Fed. Reg. at 16,031. This revision reflected the "desire . . . to avoid duplicative regulation" of existing source categories—especially power plants—in light of the significant capital investments that these facilities have made in their operations. 70 Fed. Reg. at 16,032. Under the revised Exclusion, such facilities would not be forced to comply with the stringent Section 112 regulations imposed by EPA, as well as state-by-state regulations under Section 111(d).

With the expansion of the Section 112 program, there was little need for Section 111(d). Indeed, since 1990, EPA has never before contended that it needed to regulate the same source category under both Sections 112 and 111(d). EPA has only used Section 111(d) for two regulations since 1990. In the first, it sought to undo a Section 112 regulation to impose a Section 111(d) regulation of the same source category. *See New Jersey*, 517 F.3d at 583-84. In the second, EPA justified its rule by specifically noting that the source category was not "actually being regulated under section 112."[7]

In the final rule, EPA concedes that under the States' reading of the Exclusion, the Power Plan is illegal. Acknowledging that it previously shared the same interpretation of the text, EPA admits that "[t]he effect of this reading would be to preclude the regulation of CO_2 from power

[7] *See* 1995 EPA Landfill Memo, at 1-6.

plants under CAA section 111(d) because power plants have been regulated for (HAP) under CAA section 112." Power Plan at 263.[8]

2. EPA seeks to save the Power Plan by adopting an interpretation of the phrase "regulated under [Section 112]" that the agency never suggested before litigation in the D.C. Circuit this year. Specifically, the agency concludes that the Exclusion "only exclud[es] the regulation of HAP emissions under CAA section 111(d) and only when th[e] source category [at issue] is regulated under CAA section 112." Power Plan at 267. That is because, in EPA's new view, "the phrase 'regulated under section 112' refers only to the regulation of HAP emissions." *Id.*

This contrived reading—invented by EPA after two decades of reading the text "literal[ly]"—is indefensible. Section 111(d) permits the regulation of "any air pollutant" "which is not . . . emitted from a source category which is regulated under [Section 112]." 42 U.S.C. § 7411(d)(1). EPA's new interpretation would rewrite the plain terms of the statute to permit regulation of any air pollutant "which is not . . . emitted from a source category which is regulated under [Section 112], where the air pollutant is a hazardous air pollutant regulated under Section 112." But EPA may not "rewrite clear statutory terms to suit its own sense of how the statute should operate." *Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2446 (2014) ("*UARG*").

3. As an alternative relegated to a footnote in the final rule, EPA falls back on the "differing amendments" theory of the Section 112 Exclusion, which was once the lynchpin of EPA's attempt to re-write the Exclusion. *See* Power Plan at 266 n.294. The argument relies on

[8] The D.C. Circuit's upcoming decision on remand from *Michigan v. EPA*, 135 S. Ct. 2699 (2015), thus cannot have any impact on the Section 111(d) Rule's legality because agency action can only be upheld on the "grounds upon which [EPA] itself based its action." *SEC v. Chenery Corp.*, 318 U.S. 80, 88 (1943).

the Statutes at Large, which reflect that Congress passed two amendments to Section 111(d) in 1990—a substantive amendment and an extraneous conforming amendment. Only the substantive amendment was included in the U.S. Code, but EPA argues that the existence of the conforming amendment creates an "ambiguity" that the agency has the right to resolve.

EPA's argument cannot be squared with longstanding legislative practice and binding D.C. Circuit precedent.

a. Congress's official legislative drafting guides, which courts regularly consult in interpreting statutes, set forth well understood and accepted conventions for drafting a bill that makes amendments to an existing law. *See, e.g.*, *Koons Buick Pontiac GMC, Inc. v. Nigh*, 543 U.S. 50, 60-61 (2004) (analyzing the official legislative drafting manuals to interpreted a statute); *United States v. O'Brien*, 560 U.S. 218, 233-34 (2010) (same); *accord Frederick v. Shinseki*, 684 F.3d 1263, 1270 (Fed. Cir. 2012) (same); *Perry v. First Nat'l Bank*, 459 F.3d 816, 820 (7th Cir. 2006) (same). As the Senate Legislative Drafting Manual ("Senate Manual") provides, "substantive amendments"—those amendments making substantive changes to the law—"should appear first in numerical sequence of the Act amended or be organized by subject matter."[9] A bill should then list "[c]onforming [a]mendment[s]," which are "amendment[s] of a provision of law that [are] necessitated by the substantive amendments or provisions of the bill." *Id.* Conforming amendments thus make clerical adjustments to an existing law, such as changes to "tables of contents" and corrections to pre-existing cross-references, *after* the "substantive amendments" are executed. *Id.*; *accord* House Legal Manual on Drafting Style § 332(b) (1995) ("House Manual").

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[9] This source is available at http://www.law.yale.edu/documents/pdf/Faculty/SenateOfficeoftheLegislativeCounsel_LegislativeDraftingManual(1997).pdf.

Consistent with these drafting guides, the Office of the Law Revision Counsel follows a consistent practice of first executing substantive amendments, then executing subsequent conforming amendments, all while excluding as clerical errors any conforming amendments rendered unnecessary by previously executed substantive amendments. *See* Senate Manual, § 126(d); House Manual, § 332(d). Our research revealed that the Office's longstanding and uniform practice is to exclude from the U.S. Code any conforming amendment that conflicts with a prior substantive amendment, and to simply note that the conforming amendment "cannot be executed."[10] Many of the hundreds of examples located were similar to the circumstances here, where the substantive and conforming amendments appeared in the same bill and purported to amend the same preexisting statutory text.[11] We have not found a single example of the Office of Law Revision Counsel giving *any* meaning to a conforming amendment that could not be executed as a result of a previously executed substantive amendment.

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[10] *See, e.g.*, Revisor's Note, 7 U.S.C. § 2018; Revisor's Note, 10 U.S.C. § 869; Revisor's Note, 10 U.S.C. § 1407; Revisor's Note, 10 U.S.C. § 2306a; Revisor's Note, 10 U.S.C. § 2533b; Revisor's Note, 12 U.S.C. § 1787; Revisor's Note, 14 U.S.C. ch. 17 Front Matter; Revisor's Note, 15 U.S.C. § 2081; Revisor's Note, 16 U.S.C. § 230f; Revisor's Note, 20 U.S.C. § 1226c; Revisor's Note, 20 U.S.C. § 1232; Revisor's Note, 20 U.S.C. § 4014; Revisor's Note, 22 U.S.C. § 3651; Revisor's Note, 22 U.S.C. § 3723; Revisor's Note, 26 U.S.C. § 105; Revisor's Note, 26 U.S.C. § 219; Revisor's Note, 26 U.S.C. § 4973; Revisor's Note, 29 U.S.C. § 1053; Revisor's Note, 33 U.S.C. § 2736; Revisor's Note, 37 U.S.C. § 414; Revisor's Note, 38 U.S.C. § 3015; Revisor's Note, 40 U.S.C. § 11501; Revisor's Note, 42 U.S.C. § 218; Revisor's Note, 42 U.S.C. § 290bb–25; Revisor's Note, 42 U.S.C. § 300ff–28; Revisor's Note, 42 U.S.C. § 1395x; Revisor's Note, 42 U.S.C. § 1396a; Revisor's Note, 42 U.S.C. § 1396r; Revisor's Note, 42 U.S.C. § 5776; Revisor's Note, 42 U.S.C. § 9601; Revisor's Note, 49 U.S.C. § 47115.

[11] Revisor's Note, 11 U.S.C. § 101; Revisor's Note, 12 U.S.C. § 4520; Revisor's Note, 15 U.S.C. § 2064; Revisor's Note, 18 U.S.C. § 2327; Revisor's Note, 21 U.S.C. § 355; Revisor's Note, 23 U.S.C. § 104; Revisor's Note, 26 U.S.C. § 1201; Revisor's Note, 42 U.S.C. § 1395u; Revisor's Note, 42 U.S.C. § 1395ww; Revisor's Note, 42 U.S.C. § 1396b; Revisor's Note, 42 U.S.C. § 3025; Revisor's Note, 42 U.S.C. § 9875.

The D.C. Circuit similarly has recognized that a mistake in conforming an amended statute should be ignored and not treated as "creating an ambiguity." *Am. Petroleum Inst. v. SEC*, 714 F.3d 1329, 1336 (D.C. Cir. 2013). In *American Petroleum*, the court confronted a statute where Congress had renumbered a specific provision but failed to also correct, by way of a conforming amendment, a pre-existing cross-reference. *Id.* The court refused to allow that clerical error to "creat[e] an ambiguity" that might alter the substantive meaning of the statute. *Id.* Instead, the court recognized that an error in updating a cross-reference "was far more likely the result of a scrivener's error" and should be ignored. *Id.* Such minor errors in conforming a statute that has been substantively amended, the court observed, are quite common in today's "enormous and complex" legislation and should not be elevated in significance. *Id.* at 1336-37; *cf. Dir. of Revenue of Missouri v. CoBank ACB*, 531 U.S. 316, 323 (2001) (treating "conforming amendment" as non-substantive); *CBS, Inc. v. FCC*, 453 U.S. 367, 381–82 (1981) (same).

b. Applying this uniform legislative drafting practice and binding case law to the two 1990 amendments to Section 111(d), the Office of the Law Revision Counsel correctly excluded the extraneous conforming amendment from the U.S. Code.

The first amendment, which the Office of the Law Revision Counsel included in the U.S. Code, is a substantive amendment to Section 111(d) ("Substantive Amendment"). Before 1990, the Section 112 Exclusion prohibited EPA from requiring States to regulate under Section 111(d) any air pollutant "included on a list published under . . . 112(b)(1)(A)." 42 U.S.C. § 7411(d) (1989); Pub. L. No. 101-549, § 108(g), 104 Stat. 2399 (1990); *see* 70 Fed. Reg. at 16,030. This meant that if EPA had listed a pollutant as a HAP, the agency could not regulate that pollutant under Section 111(d). In order "to change the focus of section 111(d) by seeking to preclude

regulation of those pollutants that are emitted from a particular source category that is actually regulated under section 112," 70 Fed. Reg. at 16,031, the Substantive Amendment instructs:

> *strik[e] "or 112(b)(1)(A)" and insert[] "or emitted from a source category which is regulated under section 112."*

Pub. L. No. 101-549, § 108(g), 104 Stat. 2399 (1990). This "change [in] focus" is plainly a *substantive* change, and the amendment is accordingly listed among other substantive amendments in the Statutes at Large. *See* 2007 EPA Brief, 2007 WL 2155494 at *n.35 ("the House version . . . was included with a variety of substantive provisions").

The second amendment appears 107 pages later in the Statutes at Large, among a list of "[c]onforming [a]mendments" that make clerical changes to the CAA ("Conforming Amendment"). *See* 2007 EPA Brief, 2007 WL 2155494 at *n.35. As noted above, conforming amendments are "amendment[s] of a provision of law that [are] necessitated by the substantive amendments or provisions of the bill." Senate Manual § 126(b)(2). Consistent with this description, the Conforming Amendment merely updated the cross-reference in the Section 112 Exclusion. The Conforming Amendment instructs:

> *strik[e] "112(b)(1)(A)" and insert[] in lieu thereof "112(b)".*

Pub. L. No. 101-549, § 302(a), 104 Stat. 2399 (1990). This clerical update was necessitated by the fact that the substantive amendments expanding the Section 112 regime—broadening the definition of a HAP and changing the focus to source categories—had renumbered and restructured Section 112(b).

Applying the process required by the official legislative drafting guides, and consistent with D.C. Circuit case law, the Office of Law Revision Counsel correctly found the Conforming Amendment to be extraneous and excluded it from the U.S. Code. The Office first executed the Substantive Amendment, producing the text of the Section 112 Exclusion that appears in the

U.S. Code today. Next, the Office looked to the Conforming Amendment and determined that it "could not be executed" because the Substantive Amendment had deleted the reference to "[1]12(b)(1)(A)." *See* Revisor's Note, 42 U.S.C. § 7411. This was entirely proper because it was impossible then to "strik[e] '112(b)(1)(A)' and insert[] in lieu thereof '112(b),'" as the Conforming Amendment directed.

c. Although EPA has indicated that it understands the Conforming Amendment is "a drafting error and therefore should not be considered," 70 Fed. Reg. at 16,031, it has inexplicably refused (and continues to refuse) to follow that proper approach. Instead, EPA would treat each Amendment as independently creating a separate revised version of the Section 112 Exclusion. The first "version" is the version in the U.S. Code, created by executing only the Substantive Amendment. The second "version" would be created by executing only the Conforming Amendment. Out of these two "versions" of the Section 112 Exclusion, EPA's claim of "ambiguity" was born.

EPA's approach, which it continues to press in the alternative today, is baseless. If EPA's approach to the amendments was correct, *every one* of the numerous instances where the Office of Law Revision Counsel has excluded from the U.S. Code an amendment that "could not be executed" would now need to be treated as creating previously unidentified statutes-in-exile. There is no basis in logic, legislative practice, or congressional intent to permit this unprecedented and deeply disruptive result.

C. Section 111(d) Does Not Authorize EPA to Force States To Reorder Their Energy Sectors Under the "Building Block" Approach

Even if the Section 112 Exclusion did not invalidate the Power Plan, EPA's "building block" approach, which requires States to overhaul their energy sectors to reduce reliance on coal-fired energy, is also illegal in several respects.

1. Section 111(d) only authorizes regulation based on measures, such as pollution control technologies, for the more efficient operation of an existing source of emissions. Under Section 111(d), EPA may direct States to establish "standards of performance for any existing source," under certain narrow circumstances. 42 U.S.C. § 7411(d)(1)(A) (emphasis added). A "standard of performance" is "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable *through the application* of the best system of emission reduction ['BSER']." *Id.* § 7411(a)(1) (emphasis added). Moreover, "in applying a standard of performance *to any particular source*," a State may "take into consideration, among other factors, the remaining useful life of *the existing source* to which such standard applies." *Id.* § 7411(d)(1)(B) (emphases added). Such "other factors" include "[p]hysical impossibility of installing necessary control equipment." 40 C.F.R. § 60.24(f)(2). Section 111(d) thus requires a BSER that is capable of "application" to the "existing source," while requiring consideration of "other factors," such as the "remaining useful life" of that source.

These statutory provisions make clear that a BSER is not an unlimited grant of roving authority to EPA. *See Whitman v. Am. Trucking Associations*, 531 U.S. 457, 468 (2001). Rather, it is simply one of the Clean Air Act's many requirements for the adoption of "pollution control devices," *Union Elec. Co. v. EPA*, 427 U.S. 246, 257 (1976), or other measures that "hold the industry to a standard of improved design and operational advances," *Sierra Club v. Costle*, 657 F.2d 298, 364 (D.C. Cir. 1981). Even EPA understands as much; its BSER under Section 111(b) for *new* coal-fired power plants is a pollution control device—partial carbon capture and storage.[12]

[12] Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units, EPA-HQ-OAR-2013-0495 &

Building blocks 2 and 3 of the Power Plan go far beyond EPA's authority to require States to develop standards of performance for the source category in question. Rather than requiring "improved design and operational advances," *Costle*, 657 F.2d at 364, the Power Plan is premised on far-reaching measures aimed at reducing usage of coal-fired energy by increasing reliance upon competing sources of energy: natural gas and, especially, renewable energy such as solar power and wind. These are economy-wide energy policy mandates, which simply disfavor coal-fired power plants and favor other source categories. On this reasoning, the agency could mandate that States require all coal-fired power plants to close, if the "integrated" power grid can produce sufficient electricity from other "cleaner" sources to supply the nation. That is not a "standard of performance" for power plants, but one of *non*-performance.

2. EPA's interpretation of Section 111(d) also unlawfully arrogates to the agency decisions of vast economic and political significance without clear congressional authorization. In *UARG*, the Supreme Court held that Congress must "speak clearly if it wishes to assign to an agency decisions of vast 'economic and political significance.'" 134 S. Ct. at 2444 (quoting *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 160 (2000)); *accord King v. Burwell*, 135 S. Ct. 2480, 2489 (2015). Specifically, the Court barred EPA from regulating under the Prevention of Significant Deterioration and Title V programs "the construction and modification of tens of thousands, and the operation of millions, of small [carbon dioxide] sources nationwide." *UARG*, 134 S. Ct. at 2444. Such regulation would have "br[ought] about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization." *Id.* "[W]hen an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,'" the Court

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EPA-HQ-OAR-2013-0603, at 13-14, tbl. 1 (Aug. 3, 2015) ("Section 111(b) Rule"), http://www.epa.gov/airquality/cpp/cps-final-rule.pdf.

stressed, "[courts should] greet its announcement with a measure of skepticism." *Id.* (quoting *Brown*, 529 U.S. at 159).

This is fatal to the Power Plan. Invoking authority under a statutory provision it has utilized on only five previous occasions, EPA has given itself the power to "drive a more aggressive transformation in the domestic energy industry," in order to reduce demand for fossil-fuel-fired energy.[13] This is broad-based energy policy, not environmental regulation. EPA claims to have "discover[ed] in a long-extant statute an unheralded power to regulate a significant portion of the American economy." *UARG*, 134 S. Ct. at 2444 (internal quotations omitted). But there is no evidence that Congress "clearly" assigned to EPA the authority to make these energy policy decisions of "vast economic and political significance." *Id.* (quotations omitted).

The implications of EPA's interpretation of Section 111(d) are staggering and go well beyond even EPA's claim of authority in *UARG*. The Power Plan relies entirely upon EPA's assertion that Section 111(d) gives it the right to mandate "shifting generation from dirtier to cleaner sources." Power Plan at 325. But consider the consequences of that position. In its most recent successful Section 111(d) regulation, EPA required States to impose standards of performance for municipal solid waste landfills. *See* 61 Fed. Reg. 9,905 (Mar. 12, 1996). Under EPA's new theory of Section 111(d), the agency could now update those standards to require States to adopt measures that require recycling rather than disposal of trash, including forcing landfills to buy "credits" from recycling plants, on the theory that recycling plants are "cleaner" than landfills. Power Plan at 325. After all, according to EPA, the "management of the resulting

[13] Joby Warrick, *White House set to adopt sweeping curbs on carbon pollution*, Washington Post (Aug. 1, 2015) (quoting "White House fact sheet"), http://www.washingtonpost.com/national/health-science/white-house-set-to-adopt-sweeping-curbs-on-carbon-pollution/2015/08/01/ba6627fa-385c-11e5-b673-1df005a0fb28_story.html.

waste . . . release[s] greenhouse gas emissions such as carbon dioxide."[14] In short, EPA's novel interpretation of Section 111(d) would transform this environmental regulator into the most powerful central planner in the federal bureaucracy—with the authority to decide that any source category is "cleaner" than its competitor category, and to require the States to systematically favor the supposedly "cleaner" category of competitors.

3. EPA's claim that Section 111(d) permits the agency to reorganize the nation's energy economy on a state-by-state basis must also be rejected because it violates the Tenth Amendment. States' authority over the intrastate generation and consumption of electricity is "one of the most important functions traditionally associated with the police powers of the States." *Arkansas Elec. Coop. Corp. v. Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 377 (1983). Congress recognized this State authority in the Federal Power Act ("FPA"), which confines federal authority over electricity markets to "the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce." 16 U.S.C. § 824(a); *see also id.* § 824(b)(1). Regulation of the intrastate consumer market remains where it constitutionally belongs: in the hands of the States. The FPA and other federal energy statutes respect the States' "traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns." *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 205 (1983); *cf.* 18 U.S.C. § 808(d)(2)(A).

The Power Plan runs roughshod over States' constitutional rights regarding intrastate generation and use of electricity, and is thus illegal. Blocks 2 and 3 require States to fundamentally alter electricity generation for intrastate use. These State-based energy policies

[14] EPA, Reducing Waste at http://www.epa.gov/greenhomes/ReduceWaste.htm.

have deep implications for the intrastate "[n]eed for new power facilities, their economic feasibility, and rates and services." *Id.*

That the Power Plan leaves States the option of not submitting State Plans does not cure these constitutional problems. If States comply and submit State Plans to reorganize their energy economies, they will become mere "administrative agencies of the Federal Government" in this critical area of state authority. *New York v. United States*, 505 U.S. 144, 188 (1992). On the other hand, if States refuse to submit State Plans, EPA will impose its own federal plan, imposing a federal takeover of the generation of intrastate energy. Not even Congress is permitted to enact a so-called "cooperative federalism" regime if both choices exceed Congress's direct regulatory power. *Id.* at 167 (quotations omitted). "Moreover, Congress is not permitted to directly command[] a State to regulate or indirectly coerce[] a State to adopt a federal regulatory system as its own." *Nat'l Fed'n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566, 2602, 183 L. Ed. 2d 450 (2012) (quotations omitted).

At a minimum, EPA's interpretation of the statute must fail in light of these constitutional issues. *See Nat'l Mining Ass'n v. Kempthorne*, 512 F.3d 702, 711 (D.C. Cir. 2008) ("[W]e will not submit to an agency's interpretation of a statute if it presents serious constitutional difficulties." (quotations omitted)). Put another way, to the extent that Section 111(d) could be read to adopt EPA's reading—which it cannot—"basic principles of federalism embodied in the Constitution . . . resolve [any] ambiguity" against EPA's interpretation. *Bond v. United States*, 134 S. Ct. 2077, 2090 (2014).

III. Conclusion

While all of EPA's recent actions relating to carbon dioxide emissions from fossil-fuel-fired power plants are legally suspect, I have aimed to lay out several of the major legal defects

with EPA's regulation of existing fossil-fuel-fired power plants under Section 111(d). We believe these defects are fatal to the Rule, and we look forward to presenting our arguments in court. Thank you again for this opportunity, and I look forward to your questions.

Mr. WHITFIELD. Thank you very much, Mr. Lin.

And our next witness is Allison Wood, who has testified here before. She is a partner at Hunton & Williams. And, Ms. Wood, thank you for joining us today, and you are recognized for 5 minutes.

STATEMENT OF ALLISON WOOD

Ms. WOOD. Thank you, Mr. Chairman.

Good afternoon. It is an honor to appear again before this subcommittee to offer testimony on EPA's regulations for power plants under section 111 of the Clean Air Act.

I am a partner, as you said, in the law firm of Hunton & Williams, and I have practiced environmental law for over 17 years. And for the past decade, my practice has focused almost exclusively on climate change.

On August 3, EPA released three rules to limit carbon dioxide emissions from power plants. The most controversial rule regulates those emissions from existing power plants under section 111(d) of the Clean Air Act. EPA also released a proposed Federal plan to implement the existing power plant regulations, accompanied by two model trading rules, one for a mass-based cap-and-trade program and one for a rate-based cap-and-trade program.

The third rule regulates carbon dioxide emissions from new, modified, and reconstructed power plants under section 111(b) of the Clean Air Act. All of these regulations will be published in tomorrow's Federal Register, and they all suffer from legal deficiencies that are certain to be subject to litigation.

With regard to EPA's final rule for existing power plants under section 111(d), that rule continues to suffer from numerous legal deficiencies, including the two issues that I raised before this subcommittee in March. The first issue is whether EPA even has authority under section 111(d) to issue the regulations for existing power plants in light of the fact that electric-generating units are already regulated under section 112 of the Clean Air Act, which addresses hazardous air pollutants.

The second issue is whether EPA's final regulations for existing power plants can properly be considered to be a system of emission reduction under the Clean Air Act, even assuming EPA has authority to issue a section 111(d) rule for electric generating units.

The proposed Federal plan seeks to implement the regulations for existing power plants in the form of a cap-and-trade program for States that do not submit acceptable State plans. The accompanying model trading rules seek to provide rules that States can adopt to be part of a cap-and-trade program. Because the underlying regulations are unlawful, the proposed Federal plan and model trading rules also cannot be lawfully promulgated.

With regard to the final regulations for new, modified, and reconstructed power plants, it should be noted that the emissions rate for these new plants is higher than the rates for existing power plants. This has never before been the case.

The new source regulations also suffer from legal infirmities. For example, the final performance standard for new coal-fired power plants is based on the use of post-combustion; partial carbon capture and sequestration, or CCS; and requires that carbon dioxide

be captured, compressed, and safely stored over the long-term. CCS has not been adequately demonstrated.

In the final rule, EPA improperly relies on projects that received funding under the Energy Policy Act of 2005 to find that CCS is adequately demonstrated, which violates that act. The only project that EPA cites that did not receive such funding is a small Canadian unit that does not provide adequate support for EPA's determination.

In addition, the subcommittee should be aware that a legal prerequisite for regulation of existing sources under section 111(d) is that their first must be regulation of the same new sources under section 111(b). This means that if the final regulations for new power plants are overturned by a court, the legal foundation for EPA's regulating existing power plants would disappear.

All of these legal issues give rise to a great deal of uncertainty regarding all three rules and cast serious doubt over whether they will be able to survive review by the courts. In the meantime, however, anyone wanting to build a new power plant must comply with the standards for new sources. For existing sources, States face a firm September 6, 2016, deadline for the submission of a State plan or an extension request, or they face the risk of the Federal cap-and-trade program being imposed on them.

Meanwhile, the owners of existing power plants have to begin preparing as though they are going to have to comply with the rule. These preparations take many years, and the owners of the power plants do not have the luxury of waiting to see whether these rules would survive legal review.

Thank you again for the opportunity to testify today.

[The prepared statement of Ms. Wood follows:]

Hearing on EPA's CO_2 Regulations for New and Existing Power Plants: Legal Perspectives

Testimony of Allison Wood, Partner, Hunton & Williams LLP

U.S. House Committee on Energy and Commerce
Subcommittee on Energy and Power

October 22, 2015

Summary

On August 3, 2015, EPA issued three rules, all of which regulate carbon dioxide ("CO_2") emissions from power plants under section 111 of the Clean Air Act. All of these rules suffer from legal flaws. The final rule for existing power plants under section 111(d) continues to suffer from numerous legal deficiencies. One is that EPA lacks authority to issue the rule under section 111(d) in light of the fact that these sources are already regulated under the hazardous air pollution provisions of the Clean Air Act. Another is that EPA's interpretation of "system of emission reduction" dramatically broadens the program beyond the source by claiming that EPA may base a standard of performance by looking at the electric system as a whole. This is misguided. A "system of emission reduction" must begin and end at the source itself.

EPA's proposed federal plan and model trading rules seek to establish a cap-and-trade program that would be used to implement the existing power plan regulations in states that do not submit acceptable state plans and in states that choose to be part of the cap-and-trade program. EPA's final performance standards for new, modified, and reconstructed power plants, which are set at levels higher than those established for existing plants, also suffer from legal infirmities. For example, the final performance standard for new coal-fired power plants is based on the use of carbon capture and sequestration and relies on projects that received funding under the Energy Policy Act of 2005, which violates express provisions in that Act.

Given the complexity of this rule and the deadlines for state plans, however, states and regulated entities will be forced to comply with this rule long before courts decide the legal challenges.

Hearing on EPA's CO_2 Regulations for New and Existing Power Plants: Legal Perspectives

Testimony of Allison Wood, Partner, Hunton & Williams LLP

U.S. House Committee on Energy and Commerce
Subcommittee on Energy and Power

October 22, 2015

I. Introduction

It is an honor to appear before this Subcommittee to offer testimony on EPA's regulations to limit carbon dioxide ("CO_2") emissions from new and existing power plants under section 111 of the Clean Air Act. My name is Allison Wood, and I am a partner in the law firm of Hunton & Williams LLP. I have practiced environmental law for over 17 years, and for the past decade my practice has focused almost exclusively on climate change. I have represented industry clients in every major rulemaking and case involving the regulation of greenhouse gases under the Clean Air Act, including preparing comments on EPA's proposed regulations to limit CO_2 emissions from new, modified and reconstructed, and existing power plants for several clients, including the Utility Air Regulatory Group, and I have represented that group in litigation before the D.C. Circuit regarding whether EPA has authority under the Clean Air Act to issue the section 111(d) rule. I am not representing anyone with regard to this testimony, however. I am testifying in my own personal capacity as a Clean Air Act practitioner who focuses on climate change.

On August 3, 2015, EPA released three rules: (1) final regulations to limit CO_2 emissions from existing power plants under section 111(d) of the Clean Air Act;[1] (2) a proposed federal plan to implement those existing power plant regulations, along with two model trading

[1] EPA, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (signed Aug. 3, 2015) ("Existing Source Rule"), *available at* http://www2.epa.gov/cleanpower plan/clean-power-plan-existing-power-plants.

rules (one for a mass-based trading program and one for a rate-based trading program);[2] and (3) final regulations to limit CO_2 emissions from new, modified, and reconstructed power plants under section 111(b) of the Clean Air Act.[3] None of these regulations has been published in the Federal Register yet. These rules suffer from legal deficiencies and are certain to be subject to litigation.

With regard to the final rule for existing power plants under section 111(d), that rule continues to suffer from numerous legal deficiencies, including the two issues that I raised before this Subcommittee in March. The first issue is whether EPA even has authority under section 111(d) to issue the regulations for existing power plants in light of the fact that electric generating units (which are sometimes referred to as "EGUs") are already regulated under section 112 of the Clean Air Act, which addresses hazardous air pollutants. The second issue is whether EPA's final regulations for existing power plants can properly be considered to be a "system of emission reduction" under the Clean Air Act, even assuming EPA has authority to issue a section 111(d) rule for electric generating units. The proposed federal plan and model trading rules seek to implement the regulations for existing power plants in states that do not submit acceptable state plans and also seek to provide trading rules that states can adopt to be part of a cap-and-trade program. Because the underlying regulations are unlawful, the proposed federal plan and model trading rules also cannot be lawfully promulgated.

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[2] EPA, Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations (signed Aug 3, 2015) ("Proposed Federal Plan and Model Trading Rules"), *available at* http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants#federal-plan.

[3] EPA, Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (signed Aug. 3, 2015) ("New Source Rule"), *available at* http://www2.epa.gov/cleanpowerplan/carbon-pollution-standards-new-modified-and-reconstructed-power-plants.

With regard to the final regulations for new, modified, and reconstructed power plants, those regulations also suffer from legal infirmities. The final new source performance standard ("NSPS") for new coal-fired power plants establishes a rate of 1,400 pounds of CO_2 per megawatt hour ("lb CO_2/MWh"), which is based on the use of "a highly efficient supercritical pulverized coal boiler using post-combustion partial [carbon capture and sequestration ("CCS")] so that CO_2 is captured, compressed and safely stored over the long-term."[4] CCS has not been adequately demonstrated. EPA improperly relies on projects that received funding under the Energy Policy Act of 2005, which is in violation of that Act, and the only project that EPA cites that did not receive such funding is a Canadian unit that does not provide adequate support for EPA's determination. Moreover, the NSPS established for modified coal-fired EGUs is not achievable, and the NSPS established for reconstructed coal-fired EGUs is based on converting subcritical boilers to supercritical steam conditions, which cannot be "adequately demonstrated" because it has simply never been done before. In addition, with regard to the final rule for new, modified, and reconstructed power plants, the Subcommittee should be aware that a legal prerequisite for regulation under section 111(d) is that there must also be regulation of the same new sources under section 111(b). This means that if the final regulations for these power plants are overturned by a court, the foundation for EPA's section 111(d) rule regulating existing power plants would disappear.

All of these legal issues give rise to a great deal of uncertainty regarding all three rules and cast serious doubt over whether they will be able to survive review by the courts. In the meantime, however, states face a firm September 6, 2016 deadline for the submission of a state plan or an extension request, and the owners of electric generating units have to begin preparing.

[4] *Id.* at 436.

They do not have the luxury of waiting to see whether these rules will make it through court review.

II. EPA's Final Regulations for Existing Power Plants and the Proposed Federal Plan and Model Trading Rules

In the final rule for existing power plants, EPA establishes default uniform CO_2 emission rates of 1,305 lb CO_2/MWh for existing fossil fuel-fired steam generating units and integrated gasification combined cycle units (generally, coal-fired units).[5] No existing coal-fired unit can meet this rate. States may apply these standards directly to EGUs in their states, or they may apply different rates to each EGU, provided that all affected units in the state "collectively" meet the rates.[6] Notably, this rate is *lower* than the rate for new EGUs (1,400 lbs CO_2/MWh). This rate is derived by applying three "Building Blocks." Building Block 1 consists of assumptions EPA made about how existing coal-fired EGUs can improve their heat rates, Building Block 2 consists of assumptions EPA made about how existing natural gas combined cycle units can increase their generating output so as to displace generating output from existing coal-fired units, and Building Block 3 consists of assumptions EPA made about how much increased generation from new renewable generating capacity may displace generating from fossil fuel fired units (both coal- and natural gas-fired units).

EPA also changed its calculation of the baseline against which emission reductions are measured. This change enables the Agency to claim a 32% reduction from 2005 levels (as opposed to the 30% reduction from 2005 levels EPA claimed in the proposed rule) despite the fact that the total number of tons of CO_2 reduced as a result of the final rule decreased from 611 million tons in the proposed rule to 415 million tons in the final rule.

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[5] 40 C.F.R. § 60.5855(a), Tbl. 1.

[6] *Id.* § 60.5855(b).

A. EPA's Authority Under Section 111(d)

Section 111(d) has always been an insignificant provision of the Clean Air Act designed to be used rarely. Between 1970 and 1990, EPA issued regulations under this provision only four times, regulating: (1) fluoride emissions from phosphate fertilizer plants;[7] (2) sulfuric acid mist from sulfuric acid production units;[8] (3) total reduced sulfur emissions from kraft pulp mills;[9] and (4) fluoride emissions from primary aluminum plants.[10] After the 1990 amendments to the Clean Air Act, which further restricted section 111(d), only one section 111(d) regulation was promulgated that still exists. That regulation addresses landfill gas emissions from municipal solid waste landfills.[11]

EPA promulgated its regulations to implement section 111(d) in 1975, and those regulations have been changed only in minor ways since,[12] although EPA is proposing changes to those regulations as part of the proposed federal plan. When the Agency first promulgated its regulations in 1975, it explained that it planned to implement section 111(d) in a manner that would reflect the narrow, limited scope of the provision. Specifically, EPA noted that section 111(d) focuses on pollutants that are "highly localized and thus an extensive procedure ... is not justified."[13] In accordance with this well-understood, limited reach, the five existing source

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[7] 42 Fed. Reg. 12,022 (Mar. 1, 1977).

[8] 42 Fed. Reg. 55,796 (Oct. 18, 1977).

[9] 44 Fed. Reg. 29,828 (May 22, 1979).

[10] 45 Fed. Reg. 26,294 (Apr. 17, 1980).

[11] 61 Fed. Reg. 9905 (Mar. 12, 1996). EPA also promulgated the Clean Air Mercury Rule under section 111(d), 70 Fed. Reg. 28,606 (May 18, 2005), but that rule was ultimately struck down by the D.C. Circuit on grounds unrelated to the issues being discussed here today, *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008).

[12] 40 Fed. Reg. 53,340 (Nov. 17, 1975).

[13] *Id.* at 53,342.

categories regulated to date under this provision have been singular and specialized. EPA provided that "the number of designated facilities per State should be few" and specifically said that state plans would be "much less complex than the [state implementation plans or "SIPs"]" issued under section 110 to ensure national ambient air quality standards are met.[14] Thus, section 111(d) has always been understood by EPA to have limited reach. That reach became even more limited after the 1990 Amendments to the Clean Air Act.

In 1990, section 111(d) was amended to require the EPA Administrator to prescribe regulations for controlling pollution from "any existing source":

> (i) for which air quality criteria have not been issued or which is *not* included on a list published under section [108(a)] of this title *or emitted from a source category which is regulated under section [112] of this title* but
>
> (ii) to which a standard of performance under this section would apply if such existing source were a new source....[15]

Before 1990, section 111(d) prevented EPA from regulating the emission of a *pollutant* from existing sources when that *pollutant* was regulated under section 112.[16] The purpose of this exclusion was to avoid duplicative regulation between section 111(d) and section 112.

Before the 1990 amendments to the Clean Air Act, section 112 focused on regulating hazardous air pollutants, which were defined to be pollutants not regulated under the national ambient air quality standards program and pollutants that could cause death or "serious irreversible, or incapacitating reversible, illness."[17] In 1990, Congress decided to significantly expand the reach of section 112, listing 189 specific pollutants to be regulated under section 112

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[14] *Id.* at 53,345.

[15] 42 U.S.C. § 7411(d)(1) (emphases added).

[16] 42 U.S.C. § 7411(d) (1989).

[17] Clear Air Amendments of 1970, Pub. L. No. 91-604, § 4(a), 84 Stat. 1676, 1685-86 (1970).

and allowing EPA to add pollutants to the list that more broadly present a threat to public health or that cause adverse environmental effects, provided the pollutant is not regulated under the national ambient air quality standards program.[18] Congress also provided, for the first time, that *source categories* would be listed and regulated with national emission standards under section 112.[19] As EPA stated in litigation involving its 2005 Clean Air Mercury Rule, "the entire concept of 'source categories' in section 112 was new in 1990. Prior to 1990, section 112 simply directed EPA to develop a list of hazardous air pollutants and then to establish corresponding emission standards for these pollutants."[20] The focus of section 112 thus broadened significantly, and section 112 went from a section with just four subsections to one with nineteen.

The controversy over whether EPA has authority to issue the proposed section 111(d) rule or whether it is prohibited from doing so because electric generating units are a source category regulated under section 112 stems from two competing amendments that were made to section 111(d) in the spring of 1990, one by the House and one by the Senate. The Senate's amendment was passed first and was non-substantive in nature. It was a conforming amendment to update a cross-reference to section 112 and retained the pre-1990 focus of section 111(d) on pollutants rather than source categories. The House amendment to section 111(d) was substantive in nature and passed nearly two months later.[21] Both amendments appear in the

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[18] 42 U.S.C. § 7412(b)(2).

[19] 42 U.S.C. § 7412(c), (d).

[20] Final Brief of Respondent EPA, *New Jersey v. EPA*, No. 05-1097, 2007 WL 2155494, at 109 n.40 (D.C. Cir. July 23, 2007).

[21] H.R. 3030 (containing the substantive provision) passed on May 23, 1990, while S. 1630 (containing the ministerial cross-reference) passed on April 3, 1990. *See* H.R. Rep. No. 101-490, at 444 (1990), *reprinted in* 2 A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990 ("LEG. HISTORY"), at 3021, 3468 (1993) (report to accompany H.R.

Statutes at Large. Recognizing the mistake in the Statutes at Large, the codifiers included only the House amendment in the United States Code. This was appropriate given that the managers of the Senate bill *expressly* stated that they were deferring or "receding" to the substantive House amendment:

> [T]he House amendment contains provisions for ... amending section 111 ... relating to new and existing stationary sources, for amending section 302 ... which contains definitions, to provide a savings clause, to state that reports that are to be submitted to Congress are not subject to judicial review, and for other purposes.
>
> Conference agreement. *The Senate recedes to the House* except that with respect to the requirement regarding judicial review of reports, the House recedes to the Senate and with respect to transportation planning, the House recedes to the Senate with certain modifications.[22]

It was thus Congress's clear and stated intent to do away with any language that interfered with House language on the same topic unless it was in the area of judicial review or transportation planning, and it was proper for the Senate amendment not to be included in the U.S. Code.

It made complete sense in 1990 to shift the focus of section 111(d) from pollutants to source categories when section 112 was expanded to focus on source categories. Quite simply, Congress amended section 111(d) to reflect what it had done with section 112. The House amendment's focus on source categories aligns with the shift in focus in section 112 from pollutants to source categories. The Senate amendment's focus on pollutants makes no sense in the context of the comprehensive amendments to section 112.

3030); S. 1630, 101st Cong. § 305(a) (as passed by Senate, Apr. 3, 1990), *reprinted in* 3 LEG. HISTORY, at 4119, 4534.

[22] Chafee-Baucus Statement of Senate Managers, S. 1630, The Clean Air Act Amendments of 1990, § 108 (Oct. 27, 1990), *reprinted in* 1 LEG. HISTORY at 885 (1993) (emphasis added).

Although it takes a different approach now, EPA itself concluded in 1994 that the only logical reading of the 1990 amendments to section 111(d), especially in the context of the changes to section 112, is to honor the U.S. Code version containing the House amendment:

> EPA also believes that [the House amendment] is the correct amendment because the Clean Air Act Amendments revised section 112 to include regulation of source categories in addition to regulation of listed hazardous air pollutants, and [the House amendment] thus conforms to other amendments of section 112. The section not adopted by title 42 [the Senate amendment], on the other hand, is a simple substitution of one subsection citation for another, without consideration of other amendments of the section in which it resides, section 112. Thus *EPA agrees that CAA section 111(d)(1)(A) should read* "[t]he Administrator shall prescribe regulations which ... establish[] standards of performance for any existing source for any air pollutant ... which is not ... emitted from a *source category* which is regulated under section 112."[23]

Twenty years later, EPA changed its position. In the final rule, EPA concluded that it could regulate electric generating units under section 111(d) even though those units are within source categories subject to regulation under section 112. For the first time, EPA has now concluded that the House amendment is "ambiguous" and does not mean what it says—that the Agency may not regulate a source category under section 111(d) "if that source category has been regulated for any HAP under CAA section 112."[24] EPA says this "ambiguity" allows it to interpret section 111(d), which it has done in a way that adopts an even narrower limitation than either the Senate amendment or the House amendment. Under EPA's interpretation, section

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[23] EPA, EPA-453/R-94-021, Air Emissions from Municipal Solid Waste Landfills – Background Information for Final Standards and Guidelines, at 1-5 to 1-6 (Dec. 1995), *available at* http://www.epa.gov/ttn/atw/landfill/bidfl.pdf.

[24] Existing Source Rule at 262-63.

111(d) does not apply only when *both* the source category is regulated under section 112 *and* the pollutant in question is one listed under section 112.[25]

EPA's determination that it has the authority to regulate electric generating units under both section 111(d) and section 112 is particularly nonsensical when viewed in light of the extensive, comprehensive, and expensive Maximum Achievable Control Technology that EPA has imposed on coal-fired electric generating units as part of its Mercury and Air Toxics Standards under section 112. EPA's final rule requires a shift in electric generation from coal-fired units to gas-fired units through environmentally-based dispatch of electricity and requires the construction and expansion of low- or zero-carbon generating units (such as solar and wind generation) to replace fossil fuel-fired generation. It makes little sense to impose extremely costly maximum control technology requirements on existing power plants under section 112 and then turn around and tell those exact same sources that have already invested and installed those controls to cease or significantly reduce operations to comply with section 111(d) of the Clean Air Act, a provision that Congress clearly intended to be both insignificant and non-additive. This is exactly the type of duplicative regulation that Congress sought to avoid by making regulation of existing sources under section 111(d) and section 112 mutually exclusive.

The question of whether EPA has authority to issue the section 111(d) rule in light of the fact that electric generating units are subject to regulation under section 112 has been raised before the D.C. Circuit: *In re Murray Energy Corporation*, No. 14-1112 (consolidated with No. 14-1151); *West Virginia v. EPA*, No. 14-1146; and *West Virginia v. EPA*, No. 15-1277 (consolidated with No. 15-1284). The court has dismissed all of these cases for a variety of reasons, including lack of jurisdiction, but has never weighed in on the merits of the legal

[25] *Id.* at 266.

argument. Once the final rule is published in the Federal Register, these jurisdictional hurdles will disappear. Ultimately, it will be the courts that decide this issue (unless Congress acts to clarify it). Waiting for resolution from the courts is a time consuming process, and states and the electric power industry will suffer consequences in the meantime unless the D.C. Circuit stays the rule, which is relief the court rarely provides.

B. EPA's Interpretation of "Best System of Emission Reduction"

EPA's final regulations for existing power plants continue to rely on an unlawful interpretation of the "best system of emission reduction" in section 111 of the Clean Air Act. Section 111(a)(1) of the Clean Air Act requires that any standard of performance, including one under section 111(d), be based on "the best system of emission reduction" that has been adequately demonstrated for the source category.[26] Although EPA has attempted to bolster its interpretation in the final rule by providing more arguments for why their interpretation is proper, at the end of the day, EPA's interpretation unlawfully broadens the scope of its authority under section 111 well beyond what Congress provided to EPA. EPA continues to rely on a dramatic redefinition of the statutory term "system" to broaden the scope of this program "beyond the source" by claiming that it may base a standard of performance on the "ordinary meaning" of the word "system," which it says is "a set of things or parts forming a complex whole; a set of principles or procedures according to which something is done; an organized scheme or method; and a group of interacting, interrelated, or interdependent elements."[27] EPA does attempt to limit its interpretation by saying that the system of emission reduction has to be something the source (or its owner or operator) can apply itself. Therefore, according to EPA, "system of emission reduction" means "a set of measures that source owners or operators can

[26] 42 U.S.C. § 7411(a)(1).

[27] Existing Source Rule at 517.

implement to achieve an emission limitation applicable to their existing sources."[28] EPA has never included actions an owner or operator at a source could take separate and apart from actions at the source itself as the best system of emission reduction.

EPA's interpretation is misguided. The plain language, the statutory context, and the regulatory history of section 111 are unambiguous. A "system of emission reduction" must begin and end at the source itself and cannot encompass actions that the owner or operator of the source might be able to take separate and apart from the source. The illustration regarding automobiles that I have provided to the Committee previously to illustrate the problem with EPA's overbroad interpretation of "system of emission reduction" continues to be relevant.

The scope of what EPA is attempting with this rule can best be understood through an analogy to a type of equipment that everyday Americans are more familiar with: cars. Although section 111 does not apply to mobile sources like cars, for the purposes of illustration, imagine that EPA issues section 111 standards of performance to reduce air pollution from cars. One might expect that the "best system of emission reduction" underlying these regulations would require vehicles to be equipped with emission control equipment (such as catalytic converters) or operational features (such as on-board diagnostic computers) to limit each vehicle's tailpipe emissions per mile. Most people would agree that this is what the Clean Air Act would envision to improve a source's emission performance. But imagine that instead, EPA goes even farther to reduce vehicle tailpipe emissions by requiring car owners to shift some of their travel to buses and by requiring there to be more electric vehicle purchases. Most people would agree that these measures are far beyond EPA's Clean Air Act authority. Yet, this example is the equivalent to what EPA is doing under the final rule for existing power plants.

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[28] *Id.* at 518.

These broad requirements seem entirely out of place for a reason. They are beyond the scope of EPA's authority to limit air pollution from individual sources, despite the fact that the types of measures in this example would indirectly reduce tailpipe emissions from vehicles. Although these measures are within the control of the cars' owners or operators, they would have no effect on the emissions rate of the individual vehicles themselves. In order to require these types of measures, EPA would need authority to reach beyond the source – or, in this hypothetical, beyond the car.

The final rule requires electricity generation to be shifted from coal- and oil-fired units to natural gas-fired units (akin to requiring car owners to take the bus more) and mandates the building of additional renewable energy (akin to requiring the purchase of more electric vehicles). EPA did remove from the final rule the requirement for programs that would result in customers using less electricity (which I had previously compared to requiring drivers to work from home one day a week). EPA removed this requirement because the owner or operator of a power plant cannot control how much electricity its customers use. (Similarly, employees cannot force their employers to allow telecommuting.)

This example shows just how far afield EPA has gone in its interpretation of "system of emission reduction." It violates common sense and the Clean Air Act.

Section 111 of the Clean Air Act authorizes EPA and states to promulgate standards of performance for new and existing sources within certain source categories. At its heart, section 111 is quite simple. It provides for the regulation of sources through standards that are based on what an individual source can do to reduce the source's emissions at a given level of operation. Nothing in Building Blocks 2 or 3 of EPA's final rule would reduce the pounds per megawatt hour of carbon dioxide emitted from any electric generating unit. Those Buildings Blocks are

designed simply to make coal- and oil-fired units operate less (if at all). Efforts to require aggregate emission reductions by targeting entities outside the designated source category exceed the scope of this program: a "standard of performance" cannot ask another source to operate more or require the owner or operator of a source to build different types of sources so that the source in the designated source category must curtail its operations or simply not "perform" at all.

1. Statutory Text

On its face, section 111 clearly does not authorize EPA or states to impose requirements that reach beyond individual sources in a regulated category. Instead, the statute provides only for standards that regulate the emissions performance of *individual* stationary sources. This narrow focus is evident simply from reading the titles used in these provisions: section 111 is designated "[s]tandards of performance for new stationary sources," and section 111(d) is titled "[s]tandards of performance for existing sources; remaining useful life of source." Likewise, the plain text of these provisions is clear that standards of performance apply only to sources in specific categories: new source performance standards under section 111(b) apply only to "new sources within [a listed] category,"[29] while state standards under section 111(d) apply to "any existing source . . . to which a standard of performance . . . would apply if such existing source were a new source."[30] In addition, section 111(d) explicitly directs states and EPA to consider the "remaining useful life" of existing sources when applying any standard of performance, further demonstrating that this section focuses solely on what individual sources can do to

[29] 42 U.S.C. § 7411(b)(1)(B).

[30] *Id.* § 7411(d)(1).

improve their performance at a reasonable cost rather than what the entire source category (or other entities) can do collectively.[31]

The Clean Air Act also narrowly confines the stationary sources that may be regulated under section 111 to any individual "building, structure, facility, or installation which emits or may emit any air pollutant."[32] This definition notably does not extend to combinations of these facilities or to other non-emitting entities. EPA has attempted in the past to treat multiple individual sources as a single system subject to regulation for the purposes of section 111, only to be rebuked by the courts for violating the clear language of the statute.[33] For example, the D.C. Circuit has held that if EPA is concerned about the cost or need for flexibility in regulating a category of sources, the solution is to change the *standard*, not the entity to which the standard applies.[34]

Importantly, section 111 also requires that any standard of performance be "achievable" by the individual sources to which it applies based on application of an "adequately demonstrated" system of emission reduction.[35] The achievability requirement is clearly inconsistent with a beyond the source approach. A standard cannot be "achievable" for a source if the source must rely on other sources operating more, or must simply not operate at all, in order to achieve the standard. A source does not "achieve" a level of required performance by "performing" less or ceasing to "perform" at all.

2. Statutory Context

Further, nothing in the remainder of the Clean Air Act even hints that EPA has *any* authority under section 111 to impose beyond the source emission reduction measures. Other

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[31] *Id.* § 7411(d)(1)(B), (d)(2).

provisions of the Clean Air Act draw a sharp contrast between source-focused regulatory programs and programs that reduce aggregate emissions.

The Clean Air Act's other provisions establishing emission standards for new and existing sources all focus solely on achieving reductions in the rate of emissions at individual sources. Emission standards for hazardous air pollutants must be based on the maximum achievable control technology and reflect the application of "measures, processes, methods, systems or techniques" directly to individual sources.[36] Standards for visibility-impairing pollutants must reflect "the best available retrofit technology . . . for controlling emissions from [each eligible] source," considering the costs, existing control technology, and remaining useful life for that source.[37] And under the Clean Air Act's program for prevention of significant deterioration, new and modified sources must implement the "best available control technology" (or "BACT"), which the permitting authority must identify on a case-by-case basis for each source and which must reflect "application of production processes and available methods, systems, and techniques" at the source.[38] None of these programs allows EPA to set an emission standard based on capping or restricting a source's operations.

The BACT program is particularly relevant because Congress explicitly tied these emission standards to section 111. Standards of performance under section 111 provide a

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[32] *Id.* § 7411(a)(3).

[33] *See ASARCO Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978).

[34] *Id.* at 329.

[35] 42 U.S.C. § 7411(a)(1).

[36] *Id.* § 7412(d)(2) (listing acceptable measures).

[37] *Id.* § 7491(b)(2)(A).

[38] *Id.* §§ 7475(a)(4), 7479(3).

regulatory floor for BACT standards.[39] But if a standard of performance relies on a "system of emission reduction" that goes beyond the source itself, it cannot meaningfully inform a BACT standard for individual sources in that category.

In contrast, in the few regulatory programs where Congress did authorize broad emission control measures for the purpose of meeting aggregate emission reduction goals, it spoke clearly and precisely. When Congress took action in the 1990 Clean Air Act Amendments to cap acid rain-forming emissions and establish a program for emissions allowances and trading, it added an entirely new title (Title IV) to the Clean Air Act spelling out the requirements and implementation procedures for that program in great detail.[40] Unlike the portion of the Clean Air Act in which section 111 is found, Congress's statement of purpose in Title IV establishes clear goals for nationwide "reductions in annual emissions" and explicitly states its desire to "encourage energy conservation, use of renewable and clean alternative technologies, and pollution prevention as a long-range strategy, consistent with the provisions of this subchapter, for reducing air pollution."[41] Congress also gave EPA specific instructions on how to credit sources for compliance with emission requirements based on avoided emissions from renewable energy and energy conservation.[42] The exhaustive provisions in Title IV prove that when Congress intends to establish a program requiring aggregate emission reductions that reaches beyond measures implemented at individual sources, it does not hide such authority in general terms like "system of emission reduction."

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[39] *Id.* § 7479(3).

[40] *See id.* §§ 7651-7651*o*.

[41] *Id.* § 7651(b).

[42] *Id.* § 7651c(f).

3. Regulatory History

Even if the statutory language left any doubt, EPA's long and consistent history of implementing section 111 at the source would give lie to today's novel attempts to extend that section beyond the source. In fact, to the best of my knowledge, in the 45-year history of the Clean Air Act, EPA has limited the scope of section 111 to the emission rate improvements at the regulated source in *every rulemaking it has undertaken.*

First, EPA's 1975 Subpart B regulations—which establish a procedural framework for states to adopt standards of performance for existing sources under section 111(d)—share section 111's exclusive focus on standards that are achievable by individual sources. Subpart B directs EPA to publish a "guideline document containing information pertinent to control of the designated pollutant [from] *designated facilities* [i.e., existing sources subject to regulation under 111(d)]."[43] Echoing the statutory text, emission guidelines under Subpart B must "reflect[] the application of the best system of emission reduction (considering the cost of such reduction) that has been adequately demonstrated *for designated facilities*."[44] Acknowledging section 111's statutory command to consider the "remaining useful life" of regulated existing sources, Subpart B also notes that states may tailor standards of performance for individual designated facilities to account for "[u]nreasonable cost of control resulting from plant age, location, or basic process design," "[p]hysical impossibility of installing necessary control equipment," or "[o]ther factors specific to the facility (or class of facilities) that make application of a less stringent standard or final compliance time significantly more reasonable."[45] This discretion reflects Subpart B's focus on what emission rate improvements individual existing sources can achieve themselves.

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[43] 40 C.F.R. § 60.22(a) (emphasis added).

[44] *Id.* § 60.22(b)(5) (emphasis added).

[45] *Id.* § 60.24(f).

Subpart B also specifies that compliance with any standards of performance for existing sources will be shown through a series of "[i]ncrements of progress," which are "steps to achieve compliance which must be taken by an owner or operator of a designated facility."[46] These increments of progress include awarding contracts, initiating on-site construction or installation, and completing on-site construction or installation of emission control equipment or process changes.[47] Thus, Subpart B makes clear that compliance with standards of performance is achieved through on-site measures taken by regulated sources.

Second, out of the nearly 100 new source performance standards and emission guidelines EPA has promulgated and subsequently revised since 1970, to the best of my knowledge, *not one* has included beyond the source measures as part of a "system of emission reduction." For example, when the Agency promulgated and later revised the new source performance standards for kraft pulp mills, it never considered basing the standard of performance on measures that indirectly reduce those sources' operations by reducing demand for paper, such as promoting double-sided printing or encouraging businesses to provide "paperless billing" for customers.[48] EPA's source-focused approach has not changed from 1970 to the present. In a June 30, 2014 new source performance standard rulemaking, EPA reaffirmed that standards of performance "apply to sources" and must be "based on the [best system of emission reduction] *achievable at that source*."[49]

Nor has EPA ever taken a beyond the source approach in emission guidelines for existing sources. As discussed above, since 1970, EPA has only published valid emission guidelines

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[46] *Id.* § 60.21(h).

[47] *Id.* § 60.21(h)(1)-(5).

[48] *See* 43 Fed. Reg. 7568, 7572 (Feb. 23, 1978); 79 Fed. Reg. 18,952 (Apr. 4, 2014).

[49] 79 Fed. Reg. 36,880, 36,885 (June 30, 2014) (emphasis added).

under section 111(d) for five source categories, and in all five of these rulemakings the emission guidelines were based on the application of pollution control technology or other process controls at individual sources.[50] The Clean Air Mercury Rule, which was promulgated under section 111(d), also did not adopt a beyond the source approach to establishing standards of performance. Although that rule did authorize an emissions trading program as a tool for *compliance* with standards of performance, the "system of emission reduction" that was used to set the emission guidelines themselves was limited to pollution control technology that could be installed at individual sources.[51]

In light of this statutory language, context, and regulatory background, the beyond the source approach contained in EPA's final rule clearly conflicts with section 111 of the Clean Air Act. Just as the Clean Air Act does not authorize EPA to require drivers to use public transportation or purchase electric vehicles in order to reduce motor vehicles' tailpipe emissions, the Agency cannot require stationary source owners to operate their sources less or not at all as part of a standard of performance. In the context of existing electric generating units, assuming EPA has the authority to promulgate regulations under section 111(d) for those units (which as discussed above in Section II.A is not certain), this means that any guidelines for those units may

[50] 41 Fed. Reg. 19,585 (May 12, 1976) (draft guidelines for phosphate fertilizer plants based on "spray cross-flow packed scrubbers"); 41 Fed. Reg. 48,706 (Nov. 4, 1976) (proposed guidelines for sulfuric acid production units based on "fiber mist eliminators"); 43 Fed. Reg. 7597 (Feb. 23, 1978) (draft guidelines for kraft pulp mills based on various process controls and two-stage black liquor oxidation system); 45 Fed. Reg. at 26,294 (final guidelines for primary aluminum plants based on "effective collection of emissions followed by efficient fluoride removal by dry scrubbers or by wet scrubbers"); 61 Fed. Reg. at 9907 (final guidelines for municipal solid waste landfills based on "(1) [a] well-designed and well-operated gas collection system and (2) a control device capable of reducing [non-methane organic compounds] in the collected gas by 98 weight-percent").

[51] 70 Fed. Reg. at 28,617-20, 28,621 (final guideline was "based on the level of [mercury (Hg)] emissions reductions that will be achievable by the combined use of co-benefit (CAIR) and Hg-specific controls").

be based only on measures that electric generating unit owners may incorporate into the design or operation of their units themselves, such as improvements in heat transfer efficiency. Although this may result in lower overall emission reductions than a beyond the source approach, it is the outcome that the Clean Air Act requires. As the Supreme Court recently held in striking down a major component of EPA's prevention of significant deterioration permitting program for greenhouse gases, "[a]n agency has no power to 'tailor' legislation to bureaucratic policy goals by rewriting unambiguous statutory terms."[52] Because section 111 focuses solely on standards that are achievable by individual sources, EPA's standards of performance must as well.

C. EPA's Proposed Federal Plan and Model Trading Rules

EPA has proposed a federal plan and two model trading rules that would put in place a cap-and-trade program to implement the final rule for existing power plants. The proposed federal plan proposes two concepts for comment: a rate-based plan and a mass-based plan. These plans would use emission credit or allowance trading as the primary compliance mechanism. EPA has indicated that it intends to choose either the rate-based plan or the mass-based plan as the federal plan and that it will not adopt both types of plans when it takes final action. If a state fails to submit a state plan or if EPA disapproves a submitted state plan, EPA will then develop and implement a federal plan for applicable existing EGUs in that state. EPA further states that it intends to take final action on federal plans for individual states on a case-by-case, state-by-state basis after EPA determines that a state has not submitted an approvable state plan.

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[52] *Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2445 (2014).

States must submit state plans – or a request for an extension – by September 6, 2016.[53] EPA has stated that it does not intend to promulgate a general final federal plan. Rather, the Agency intends to promulgate final federal plans for individual states after EPA has found that a state has failed to submit a plan or after EPA has disapproved a state plan. EPA further states that it intends to issue federal plans "promptly" if states fail to submit plans or an extension request by September 6, 2016.[54] EPA has not provided specific regulatory text comprising a general federal plan or a federal plan that, if finalized, would apply to any particular state.[55] Instead, EPA says that is plans to take the "ministerial" action of adding new sections to the state-specific subpart of part 62 of volume 40 of the Code of Federal Regulations, as needed, to subject individual states to a federal plan and to include references to one of the two proposed model trading rules.[56]

The second element of EPA's proposed rule are two sets of model trading rules that provide for rate-based and mass-based cap-and-trade systems and are intended largely to reflect and be compatible with the trading provisions that will be included in any final federal plans. These rules are also meant to be available for states to adopt and would enable EGUs under state plans adopting the model trading rules to trade emissions credits or allowances with EGUs governed under a federal plan or with EGUs also covered by "trading ready" plans. If a state adopts the model trading rules as a part of its state plan, at least that element of the plan is presumptively approvable.[57] States can modify the model trading rules, but EPA emphasizes

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[53] Proposed Federal Plan and Model Trading Rules at 39-40.

[54] *Id.* at 51.

[55] *Id.* at 52.

[56] *Id.*

[57] *Id.* at 40.

that they will no longer be presumptively approval because EPA will have to ensure that the altered rules still meet the emission guidelines set forth in the final existing source rule and that the modified plans are as stringent as the model rules.[58] Thus, EPA "strongly encourages" states to consider adopting the model trading rules.[59] States can trade with EGUs covered by federal plans provided that: (1) EPA approves the state plan; (2) the state plan implements the same type of trading program as the federal trading program (i.e., mass-based or rate-based); (3) the state plan uses identical compliance instruments as the federal plan; (4) the state plan has been approved as a "ready-for-interstate-trading" plan (the model rules meet this qualification); and (5) the state plan must use an EPA-administered tracking system.[60]

III. EPA's Final Regulations Limiting CO_2 Emissions from New, Modified, and Reconstructed Power Plants

In its final NSPS for new, modified, and reconstructed EGUs, EPA established a final performance standard for new coal-fired EGUs of 1,400 lb CO_2/MWh, which is notably less stringent than the 1,305 lb CO_2/MWh established for existing coal-fired units. This performance standard for new coal-fired EGUs is based on CCS, which is not an "adequately demonstrated" system of emission reduction. In the final NSPS, EPA claims that it can rely on projects for its "adequately demonstrated" determination that received funding under the Energy Policy Act of 2005, provided that it does not "solely" rely on those projects.

Seeming to realize that it is on shaky ground with this legal argument, EPA says that it could nonetheless base the NSPS entirely on the experience of one lone Canadian unit (Boundary Dam). Even if EPA could make an "adequately demonstrated" determination based on a single

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[58] *Id.* at 41.

[59] *Id.* at 42.

[60] *Id.* at 58-59.

unit, the Boundary Dam unit would not suffice. That unit is relatively small compared to other commercial units, has less than one year of operating data, and burns lignite coal (which is not the predominant type of coal used in the United States). Furthermore, Boundary Dam is located near oil fields, which means the CO_2 can be used in enhanced oil recovery, and near sequestration sites. Both of these factors significantly lower the cost of CCS. Moreover, Boundary Dam does not appear to be meeting its design capture rate of 90% (based on EPA's description). This unit was also heavily subsidized by the Canadian federal and provincial governments, much like the units that received funding under the Energy Policy Act of 2005 that Congress forbade EPA from considering. Beyond the Boundary Dam unit, EPA can cite only to projects that received Energy Policy Act of 2005 funding or CCS installations that were small pilot-scale projects, non-utility applications, or were missing some component of the CCS system (capture, transport, or sequestration).

In addition, NSPS is intended to set a minimum, nationally achievable emission standard for sources in a source category. But CO_2 sequestration is not available in some parts of the country. Therefore, this rule is not "achievable" as required by the Clean Air Act and will bar construction of coal-fired EGUs in some regions. EPA says that a NSPS need not be achievable for all units based on application of the best system of emission reduction. This is flatly contrary to the statutory language.

EPA set the NSPS for modified coal-fired units to reflect unit-specific standards based on each unit's lowest annual emission rate since 2002, and set the NSPS for reconstructed coal-fired units at 1,800 lb CO_2/MWh for large units and 2,000 lb CO_2/MWh for small units. Modified and reconstructed units are existing units that undergo enough changes that they become "new" for purposes of the Clean Air Act and are regulated under section 111(b). The fact that these rates

are so much higher than the 1,305 lb CO_2/MWh rate established for existing under section 111(d) is telling. It demonstrates that no existing unit can come close to the rate established in the final existing source rule. Even these higher rates for modified and reconstructed units are problematic, however. EPA presents no evidence that the rate for modified plants is achievable and points only to its analysis of Building Block 1 in the existing source rule, which was deeply flawed even for that purpose. That analysis also cannot support claims about what efficiency improvements are available at individual units that may be modified. EPA bases the reconstructed rate for coal-fired EGUs on converting subcritical boilers to supercritical steam conditions. This has never been done before and thus cannot be "adequately demonstrated" as the Clean Air Act requires. Likewise, EPA has presented no evidence the NSPS is even achievable if a unit converts to supercritical steam.

IV. Conclusion

EPA's three rules regulating carbon dioxide emissions from power plants under section 111 all suffer from many legal infirmities and violate the Clean Air Act. I have only briefly touched on some of those legal issues today, but there are many more. The problem is that the court process is going to take time to play out, and in the meantime, states and regulated entities are going to have to begin the process of figuring out how to comply with these rules—even if they believe as I do that the rules are unlawful. Because of the complexity of the rules and the enormous ramifications they have for how energy is distributed in each state, the ability to wait and see what happens in court is not a realistic option.

Thank you again for the opportunity to testify today.

Mr. WHITFIELD. Thank you, Ms. Wood, very much.

And our next witness is Mr. Richard Revesz, who is the Lawrence King Professor of Law and Dean Emeritus and Director of the Institute for Political Policy Integrity at New York University School of Law. You are recognized for 5 minutes, Mr. Revesz.

STATEMENT OF RICHARD REVESZ

Mr. REVESZ. Mr. Chairman and members of the subcommittee, I am very grateful to have been invited again to testify before this subcommittee. I will discuss why EPA's flexible cost-minimizing approach to setting performance standards for existing power plants is consistent with the Clean Air Act and the Constitution.

First, EPA has authority to implement the Clean Power Plan under section 111(d) of the Clean Air Act. Interpreting section 111(d) presents an unusual situation because in the 1990 amendments, the House and the Senate each used different language in amending the same statutory provision, and the two amendments were never reconciled in conference. Both amendments appear in the final bill reported by the conference committee. Both amendments were approved by both chambers and signed by the President, and both amendments appear in the Statutes at Large. Both amendments are, therefore, the law of the land.

Opponents of the Clean Power Plan argue because a House amendment appears in the U.S. Code, it should be the controlling version. However, it is well-established that when the Statutes at Large and the U.S. Code conflict, the text in the Statutes at Large controls.

The decision to include only the House amendment in the U.S. Code was made by a staff member in the Office of the Law Revision Counsel, but this staff member cannot supplant the will of Congress. In fact, to follow the approach urged by the opponents of the Clean Power Plan would lead to a serious constitutional problem. Law would be made without following the constitutional requirements of bicameralism and presentment. The Supreme Court made clear in Immigration and Naturalization Services v. Chadha that such an approach would be unconstitutional.

Opponents also argue the House amendment should take precedence because the Senate amendment was labeled as a conforming amendment in the Statutes at Large. However, the courts have made clear that such labels are irrelevant and that an amendment labeled conforming may well be substantive. Moreover, the House amendment itself is labeled as miscellaneous guidance. This label lends no more substantive weight than the conforming label attached to the Senate amendment.

Opponents further argue the Senate amendment should be ignored because a line in the Senate report states that the Senate recedes to the House, but the Senate managers explicitly indicated the statement was not reviewed or approved by all the members of the conference committee, and the language pertains only to the section of the bill where the House amendment appears and does not address the section where the Senate amendment appears. And perhaps most significantly, regardless of this language, the Senate amendment remained in the text of the bill and was ultimately ap-

proved by both chambers and signed by the President. A statement in a Senate report cannot override expressed statutory language.

Furthermore, even if one does assume that the House amendment controls, EPA still has the power to issue the Clean Power Plan. Opponents argue the House amendment forbids EPA from regulating greenhouse gas emissions from existing power plants under section 111(d) because EPA has already regulated emissions of hazardous air pollutants from the same plants under section 112. However, as EPA has thoroughly explained in the Clean Power Plan, the House amendment is subject to multiple interpretations.

Under its interpretation, which is entitled to deference, EPA cannot use section 111(d) to regulate pollutants that it already regulates under section 112, but it can invoke section 111(d) to regulate sources that are already regulated under section 112, as long as a different polluted is at issue.

Second, there is no merit to the beyond-the-fence-line arguments made the opponents of the Clean Power Plan. EPA's approach is consistent with the relevant statute provision under which EPA must determine the best system of emission reduction for the regulated sources. It is important to underscore that the product at issue in the Clean Power Plan is electricity, not electricity generated from coal. So it is appropriate for EPA to base its determination of the best system of emission reduction for power plants on a shift from more carbon-intensive forms of electricity generation to ones that are less carbon-intensive.

Of course, in doing so EPA must comply with all the relevant statutory factors. In particular, it must consider cost and energy requirements, and it must show that the standard is adequately demonstrated. EPA explained in great detail that the Clean Power Plan meets each of these statutory requirements.

Decades of agency practice have shown that standard of performance can involve shifting from a dirtier method of producing a product to a cleaner method of reducing the same product. For example, EPA has issued standards and guidelines requiring the owners of solid waste combustors to implement recycling and material-separation programs designed to reduce the use of the combustors themselves.

The 1997 standards and guidelines for medical waste incinerators require the units' owners to develop waste management programs that could include paper, cardboard, plastics, glass, battery, or metal recycling, and were designed to reduce the volume of waste to be incinerated and thereby reducing the amount of air pollution emissions associated with the waste.

EPA's approach to the regulation of interstate pollution under the Clean Air Act's Good Neighbor provision, which was upheld by the Supreme Court last year in EPA v. EME Homer City Generation, lends further support to the Clean Power Plan. The Good Neighbor provision by its terms imposes requirements on particular sources that cause interstate problems. But EPA, under administrations of both parties for a period of two decades has interpreted that provision——

Mr. WHITFIELD. Excuse me, Mr. Revesz, I have let you go over over a minute, so if you could wrap it up.

Mr. REVESZ. Twenty seconds.

Mr. WHITFIELD. Thank you.

Mr. REVESZ. EPA, under interpretations of both parties for a period of two decades, has interpreted that provision to allow sources to meet their emission-reduction obligations collectively through participation in emission-trading schemes, much like the ones that the Clean Power Plan contemplates.

I am very grateful to have been invited and will be delighted to answer any questions you might have.

[The prepared statement of Mr. Revesz follows:]

Testimony of Richard Revesz
Lawrence King Professor of Law and Dean Emeritus
New York University School of Law
Before the Subcommittee on Energy and Power
House Committee on Energy and Commerce
Hearing on "EPA's CO_2 Regulations for New and Existing Power Plants: Legal Perspectives"
October 22, 2015

Introduction

Thank you for inviting me to testify before this subcommittee. I am Richard Revesz, the Lawrence King Professor of Law and Dean Emeritus at New York University School of Law. At NYU Law School, I also serve as the Director of the Institute for Policy Integrity, a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. In addition, I am the Director of the American Law Institute, the leading independent organization in the United States producing scholarly work to clarify, modernize, and otherwise improve the law. The views I will express today are my own and do not represent the views, if any, of New York University or the American Law Institute.

I have written nine books and more than 70 articles and book chapters on environmental law, administrative law, and regulatory policy, and have twice won the American Bar Association's yearly award for the best article or book in the areas of administrative law and regulatory practice. In particular, my recent work has focused on the Clean Air Act and on the regulation of greenhouse gases. My forthcoming book, *Struggling for Air: Power Plants and the "War on Coal"* (co-authored with Jack Lienke) describes how the Clean Power Plan is simply the natural extension of decades of Clean Air Act policies under administrations of both

parties to correct for the broad grandfathering of existing sources, including existing power plants, from the regulatory requirements of the Clean Air Act of 1970. It is not an unprecedented power grab by the current administration, as opponents argue. My recent articles include "Rethinking Health-Based Environmental Standards" in the *New York University Law Review* (co-authored with Michael Livermore), which focuses on the setting of National Ambient Air Quality Standards under the Clean Air Act, a piece in *Nature* co-authored with Nobel Prize winner Kenneth Arrow and leading economists, climate scientists and legal scholars, which analyzes the models used to evaluate the damages from greenhouse gas emissions, and "Toward a More Rational Environmental Policy," in the *Harvard Environmental Law Review*, which focuses on two major Clean Air Act decisions from the Supreme Court of the United States.

I am also a public member of the Administrative Conference of the United States and have served on the Science Advisory Board of the U.S. Environmental Protection Agency (EPA) and on committees of the National Academy of Sciences and of the National Research Council.

In conjunction with my colleagues at the Institute for Policy Integrity, I have also filed *amicus curiae* briefs in significant Clean Air Act litigation, including a brief supporting EPA in the premature D.C. Circuit challenge to the proposed Clean Power Plan earlier this year.

My testimony before this subcommittee explains that EPA's Clean Power Plan is well-justified under the Clean Air Act and the Constitution.

Summary

EPA's flexible, cost-minimizing approach to setting performance standards for existing power plants is consistent with the Clean Air Act and the Constitution. It is not, as opponents argue, an unprecedented approach raising the prospect of economic calamity, but rather just another example of EPA doing its job to ensure that polluters account for the cost of their pollution in a manner that will result in substantial net economic benefits to the public.

My testimony covers four main topics:

(1) EPA has clear authority to implement the Clean Power Plan[1] under Section 111(d) of the Clean Air Act;

(2) EPA's proposed approach to setting standards under Section 111(d) is authorized by the statute and based upon demonstrated approaches that power companies have already taken to reduce greenhouse gas emissions;

(3) The Clean Power Plan does not give rise to any constitutional problems; and

(4) The Clean Power Plan will result in substantial net benefits, including significant public health benefits, with reasonable costs and a great deal of flexibility.

I. EPA Has Authority to Promulgate the Clean Power Plan Under Section 111(d) of the Clean Air Act

The Clean Power Plan firmly rests within EPA's authority under Section 111(d) of the Clean Air Act. Interpreting Section 111(d) presents an unusual

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[1] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (Aug. 3, 2015) (to be published in *Federal Register*), available at http://www3.epa.gov/airquality/cpp/cpp-final-rule.pdf [hereinafter "Clean Power Plan Final Rule"].

situation because, in the 1990 Amendments, the House and the Senate each used different language in amending the same statutory provision, and the two amendments were never reconciled in conference.[2] The customary consistency check was never performed, and both amendments to the same provision appeared in the final bill coming out of the conference committee. Both amendments were approved by both chambers and signed by the President, and both amendments appear in the Statutes at Large.[3] Both amendments are, therefore, the law of the land.[4]

Opponents argue that EPA must ignore the Senate-originated amendment, even though it clearly permits the Clean Power Plan,[5] and that the House-originated amendment forbids EPA from issuing the Clean Power Plan because EPA has already issued hazardous air pollutant standards for power plants.[6] EPA finds that, under

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[2] Pub. L. No. 101-549, § 108(g), 104 Stat. 2399, 2467 (1990) (House-originated amendment); Pub. L. No. 101-549, § 302(a), 104 Stat. at 2574 (Senate-originated amendment).

[3] *Id.*

[4] The remainder of this testimony will refer to the "House-originated amendment" and the "Senate-originated amendment," but it is important to remember that both versions of the amendment were passed by both chambers and signed by the President.

[5] The Senate-originated amendment reads "Section 111(d)(1) of the Clean Air Act is amended by striking '112(b)(1)(A)' and inserting in lieu thereof '112(b)'." 104 Stat. at 2574. Inserted into the text of section 111(d), this amendment alone would limit the scope of section 111(d) to any air pollutant "for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or 112(b) . . . ."

[6] The House-originated amendment reads "Section 111(d)(1)(A)(i) of the Clean Air Act (42 U.S.C. 7411(d)(1)(A)(i)) is amended by striking 'or 112(b)(1)(A)' and inserting 'or emitted from a source category which is regulated under section 112'." 104 Stat. at 2467. Inserted into the text of section 111(d), this amendment alone would limit the scope of section 111(d) to any air pollutant "for which air quality criteria have not been issued or which is not included on a list published under

the most reasonable reading, both the House- and the Senate-originated Amendments allow for the Clean Power Plan, and in any case, the courts cannot ignore the Senate-originated amendment, which was passed by both chambers and signed by the President and clearly permits the Clean Power Plan. In particular, EPA finds that in the context of this rule, both the House-originated amendment and the Senate-originated amendment should be read to mean that, even if a source category is regulated under section 112, the non-hazardous-air-pollutants (that are also not covered by the National Ambient Air Quality Standards program) can be regulated by section 111(d).[7]

Opponents of the Clean Power Plan argue that the House-originated amendment must be read to prevent EPA from promulgating the Clean Power Plan.[8] However, as EPA has thoroughly explained in the final Clean Power Plan, the House-originated amendment is ambiguous, but is most reasonably read to allow the promulgation of this rule.[9] EPA acknowledges that the House-originated amendment is subject to multiple reasonable interpretations, but, especially given the structure and purpose of section 111(d), the most reasonable interpretation of

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section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title . . . ."

[7] Clean Power Plan Final Rule at 247, 270.

[8] Opponents argue that a footnote in a Supreme Court case, *American Electric Power v. Connecticut*, supports their position, but the most straightforward reading of that footnote supports EPA's position. The footnote states "There is an exception: EPA may not employ §7411(d) if existing stationary sources *of the pollutant in question* are regulated under the national ambient air quality standard program, §§7408–7410, or the 'hazardous air pollutants' program, §7412. See §7411(d)(1)." 131 S. Ct. 2527, 2537 n.7 (2011) (emphasis added). This footnote focuses on whether sources are already regulated with respect to a particular pollutant (in this case, carbon dioxide, which is previously unregulated for power plants).

[9] *See* Clean Power Plan Final Rule at 256-70.

the House-originated amendment allows for the regulation of greenhouse gases from power plants.[10] In particular, EPA interprets the House-originated amendment to mean that section 111(d) does not cover hazardous air pollutants that are regulated under section 112, but does cover other pollutants, regardless of whether the source category is subject to section 112 standards.[11]

In contrast to opponents' desired reading, EPA's interpretation is consistent with the structure of section 111(d). Statutory interpretation must consider not just the text, but also the structure of the statute.[12] With respect to how section 111(d) fits into the structure of the Clean Air Act, criteria pollutants are regulated under section 109, while hazardous pollutants are regulated under section 112. Section 111(d) serves as a "gap-filling" section for pollutants that do not fall into either category. Also, it is clear that even under the opponents' reading, EPA could regulate pollutants under both section 111(d) and section 112 as long as the section 111(d) regulation came first. There is no plausible reason why Congress would have intended to allow this situation but prohibit regulating under both sections if the section 112 regulation precedes the section 111(d) regulation. These strong

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[10] *See id.*

[11] Clean Power Plan Final Rule at 266. This interpretation "reads the phrase 'regulated under section 112' as modifying the words 'source category' . . . but also recognizes that the phrase 'regulated under section 112' refers only to the regulation of [hazardous air pollutant] emissions." *Id.* at 266-67.

[12] Brown v. Gardner, 513 U.S. 115, 118 (1994) (quoted by Fed. Drug Admin. v. Brown & Williamson, 529 U.S. 120, 132-33 (2000)) ("Ambiguity is a creature not of definitional possibilities but of statutory context."); *see also* Loving v. I.R.S., 742 F.3d 1013, 1016 (D.C. Cir. 2014) (instructing that a court "must employ all the tools of statutory interpretation, including . . . structure, purpose, and legislative history") (internal quotation omitted).

structural arguments help resolve the ambiguities arising from the House amendment.

The Senate-originated amendment provides additional support for EPA's interpretation that it is permitted to regulate power plants' carbon pollution under section 111(d). Opponents do not dispute that the Senate-originated amendment would allow EPA to issue the Clean Power Plan. In order to get around this point, opponents argue that EPA and the courts should ignore the will of Congress by pretending that this amendment does not exist, even though it that was passed by both chambers and signed by the President.

Opponents make several arguments as to why courts should ignore the Senate-originated amendment, none of which passes muster. First, opponents argue that because the House-originated amendment appears in the U.S. Code, it should be the controlling version. However, it is well-established that when the Statutes at Large and the U.S. Code conflict, the text in the Statutes at Large controls.[13] Further, their interpretive approach would rely on the administrative decision of a staff member in the Office of Law Revision Counsel to include just the House-originated amendment in the U.S. Code. But this staff member cannot supplant the will of Congress. In fact, to follow the approach urged by the opponents of the Clean Power Plan would lead to a serious constitutional problem. Law would be made without

[13] *See* 1 U.S.C. §§ 112 & 204(a); Stephan v. United States, 319 U.S. 423, 426 (1943) ("[T]he Code cannot prevail over the Statutes at Large when the two are inconsistent"); Five Flags Pipe Line Co. v. Dep't of Transp., 854 F.2d 1438, 1440 (D.C. Cir. 1988) ("[W]here the language of the Statutes at Large conflicts with the language in the United States Code that has not been enacted into positive law, the language of the Statutes at Large controls."). The Statutes at Large trump the U.S. Code until Congress has enacted the title at issue into positive law, which has not occurred for Title 42.

following the constitutional requirements of bicameralism (passage by both the House and the Senate) and presentment (signature by the President or veto override by Congress). The Supreme Court has made clear in *Immigration & Naturalization Service v. Chadha* that such arrangements are unconstitutional.[14]

Opponents also argue that the House-originated amendment should take precedence over the Senate-originated amendment because the Senate-originated amendment was labeled as a "conforming amendment" in the Statutes at Large. However, the "conforming" label is irrelevant. A "conforming" amendment may be substantive or non-substantive, and the courts give full effect to conforming amendments.[15] Moreover, the House-originated amendment is labeled as "Miscellaneous Guidance," which lends no more substantive weight than the "conforming" label.[16]

Opponents further argue that the Senate-originated amendment should be ignored because of a line from the legislative history stating that the Senate "recedes to the House."[17] Opponents misinterpret the meaning of this language. The numerous problems with relying on this language include the fact that the Senate managers explicitly indicated that the statement "was not reviewed or approved by all of the [members of the conference committee]"[18] and the fact that the language at issue only pertains to the section of the bill where the House-originated amendment appears and does not address the section where the Senate-originated amendment

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[14] 462 U.S. 919 (1983).
[15] Burgess v. United States, 533 U.S. 124, 135 (2008);
[16] Washington Hospital Center v. Bowen, 795 F.2d 139, 149 (D.C. Cir. 1986).
[17] *See* S. 1631, 101st Cong. § 108 (Oct. 27, 1990), reprinted in 1 Leg. Hist. at 885.
[18] *See* 1 Leg. Hist. at 880.

appears.[19] Perhaps most significantly, regardless of this language, the Senate-originated amendment remained in the text of the bill and was ultimately approved by both chambers and signed by the President. A statement in a Senate Report cannot override express statutory language. Thus, both of the amendments are part of the law and must be given effect.[20]

And even if one decided that it were permissible to ignore to ignore the Senate-originated amendment that was passed by both chambers and signed by the President, one would need to argue that the House-originated amendment is subject to a single meaning and deprive EPA of the deference that it is owed under the Supreme Court's well-known *Chevron U.S.A. v. NRDC* precedent when it interprets ambiguous statutory provisions.[21] EPA's interpretation that section 111(d) allows for the promulgation of the Clean Power Plan is clearly reasonable and should be afforded deference.

In addition to the statutory interpretation issue, opponents also argue that EPA lacks authority to issue the Clean Power Plan because "energy regulation" is traditionally the domain of the Federal Energy Regulatory Commissions or state utilities commissions, not EPA. However, EPA is not regulating "energy" here. It is, instead, regulating harmful emissions from producing electricity, as the Clean Air Act instructs it to do, and as it has done for decades. Regulating pollution from electrical generators necessarily indirectly affects energy by affecting, for example, the costs of production and which kinds of generation are cost-justifiable. But that is

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[19] *See id.*
[20] *See* Envtl. Def. Fund v. EPA, 82 F.3d 451, 460 n.10 (D.C. Cir. 1996) (explaining that a statement of Senate Managers "cannot undermine the statute's language").
[21] Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842-45 (1984).

true for regulations of power plants under the Clean Air Act, going back to 1971. Moreover, section 111(a)(1), in defining the standards of performance that EPA should apply under section 111(d), instructs EPA to consider "energy requirements," thereby showing that Congress understood that controlling air pollution control can affect the energy sector and expressly giving EPA the authority to take this factor into account.

In summary, EPA clearly has authority to regulate carbon emissions from power plants through the Clean Power Plan.

II. EPA's Proposed Approach to Setting Performance Standards Under Section 111(d) Is Consistent with the Statute

Opponents of the Clean Power Plan also raise the specter of EPA overreaching in its determination of the scope of the standards. In particular, opponents argue EPA cannot consider emissions reductions occurring "outside the fenceline" of a power plant in setting the standards under section 111(d).

It is first important to underscore that the Clean Power Plan does not require any state or any power plant to undertake any particular approach to reducing carbon emissions. All the plan does is set carbon emissions targets for a state, which the state then has the discretion to decide how to meet.[22] So the plan does not require any power plant to reduce emissions that it cannot control. EPA instead set state level targets based on what is achievable through the best system of emission reduction that has been adequately demonstrated, in accordance with the statute.

[22] 79 Fed. Reg. 34,830, 34,833 (June 18, 2014).

Section 111(d) instructs EPA to "prescribe regulations" that "establish a procedure" under which states submit plans that establish "standards of performance" for existing sources of air pollutants that would be subject to regulation under section 111(b) if they were new sources. EPA traditionally meets these requirements by prescribing levels of emissions—"emission guidelines"—that states' plans must achieve in order for the states standards of performance to be deemed satisfactory.[23] EPA uses the definition of "standard of performance" in section 111(a)(1) to determine the level of emission guideline to set under section 111(d).

Section 111(a)(1) requires EPA to consider several statutory factors in setting standards of performance. First, the approach must reflect "the degree of emission limitation achievable through the application of the best system of emission reduction." Second, the determination of the best system must take into account "energy requirements." Third, the best system must take into account "the cost of achieving such reduction." Fourth, the best system must take into account "any nonair quality health and environmental impact." Fifth, the Administrator must determine that the system has been "adequately demonstrated."

Here, EPA has determined that the "best system of emission reduction" is the "combination of emission rate improvements and limitations on overall emissions at affected [electric generating units] that can be accomplished" through three sets of "building blocks": (1) "Improving heat rate" at coal plants; (2) "Substituting increased generation from lower-emitting existing natural gas combined cycle units

[23] *See* 40 C.F.R § 60.22(b)(5).

for reduced generation from higher-emitting affected steam generating units;" and (3) "Substituting increased generation from new zero-emitting [renewable energy] generating capacity for reduced generation from affected fossil fuel-fired generating units."[24] EPA clarifies that the "best system of emission reduction" consists of "the measures that the sources, viewed together and operating under the standards of performance established for them by the states, can implement to reduce their emissions to an appropriate amount, and that meet the other requirements for the [best system of emission reduction] including, for example, cost reasonableness."[25]

By its terms, the "best" system of producing electricity rules out "worse" systems. So, it is consistent with section 111(a)(1) for EPA to base its determination of the best system of emission reduction on a shift from more carbon-intensive forms of electricity generation to ones that are less carbon-intensive. Notably, the product here is electricity, not electricity from coal, and decades of agency practice have shown that standards of performance under section 111 can involve shifting from a dirtier method of producing a product to a cleaner method of producing the same product.[26] For example, EPA has issued standards and guidelines requiring the

[24] Clean Power Plan Final Rule at 230.
[25] *Id.* at 312.
[26] D.C. Circuit case law also supports the proposition that the proper inquiry is whether the regulated *industry* (not necessarily individual sources) can achieve the standard at costs that are not excessive. *See, e.g., See* Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 389 (D.C. Cir. 1973) ("The essential question is whether the mandated standards can be met by a particular industry for which they are set . . . ."); Essex Chm. Corp. v. Ruckelshaus, 486 F.2d 427, 434 (D.C. Cir. 1973) (noting that an achievable standard "need not necessarily be routinely achieved with the industry prior to its adoption"); Portland Cement Ass'n v. Train, 513 F.2d 506, 508 (D.C. Cir 1975) (upholding standard because the administrator had determined that costs were not "greater than the industry could bear and survive"); Nat'l Lime Ass'n v. EPA, 627 F.2d 416, 431 (D.C. Cir. 1980) (concluding that a reviewing court should

owners of solid waste combustors to implement recycling and materials-separation programs designed to reduce the use of the combustors themselves. The 1997 standards and guidelines for medical waste incinerators required the units' owners to develop waste management programs that could include "paper, cardboard, plastics, glass, battery, or metal recycling" and were designed to "reduce the volume of waste to be incinerated, and thereby reduce the amount of air pollution emissions associated with that waste."[27] EPA has also instituted similar requirements for the owners of solid waste incinerators and "other" incinerators.[28] As in those instances, where EPA determined that a standard of performance could involve shifting from a dirtier production method to a cleaner one, here EPA acted consistently with the statute when it determined the standard by reference to less carbon-intensive ways of producing electricity, instead of basing its standard on the best system of emission reduction for electricity produced solely from coal.

EPA's approach to designating the "best system of emission reduction" satisfies the statutory factors in section 111(a). First, EPA assessed the range of possible emissions reduction options that could qualify as a "system of emission

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consider whether administrative record "support[s] the 'achievability' of the promulgated standards for the industry as a whole"); Sierra Club v. Costle, 657 F.2d 298, 364 (D.C. Cir. 1981) (EPA has "authority to hold the industry to a standard of improved design and operational advances").

[27] Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators, 62 Fed. Reg. 48,348, 48,359 (Sept. 15, 1997). The waste management plans under this rule were not challenged and remained in place in spite of a remand of the rule following a suit that challenged other parts of the regulation. *See* 72 Fed. Reg. 5510 (Feb. 6, 2007).

[28] *See* Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units, 65 Fed. Reg. 75,338, 75.353. 75,366 (Dec. 1, 2000). EPA voluntarily remanded this rule without vacatur, but the waste management plans remained in place as revised rules were being developed. *See* 75 Fed. Reg. 31,938 (June 4, 2010).

reduction," meaning a "set of measures that work together to reduce emissions and that are implementable by the sources themselves."[29] Next, EPA determined which of these emission reduction options are "adequately demonstrated" based on the statutory language, legislative history, and D.C. Circuit case law.[30] Finally, EPA assessed these "systems of emission reduction" based on the other statutory and case law factors (including "amount of emission reduction, cost, non-air quality health and environmental impact and energy requirements") to determine which "system of emission reduction" is the "best system of emission reduction."[31]

As discussed, EPA's first step in setting the standards involved determining which types of actions might be part of the "best system of emission reduction." Building block 1 (heat rate improvements at coal plants) is uncontroversial as an element of the "best system of emission reduction" because it involves on-site improvements that can be achieved at a reasonable cost and has been applied at many plants in the past. As EPA explains, however, building block 1 cannot constitute the "best system of emission reduction" on its own because the other building blocks can reduce emissions even more extensively, consistent with the statutory requirements, and because building block 1 on its own could even

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[29] Clean Power Plan Final Rule at 517-18 (citing Oxford Dictionary of English (3rd ed.) (2010), *available at* http://www.oxforddictionaries.com/us/definition/american_english /system; American Heritage Dictionary (5th ed.) (2013), *available at* http://www.yourdictionary.com/system#americanheritage; and The American College Dictionary (C.L. Barnhart, ed. 1970).
[30] Clean Power Plan Final Rule at 520.
[31] *Id.*

increase emissions through a "rebound effect," whereby—in the absence of other policies—the plant owners use the plant more because it is more efficient.[32]

Opponents object more strongly to building blocks 2 and 3 because they cannot necessarily be achieved on-site at an existing plant. However, as EPA explains, legislative history and case law demonstrate that reductions need not necessarily be achieved on site, but can be achieved by the owner or operator of the plant contracting with others to achieve emission reductions. For example, Congress contemplated that owners or operators of plants might contract with others to pretreat fuels before combustion.[33] Nowhere does Section 111(d) limit standards of performance to technological, end-of-pipe requirements,[34] and indeed, Congress specifically removed a requirement that performance standards be technologically based in its 1990 Amendments.[35] Given the uniquely interconnected nature of the electricity sector, adding electricity to the grid from a cleaner generator will instantaneously result in a reduction in electricity generation (and therefore a reduction of emissions) at a dirtier generator. Here, the owners and operators of fossil-fuel fired plants can cause the generation of increased amounts of cleaner power through contractual arrangements, investments, and purchase, which will

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[32] Clean Power Plan Final Rule at 428-29,
[33] *See* 1977 Clean Air Act Amendments, § 109(b)(2)(c)(1), 91 Stat. at 700 (discussing precombustion cleaning of fuels); *see also* 42 U.S.C. § 7411 (a)(7). Further, *Sierra Club v. Costle* instructs that EPA is permitted to evaluate "cost, energy, and environmental impacts in the broadest sense—at the national and regional levels and over time as opposed to simply at the plant level in the immediate present." Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981).
[34] Sierra Club v. Costle, 657 F.2d 298, 372–73 (D.C. Cir. 1981).
[35] Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 403(a), 104 Stat. 2399, 2631; *compare* Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 109(c)(1)(A), 91 Stat. 685, 699-700.

result in lower emissions.[36] For example, fossil-fuel plant owners can invest in renewable energy projects directly or buy renewable fuel credits or carbon permits on a market.

After determining that blocks 2 and 3 can be considered part of a "system of emission reduction," EPA explains that blocks 2 and 3 are "adequately demonstrated." In particular, these building blocks satisfy the statutory requirement because "fossil fuel-fired [electric generating units] have long implemented, and are continuing to implement, the measures in building blocks 2 and 3 for various purposes, including for the purpose of reducing CO_2 emissions—and certainly always with the effect of reducing emissions."[37] For example, power plants in many states have directly invested in renewable energy and purchased renewable energy credits to satisfy renewable portfolio standards, and have purchased carbon credits through carbon trading mechanisms like the Regional Greenhouse Gas Initiative.

In addition to these three building blocks, EPA identified other potential approaches that could be considered elements of the "best system of emission reduction." After identifying the possible components of the "system of emission reduction" that have been "adequately demonstrated," EPA assessed which of the possible components were "best" based on the statutory factors in section 111(a) and its case law.[38] By conducting this assessment, EPA eliminated certain possible approaches from the "best system of emission reduction."

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[36] See Clean Power Plan Final Rule at 552-53.
[37] *Id.* at 556.
[38] *Id.* at 596-601.

Through this analysis, EPA found that its choice of "a system of emission reduction that will reduce the amount of [sources'] emissions without reducing overall electricity generation" properly incorporates the relevant statutory factors. In particular, this approach "takes into account costs by minimizing economic disruption as well as the nation's energy requirements by avoiding the need for environmental-based reductions in the aggregate amount of electricity available to the consumer, commercial, and industrial sectors."[39]

EPA also further considered the specific statutory factors under section 111(a) with respect to the individual building blocks. As part of this assessment, , EPA considered costs in determining which elements to make part of the "best system of emission reduction." Case law prohibits EPA from imposing excessive costs, but EPA has wide discretion with respect to the manner in which it considers costs.[40] Among other considerations, the agency assessed which building blocks could be applied at a reasonable cost—finding that blocks 1, 2, and 3 could be applied in this manner. The agency further set the stringency and timing of emission reductions for each block based upon what is achievable at a reasonable cost, rather than the maximum achievable amount.[41] Additionally, the combination of building blocks, as well as the combination of options for compliance, further lowers costs.[42]

EPA also considered energy requirements. Building block 2 is expected to use less energy than building block 1, since natural gas combined cycle plants consume

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[39] *Id.* at 601.
[40] *See* Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981).
[41] *Id.* at 443-44.
[42] *Id.* at 443-44, 445-59.

less fuel.[43] With respect to building block 3, the agency notes that fossil-fuel consumption will decrease through applying this building block and that renewables will be able to supplant the difference.[44] EPA notes that the variability in renewable energy needs to be addressed but explains that grid operators are becoming increasingly adept at handling such fluctuations and that the "reliability safety valve" addresses any remaining concerns.[45]

EPA also considered nonair quality health and environmental impacts. EPA found that building blocks 2 and 3 would likely have favorable effects on nonair quality health and environmental impacts by limiting water and solid waste pollution from coal plants.[46]

After assessing the relevant factors, EPA determined that a combination of the three building blocks—(1) improving heat rate; (2) substituting increased natural gas generation for higher-emitting coal generation; and (3) substituting increased renewable energy generation for higher-emitting fossil-fuel generation—would achieve greater emission reductions at a lower cost than the blocks separately and therefore constitutes the best system of emission reduction that is adequately demonstrated.[47] This determination is well-justified under the statute and the factual record before EPA concerning the particular source category and pollutant at issue.

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[43] Clean Power Plan Final Rule at 434-35.
[44] *Id.* at 441.
[45] *Id.*
[46] *Id.* at 434, 441.
[47] *Id.* at 460-61.

III. EPA's Clean Power Plan Passes Constitutional Muster

Opponents of the Clean Power Plan argue that it gives rise to constitutional problems. Their most frequent complaint is that the Clean Power Plan runs afoul of the Tenth Amendment's prohibition against the commandeering of state institutions by the federal government. This argument is misguided and, if sustained, would invalidate many of the core provisions of the Clean Air Act, not only Section 111(d) on which the Clean Power Plan rests. The standard approach of the Clean Air Act is for the federal government to establish statewide pollution reduction requirements and for the states to then choose how to allocate the burden of this reduction among sources in their jurisdiction. And if a state declines to take action, the federal government imposes requirements directly on polluters within the state. As a result, no state institution is commandeered. The states are merely given the option of allocating the pollution burden among polluters. If they choose not to do so, EPA promulgates a federal plan, which it clearly has the constitutional power to do, and which does not raise any Tenth Amendment problem because it does not impose any requirements on state institutions. That, for example, is the approach under the National Ambient Air Quality Standards, which are the Clean Air Act's centerpiece. The relationship between states and EPA under section 111(d) is structured similarly to this approach for National Ambient Air Quality Standards laid out in section 110. In fact, section 111(d) instructs that "[t]he Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section [110]" for implementing regulations under section 111(d).

And, indeed, this cooperative federalism approach used for decades under the National Ambient Air Quality Standards program is the approach that the Clean Power Plan takes. States have a choice as to whether or not to submit a state plan, as well as which portions of the state plan to submit.[48] If a state fails to submit an adequate state plan, EPA will apply a federal plan to the sources in the state. If a state submits a partial state plan, the federal plan will apply to those portions of the plan that are inadequate.[49] EPA's recently proposed rule on federal plan requirements makes clear that the federal plan will be equivalently stringent to the state plans,[50] and that states will be able to take over control of the plan from the federal government once they institute an adequate state plan.[51]

The Clean Power Plan is not like the requirement invalidated in *New York v. United States*,[52] under which states either had to take title to nuclear waste or had to enact particular regulations. Nothing is required of the states under the Clean Power Plan; they are just given an option to act. Neither does the Clean Power Plan give rise to a situation like that in *National Federation of Independent Business v. Sebelius*, the first Supreme Court review of the Affordable Care Act.[53] There, the Court deemed the federal requirement "so coercive as to pass the point at which 'pressure

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[48] Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations at 14-29 (Aug. 3, 2015) (to be published in *Federal Register*), *available at* http://www3.epa.gov/airquality/cpp/cpp-proposed-federal-plan.pdf [hereinafter "Proposed Federal Plan"].
[49] *Id.* at 18-19.
[50] *Id.* at 27-28.
[51] *Id.* at 33.
[52] 505 U.S. 144 (1992).
[53] 132 S. Ct. 2566 (2012).

turns into compulsion.'"[54] One of the factors that the Court considered was that the program at issue threatened to withhold existing Medicaid funding from states if they failed to comply, potentially amounting to over 10 percent of a State's overall budget.[55] Here, the Clean Power Plan explicitly provides that federal funding will not be withheld from states that decline to comply. Moreover, the proposed federal plan makes it clear that states will not be penalized in any fashion for failing to submit a state plan. The targets in the proposed federal plan are the same targets that states will have to meet under state plans.[56] The proposed federal plan provides for flexible trading options for states that become subject to a federal plan; the proposed federal plan is even designed to alternatively serve as an optional model trading rule for states that would like to adopt such flexible options under their state plans.[57]

Even before the final Clean Power Plan rule was released, a number of states indicated that they were considering not preparing state implementation plans in response to the Clean Power Plan, thereby acknowledging that they have a choice about whether to develop a state plan or instead be subject to a federal implementation plan.[58] Whatever else might be at issue here, it is definitely not the "compulsion" that was found problematic in *NFIB v. Sebelius.*

Instead, the Clean Power Plan, is a run-of-the-mill example of cooperative federalism that is common under the Clean Air Act and that is totally

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[54] *Id.* at 2604.
[55] *Id.* at 2604-05.
[56] Proposed Federal Plan at 15-16.
[57] *Id.* at 16-20.
[58] *See, e.g.*, Emily Holden, *What Consequences Await States That "Just Say No" to EPA Carbon Rule?*, ENERGYWIRE (July 30, 2015).

unproblematical. The Clean Power Plan is not some unconstitutional invention of the Obama administration.

IV. The Clean Power Plan is expected to create significant net benefits, including major public health benefits, with reasonable costs and a substantial flexibility

By 2030, the Clean Power Plan is projected to result in $26-$45 billion in net benefits, including climate benefits of $20 billion and health benefits of $14-$34 billion (compared to costs of $8.4 billion).[59] As part of these benefits, in 2030 and every year after that, the Clean Power Plan is expected to avoid: 3,600 premature deaths; 1,700 heart attacks; 90,000 asthma attacks; and 300,000 missed days of work and school.[60] The Clean Power Plan will result in a substantial net benefit to society.

In contrast to the large benefits, the costs of the plan are expected to be manageable, especially given the flexibility and extended compliance period of the plan. The Clean Power Plan's targets are in line with the power sector's existing, ongoing downward trends in greenhouse gas emissions. The rule is expected to reduce emissions of carbon dioxide from the power sector to 32 percent below 2005 levels by 2030;[61] in comparison, the sector has already reduced emissions of carbon pollution to 15 percent below 2005 levels.[62] Thus the sector is already almost

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[59] Final Clean Power Plan at 92-95.
[60] U.S. Environmental Protection Agency, "Overview of the Clean Power Plan: Cutting Carbon Pollution from Power Plants," August 3, 2015, accessed October 19, 2015, http://www.epa.gov/airquality/cpp/fs-cpp-overview.pdf.
[61] *Id.*
[62] U.S. Energy Information Agency, "July 2015: Monthly Energy Review," July 28, 2015, accessed October 19, 2015, http://www.eia.gov/totalenergy/data/monthly/index.cfm.

halfway towards achieving the final Clean Power Plan target, even before federal standards have been put in place. In fact, from 2005 to 2012 alone, carbon dioxide emissions from the power sector declined by at least 25 percent in 16 states, and by more than 40 percent in nine states.[63]

In addition, the reductions called for in the Clean Power Plan are gradually phased in over the lengthy compliance timeframe laid out in the Clean Power Plan. The first compliance period does not begin until 2022, and full compliance is not required until 2030. States have substantial flexibility in determining their interim compliance targets, so long as the overall targets are met. For example, EPA's analysis shows that all states can meet their interim state goals by 2029 even if they do not require any emission reductions from their covered units in 2022.[64]

Technologies to achieve these carbon pollution standards are already available and highly cost-competitive. Since 2007, the price of solar photovoltaic modules has fallen by more than 80 percent.[65] A number of solar photovoltaic

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[63] U.S. Environmental Protection Agency, "State CO2 Emissions from Fossil Fuel Combustion, 1990-2012", 2014, accessed October 19, 2015, http://www.epa.gov/statelocalclimate/resources/state_energyco2inv.html.

[64] EPA, LEGAL MEMORANDUM ACCOMPANYING CLEAN POWER PLAN FOR CERTAIN ISSUES, 152 (August 2015) ("[T]he EPA notes that under this rulemaking, all states can meet their interim state goals by 2029 even if they do not require any emission reductions from their fossil steam EGUs or NGCC units in 2022. . . . In other words, states have the flexibility not to require any emission reductions on the front end of the compliance period, and more on the back end and still comply with the interim rate.").

[65] Bloomberg New Energy Finance and Business Council for Sustainable Energy, "Sustainable Energy in America: 2015 Factbook," February 2015, slide 51, accessed October 19, 2015, http://www.bcse.org/wp-content/uploads/2015-Sustainable-Energy-in-America-Factbook.pdf; *see also* David Feldman et al., "Photovoltaic System Pricing Trends," September 22, 2014, accessed October 19, 2015, http://www.nrel.gov/docs/fy14osti/62558.pdf.

projects are producing power at a cost of just 3.87 to 6.5 cents per kilowatt hour.[66] These prices are well below the cost of new coal generation, and some projects are comparable to the cost of new gas generation even without the Investment Tax Credit.[67] More generally, natural gas and renewables have in total accounted for 93 percent of all new generation since 2000.[68]

The flexibility in the Clean Power Plan allows states to select cost-effective options for compliance. EPA proposed federal plan includes two model rules illustrating two potential approaches that would allow states to harness the benefits of interstate trading by enabling trading among mutually compatible state plans. Adopting such "trading ready" plans would allow power companies and states to work together to achieve emissions reductions across the interconnected electric grid, without the need to formally adopt a joint compliance plan among multiple states. The feasibility and cost-effectiveness of market-based approaches to emission control is well-established and has been demonstrated by EPA programs, spanning Republican and Democratic administrations alike, to address acid rain and interstate air pollution transport, among others. The result is a plan that is expected

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[66] Herman Trabish, "NV Energy buys utility-scale solar at record low price under 4 cents/kWh," July 9, 2015, accessed October 19, 2015, http://www.utilitydive.com/news/nv-energy-buys-utility-scale-solar-at-record-low-priceunder-4-centskwh/401989/; Eric Wesoff, "Solar at Grid Parity in Utah, A Coal State With No Renewable Standard," June 23, 2015, accessed October 19, 2015, http://www.greentechmedia.com/articles/read/Solar-at-Grid-Parity-in-Utah-a-Coal-State-With-No-RPS.

[67] Nicholas Bianco *et al.*, "Seeing is Believing: Creating a New Climate Economy in the United States," 12, 14, 29, October 2014, accessed October 19, 2015, http://www.wri.org/publication/seeing-believing-creating-new-climate-economy-unitedstates.

[68] U.S. Energy Information Administration, "2013 Form EIA-860 Data - Schedule 3, 'Generator Data' (Operable Units Only)," February 17, 2015, accessed October 19, 2015, http://www.eia.gov/electricity/data/eia860/index.html.

to involve an increase of only four percent in the cost of meeting electricity demand, while securing large public health and welfare benefits.[69]

Conclusion

I am very grateful to have been invited to testify today and will be delighted to answer any questions you might have.

[69] EPA, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE, 3-22 to 3-23 (2015), *available at* http://www3.epa.gov/airquality/cpp/cpp-final-rule-ria.pdf.

Mr. WHITFIELD. Thank you very much.

And our next witness is Ms. Emily Hammond, who is Associate Dean for Public Engagement and Professor of Law at George Washington University School of Law. Thank you, Ms. Hammond. You are recognized for 5 minutes.

STATEMENT OF EMILY HAMMOND

Ms. HAMMOND. Thank you, Chairman, and thank you, distinguished members of the committee, for having me back to testify before you.

Today, I will speak primarily about how EPA's CO_2 regulations relates to the electricity markets and why the regulations are important from a policy standpoint. I will also address the regulatory framework underlying the Clean Air Act and the legality of EPA's regulations.

Delivering electricity to consumers involves a complex interaction between energy resources and markets and the physical needs of the grid. The electricity markets operate on the basis of short-run marginal costs, but in doing so, they fail to value fuel sources' reliability or environmental attributes. This has resulted in a variety of dysfunctions.

To take one example, consider nuclear power. It is clean, reliable, and safe, but it is struggling to operate in the wholesale markets notwithstanding these beneficial attributes. Without policies that fold reliability and environmental attributes into the electricity markets, we will see decreased diversity in our mix of electricity sources. This threatens both grid reliability and our ability to flexibly respond to the climate change imperative.

EPA's CO_2 regulations represent measured approaches to correcting some of these flaws. Could EPA have done more? Yes. And, as Mr. Rush commented, this institution could do even more. But EPA's new regulations do make headway toward correcting fuel sources' environmental externalities while also promoting diversity of resources on the grid.

The Energy Information Administration projects that the electricity fuel mix of 2040 will be more diverse under the CPP, the Clean Power Plan, than it is today. It will include a larger share of renewables, non-generation resources, and natural gas. It continues to include nuclear. And contrary to popular perception, it will still include a significant amount of coal. Overall, the CO_2 regulations take a step toward a cleaner portfolio of sources that are complementary to one another in maintaining grid reliability.

The key point is that energy decision-making must include consideration of the relative mix of fuel sources, as well as the environmental implications of that mix. Given the current suite of statutes related to energy and the environment, no Federal agency is better suited to undertake that task than EPA.

When this institution passed the Clean Air Act and its various amendments, it recognized that Congress cannot anticipate every future air pollution problem. The statute is crafted to permit EPA, which has the expertise, to regulate air pollution consistently with the purposes of the statute. And EPA has done so here.

With respect to the regulations for new power plants, EPA has properly exercised its discretion to regulate CO_2 from fossil fuel

sources given its finding upheld in Federal court that greenhouse gases endanger the public health and welfare.

With respect to EPA's authority under section 111(d), I submit that in addition to the reasons provided by Professor Revesz, a reviewing court should uphold EPA's regulations by taking the approach that the Supreme Court used in King v. Burwell, the Affordable Care Act decision. There, the Court determined that the issue was too important to leave to the shifting whims of the executive branch, and the Court itself interpreted the provision at issue consistently with legislative intent. A reviewing court should do the same here. It should hold that EPA's regulations are consistent with the Clean Air Act's purposes of protecting public health and welfare, and in so doing, we can take a step in the right direction toward better grid reliability and climate change mitigation.

Thank you again for the opportunity to testify, and I look forward to your questions.

[The prepared statement of Ms. Hammond follows:]

TESTIMONY OF EMILY HAMMOND
ASSOCIATE DEAN FOR PUBLIC ENGAGEMENT & PROFESSOR OF LAW
THE GEORGE WASHINGTON UNIVERSITY LAW SCHOOL

BEFORE THE HOUSE COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENERGY AND POWER

OCTOBER 22, 2015

Thank you, Chairman Whitfield, Ranking Member Rush, and distinguished Members of the Subcommittee, for the opportunity to testify today concerning the legality of EPA's CO2 regulations for new and existing power plants. I am pleased to be returning to testify before your Subcommittee on another important issue of energy and environmental law.

I am Associate Dean for Public Engagement and Professor of Law at the George Washington University Law School, and am also a member-scholar of the not-for-profit regulatory think-tank, the Center for Progressive Reform. My expertise relates to energy, environmental, and administrative law. I have authored numerous books, articles, and book chapters on these topics, and have particularly emphasized: (1) the links between administrative process and agency decisionmaking in the fields of energy and environmental law; and (2) the relationship of cost, reliability, and environmental attributes of electricity fuel sources to the wholesale electricity markets and the electricity fuel mix. Early in my career, I practiced as a civil engineer; that experience and training allows me to bring a technical perspective to energy and environmental law.

I am here to testify today based on my expertise, and my views are not those of my law school or other organizations to which I belong. I will focus my testimony on three topics: (1) how EPA's Section 111 regulations relate to electricity markets and why the regulations are important from a policy standpoint; (2) the regulatory framework that Congress established in passing the Clean Air Act (CAA); and (3) the legality of EPA's Section 111 regulatory activities.

Electricity Markets and the Clean Power Plan

The field of energy represents a complex interaction between energy resources, energy markets, and environmental externalities. Policies that do not consider these interactions have led to numerous dysfunctions. In fact, the wholesale electricity markets are currently struggling to properly value both grid reliability and the environmental characteristics of fuel sources or electricity services.[1] For example, nuclear power—a clean, reliable, and safe fuel source—is struggling to operate in the wholesale markets notwithstanding these beneficial attributes. Without policies that value reliability and the environment, we will see decreased diversity in our mix of electricity fuels and non-generation services, which threaten both grid reliability and our ability to flexibly respond to the climate change imperative.[2]

The New Source Performance Standards and Clean Power Plan (CPP) represent measured, reasonable approaches to correcting some of these flaws even while the electricity markets continue to operate reliably. By valuing zero- and lower-carbon fuel sources—not to mention non-generation resources like demand response and efficiency measures—EPA's new regulations make headway toward correcting fuel sources' environmental externalities while also promoting a diversity of resources on the grid.[3] Indeed, the Energy Information Administration's projections estimate that the electricity fuel mix of 2040 will be more diverse under the CPP than it is today. It will include a larger share of renewables, non-generation resources, and natural gas, it continues to include nuclear, and—contrary to popular perception—it will still include a significant amount of coal.[4] Overall, the CO2 regulations promote a cleaner portfolio of sources that are complementary to one another in maintaining grid reliability.

The bottom line is that energy decisionmaking must include consideration of the relative mix of fuel sources as well as the environmental implications of that mix. Given the current suite of statutes related to energy and the environment, no federal agency is better suited to undertake this task than EPA.

The Clean Air Act's Regulatory Framework

When this institution passed the Clean Air Act and its various amendments, it recognized that Congress could not anticipate every future air pollution problem. Rather, the statute is crafted to permit EPA—the agency with expertise in such matters—to regulate air pollution consistently with the purposes of the statute. Consider the famous decision *Chevron, U.S.A. v. Natural Resources Defense Council*.[5] There the Supreme Court upheld EPA's interpretation of the term "stationary source" to permit major sources of pollution to comply with emissions standards on a plant-wide, rather than stack-specific, basis. Critical to the Court's rationale in upholding the interpretation was that Congress delegated to EPA interpretive authority over the CAA's terms.

Chevron is an invitation to Congress to be clear when it does *not* intend an agency to exercise this interpretive authority, by being precise about what discretion is being delegated.[6] In general, Congress has issued clear directions to EPA that err on the side of *more* regulatory authority, not less.[7] And what has always remained intact is the broad statutory language of the CAA's definition of air pollutant—which, as we know, includes greenhouse gas (GHG) emissions[8]—and the imperative that EPA must regulate pollutants that endanger public health and welfare—as GHG emissions do.[9]

The CAA does something else that is important to understanding the legality of EPA's CO2 initiatives. In many of the air pollution programs, EPA is directed to consider some combination of the cost of compliance and the practicability of the means of compliance when setting standards. This does not require that EPA offer absolute proof that every source can meet every standard. Indeed, the CAA is considered a "technology-forcing" statute because it requires sources to come up to certain minimum standards such that there will be improvement in air quality.[10] The CO2 standards fit well within these statutory parameters: they bring about net economic benefits, they promote cleaner air,

and they can be achieved within the existing landscape of how electricity is generated and transmitted.

The Section 111 CO2 Regulations Are Lawful

Once EPA has found that a source category contributes to air pollution that endangers the public health or welfare, *the CAA requires* it to issue new source performance standards for the relevant source category.[11] The statute itself gives EPA the discretion to determine which pollutants from a given category should be regulated.[12] Here, EPA's regulation of CO2 from fossil-fueled sources is reasonable given its endangerment finding with respect to GHGs, the fact that electricity generation accounts for one-third of all GHG emissions, and the fact that these emissions far exceed new motor vehicle emissions, which have already been judged to contribute to endangerment.[13] Moreover, the final rule is more lenient than the proposed rule as a direct result of the participatory rulemaking process: the actual standards are easier for new sources to meet and are realistic in recognizing that—given low natural gas prices—new coal-fired power plants are unlikely to be constructed.[14]

The CPP can survive challenges based on EPA's authority for each of the primary legal challenges: the Section 112 exclusion issue and EPA's interpretation of "best system of emissions reduction" (BSER). First, given that this institution passed two competing amendments to Section 111(d), a reviewing court may conclude that Congress has not spoken directly to the precise issue at hand, justifying deference to EPA's reasonable interpretation. As exhaustively demonstrated in the preamble to the final CPP, EPA has provided a careful analysis that is permissible, reasoned, and consistent with the purposes of the CAA.[15] Likewise, EPA's interpretation of BSER—for which "system" is a capacious and imprecise term—is based on a reasonable analysis of the economics and structure of the electricity sector.[16]

Second, a reviewing court can uphold the CPP without ever applying the *Chevron* framework. Taking a cue from the Supreme Court's recent decision in *King v. Burwell*,[17] a court may determine that the issues here are sufficiently important that policy stability requires a court to decide the meaning of the relevant statutory provisions. The court should thereafter resolve the Section 112 exemption consistently with the purposes of the CAA to make clear that EPA has authority to regulate CO2 emissions from power plants. And the court should similarly interpret BSER to permit exactly the system-based approach that EPA has taken. Both results would be consistent with the CAA's purposes of protecting public health and welfare, and both would provide the regulatory certainty needed to ensure progress toward a more reliable and environmentally sound electric grid.

Conclusion

In sum, the New Source Performance Standards and CPP are sound policy steps toward addressing the most urgent issue of our time. The regulations are reasonable and realistic

in the way they account for both how the electric grid currently works, and how it can work even better toward reliability and climate change mitigation.

Thank you again for the opportunity to testify today. I look forward to your questions.

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[1] Emily Hammond & David B. Spence, *The Regulatory Contract in the Marketplace*, – VAND. L. REV. – (forthcoming), *available at* http://ssrn.com/abstract=2584619; *see also* William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614 (2014) (exploring awkward fit between markets and traditional concept of public utility, particularly as related to climate change issues); Jody Freeman & David B. Spence, *Old Statutes, New Problems*, 163 U. PA. L. REV. 1, 58-62 (2014) (surveying FERC's attempts to adapt Federal Power Act to clean energy goals).

[2] Hammond & Spence, *supra* note 1.

[3] *Id.* at 21; IHS ENERGY, THE VALUE OF US POWER SUPPLY DIVERSITY (July 2014), *available at* https://www.ihs.com/info/0714/power-diversity-special-report.html.

[4] EIA, *Under the proposed Clean Power Plan, natural gas, then renewables, gain generation share*, May 27, 2015, at http://www.eia.gov/todayinenergy/detail.cfm?id=21392.

[5] 467 U.S. 837 (1984). The familiar two-step framework provides that courts must ask first whether Congress has directly spoken; if not, the statute is ambiguous and courts should defer to an agency's permissible interpretation. *Id.* at 842-43.

[6] *See, e.g.*, Kent Barnett, *Codifying* Chevmore, 90 N.Y.U. L. REV. 1 (2015) (describing judicial review provisions in Dodd-Frank Act).

[7] ROBERT L. GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 435 (7th ed. 2015) (describing hazardous air pollutants regime in Clean Air Act Amendments of 1990).

[8] Massachusetts v. EPA, 549 U.S. 597 (2007).

[9] *See* Coal. for Responsible Reg. v. EPA, 684 F.3d 102 (D.C. Cir. 2014), *rev'd in part on other grounds*, 134 S. Ct. 2427 (2014) (upholding endangerment finding).

[10] *E.g.*, Union Electric Co. v. EPA, 427 U.S. 246, 269 (1976) ("Technology forcing . . . necessarily entails certain risks. But Congress considered those risks . . . and decided that the dangers posed by uncontrolled air pollution made them worth taking.).

[11] 42 U.S.C. § 7411(b)(1)(B); Am. Electric Power Co. v. EPA, 131 S. Ct. 2527, 2539 (2011)

[12] *Cf.* Nat'l Ass'n of Clean Air Agencies v. EPA, 489 F.3d 1221, 1229 (D.C. Cir. 2007) (calling similarly worded provision a "delegation of authority" both "explicit and extraordinarily broad").

[13] Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, -- Fed. Reg. –, at 102-09 (Aug. 3, 2015) [hereinafter NSPS].

[14] *Id.* at 17-19.

[15] Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, -- Fed. Reg. –, at 246-47, 288 (initial release Aug. 3, 2015) [hereinafter CPP].

[16] *Id.* at 511.
[17] 135 S. Ct. 2480 (2015).

Mr. WHITFIELD. Thank you, Ms. Hammond.

Our next witness is Mr. Raymond Gifford, who is a partner at Wilkinson Barker & Knauer. And we appreciate your being with us. You are recognized for 5 minutes.

STATEMENT OF RAYMOND L. GIFFORD

Mr. GIFFORD. Thank you, Mr. Chairman, members of the committee. I appreciate the opportunity to speak to you today about the Clean Power Plan.

My focus today is going to be on the stateside implementation of the rule. What is the rule mean for States, how will State institutions need to be reorganized to deal with the rule, and what will States do in practice based on the rule's design and incentives?

First, the traditional State institutional arrangements for the electricity sector will need to be changed to comply with this rule.

Second, the rule will gain and is gaining prescriptive authority while the legal challenge is pending. Absent a stay of the rule, States and utilities must move forward with resource planning that incorporates the carbon-reduction mandates of the rule.

Third, the design of the rule inexorably leads States toward adopting a plan of mass-based trading. This is popularly known as cap-and-trade. In addition, States will face strong incentives to undertake what the EPA calls "State measures" meaning State legislation authorizing new renewable and energy efficiency programs will be a compelling compliance path.

Let me explain to the committee how this might well play out. The ambition of this rule toward the electric sector is totalistic. That is, it needs to fundamentally reorder the traditional Federal-State division in the power sector, enforce rearrangement of the State institutions dealing with electricity. In practice, this means that prerogatives that once belonged to State utility commissions or under the self-regulatory models of rural cooperatives and municipal utilities give way to State-unified carbon resource planning under the auspices of the State air regulator.

My second point is that States and utilities are already incorporating the assumptions and carbon rations in the rule into their resource-planning decisions. The planning horizons in the electric power industry extend out 7 to 10 years and further. That means to meet the interim goal in 2022, a utility needs to make the decision soon, if not now, whether or not to retire generation, replace coal with gas-fired generation, or to begin substantial increases in renewable-generating capacity.

In recent months, the trade press has noted utilities submitted integrated resource plans that put them on a path toward compliance under the rule's assumptions. The rule, therefore, is having its effect before the legality is ruled upon by the courts.

Finally, I want to point the committee to where the rule is headed as a matter of State compliance. When you study the rule, the States are essentially presented with a Hobson's choice where the most palatable and achievable State plan is a mass-based trading platform across the region or across the country. Though the term may be politically laden, the States will inevitably gravitate to a national cap-and-trade platform instituted through each State plan.

As the Agency makes plain in the final rule "the EPA believes that it is reasonable to anticipate that a virtually nationwide emissions-trading market for compliance will emerge and that ERCs will be effectively available to any affected EGU wherever located, as long as its State plan authorizes emissions trading among affected EGUs."

For those uninitiated with the rather ineuphonious acronym ERC, that means emission reduction credit. EPA anticipates a nationwide ERC trading system whereby carbon emissions are capped by the rule and then traded across the States to achieve compliance. This is nationwide cap-and-trade.

However, there are reasons to believe that mass-based carbon trading will be a heavier lift that past trading programs. For one, the size of the transfer payments required will be larger than ever before seen. The net effect of the rule has to make a generator prefer to shut down or reduce output rather than buying ERCs.

Second, we can expect a great deal of special pleading to break out in the States surrounding ERC allocations under State plans. Coal-centric smaller utilities without much scale—say, a municipal utility or cooperative—will advocate for low-cost or no-cost ERC allocations under State plans. Indeed, Government-run markets often feature these special set-asides for favored constituencies.

In closing, I hope I have given the committee a sense of the legal and policy complexity confronting the States and want to underscore the fact that compliance with the rule's carbon rationing starts now.

[The prepared statement of Mr. Gifford follows:]

Testimony before the House Subcommittee on Energy and Power

EPA's CO_2 Regulations for New and Existing Power Plants: Legal Perspectives

October 22, 2015

Testimony of Raymond L. Gifford

Wilkinson Barker Knauer LLP

Mr. Chairman, members of the Committee, thank you for the opportunity to speak with you this afternoon about the Clean Power Plan. As you know, the Clean Power Plan (or the "Rule") represents an attempt at fundamental transformation of the nation's electric generation fleet to accomplish carbon dioxide reductions from the electric power sector.

My focus today is going to be on the state-side implementation of the Rule: what does the Rule mean for the states? How will state institutions need to be reorganized to deal with the Rule? And, what will states do in practice based on the Rule's design, and the incentives it gives to states and electric generators?

To be sure, the legal validity of the Rule that others on this panel are addressing is primary. However, I want to emphasize that the timelines of the utility industry means that states and utilities have to move now to begin compliance planning under the Rule. Therefore, I want to draw your attention to three aspects of the final Rule, and what it means for states:

First, the traditional state institutional arrangements for the electricity sector will need to be changed to comply with this Rule. Traditional state regulatory aims of least cost resource planning will need to be replaced with carbon resource planning. Municipal and cooperative electric associations that in many states are not regulated by utility commissions will need to be brought under the state air regulatory umbrella, and carbon reduction planning will override existing state institutional arrangements.

Second, the Rule will gain prescriptive authority while the legal challenge is pending. Absent a stay of the Rule, states and utilities must move forward with workshops and resource planning that incorporates the carbon reduction scenarios of the Rule. Even if the Rule is vacated or remanded by the courts some years down the line, large changes to the resource mixes of the various states will already be planned. Much like the Mercury and Air Toxics Standards

(MATS) rule remanded by the Supreme Court last summer, the bulk of compliance occurs before the legality of the Rule is determined.

Third, the design of the Rule inexorably leads states toward adopting a plan of mass-based trading. Because of the relative superiority of mass-based trading compared to alternatives, state compliance plans will gravitate to mass-based trading, which is popularly known as "cap and trade." In addition, states will face strong incentives to undertake what EPA calls "state measures," meaning state legislation authorizing new renewable and energy efficiency programs will be a compelling compliance path.

Let me expand on these points to describe to the Committee how the state path toward this Rule is going to play out. The ambition of this Rule toward the electric sector is totalistic; that is, it needs to fundamentally reorder the traditional federal-state division in the power sector, and force rearrangement of the state institutions dealing with electricity. Currently, under the Federal Power Act, electric generation is a state matter, interstate transmission and wholesale markets are a federal matter. Under the Rule, all of those distinctions are subsumed by EPA's carbon resource planning. In practice, this means that prerogatives that once belonged to state utility commissions, or under the self-regulatory models of rural cooperatives or municipal utilities, give way to state unified carbon resource planning under the auspices of the state air regulator.

In practice, this means that state air regulators must have complete resource planning power over all electric generation units in a state. Further, if a state uses renewable energy or energy efficiency as a compliance tool, the air regulator will have to have ultimate authority over these programs too. Now, it becomes a matter of state law analysis whether the legislative delegation to the air regulator includes all these traditional state utility commission resource

planning tools. For instance, imagine a state with a 20% renewable energy standard and a 2% retail rate impact limit on the renewable portfolio, administered by the state public service commission. Does the administrative delegation to the air regulator by the state legislature allow the air regulator to raise that amount to 30% renewable and eliminate the rate cap? That is a state law question each state must answer. Similarly, imagine a state with a $50 million dollar energy efficiency cross-subsidy program, again administered by the PSC. Can the air regulator in that same state make the energy efficiency program a $100 million a year program as part of a Rule compliance plan? Again, that is an institutional question for each state to answer.

My second point is that states and utilities are already incorporating the assumptions and carbon rations in the Rule into their resource planning decisions. The planning horizons in the electric power industry extend out seven to ten years. That means to meet the interim goal in 2022, a utility needs to make the decision soon, if not now, whether or not to retire generation, replace coal with gas-fired generation, or begin substantial increases in renewable generating capacity. In recent months, the trade press has noted utilities submitting integrated resource plans that put them on a path toward compliance. This means retiring coal and building new gas and renewables. The Rule, therefore, is having its effect before its legality is ruled upon by the courts. Indeed, if the legality of the Rule will not be passed upon by the Supreme Court until the 2018 term (or later), then many generators will already have made decisions to close facilities, and the costs for new infrastructure for gas plant and supply will also have to be committed. The recently vacated MATS rule provides a roadmap to how the Clean Power Plan can at least partially complete its renovation of the electric power sector before the courts decide on its legality. MATS forced 40-50 GW of coal-fired electric generation capacity to retire before the

Supreme Court ruled it illegal. Like MATS, the decisions on retiring plants and building new ones to comply with the Clean Power Plan must be made before the legal process plays out.

Finally, I want to point the Committee to where the Rule is headed as a matter of state compliance. When you study the Rule, its structure and the incentives it creates, the states are essentially presented with a Hobson's choice where the most palatable and achievable state plan is a mass-based trading platform, across the region or across the country. Though the term may be politically-laden, the states will inevitably gravitate to a national cap and trade platform, instituted through each state plan. A White Paper I co-authored with two colleagues, "The Clean Power Plan: Carbon Trading, State Legislation and the Political Economy Issue" attached to my testimony and just released this week makes the more detailed case about how this will come about, but let me explain the basic mechanics.

"Trading ready" state plans are being promoted across the country by environmental advocacy groups and multi-jurisdictional utilities. And, by the terms of the Rule, trading mass-based allowances across a larger area, with more generation units, gives greater optionality and lower cost than imposing a carbon rationing plan on a given state alone. For instance, if you are a utility with a newer coal plant, but the only coal plant, in one state, you will want to use allocation credits from other trading states to keep that plant open, and perhaps close another plant in another state to generate those credits.

As the Agency makes plain in the final Rule: "[T]he EPA believes that it is reasonable to anticipate that a virtually nationwide emissions trading market for compliance will emerge, and that ERCs will be effectively available to any affected EGU wherever located, as long as its state plan authorizes emissions trading among affected EGUs."[1] For those uninitiated with the rather

[1] Environmental Protection Agency, *Carbon Pollution Emission Guidelines for Existing Stationary*

ineuphonious acronym, ERC, it stands for an "emission reduction credit." EPA anticipates a nationwide ERC trading system whereby the carbon emissions are capped by the Rule, and then traded across states to achieve compliance. This is nationwide cap and trade.

However, there are reasons to believe that mass-based carbon trading will be a heavier lift than past trading programs. For one, the size of transfer payments required will be larger than ever before seen. The net effect of the Rule has to make a generator prefer to shut down or reducing output, rather than buying ERCs. Second, we can expect a great deal of special pleading to break out in the states surround ERC allocations under state plans. Coal-centric smaller utilities without much scale – say, a municipal utility or cooperative – will advocate for low cost or no cost ERC allocations under state plans. In turn, those costs not imposed on smaller utilities will have to be made up with cross-subsidies from larger utilities. Indeed, government-run markets often feature these special set asides for favored constituencies. If you think of spectrum market set asides to favored constituencies, for instance, you see that government-run markets are subject to political economy pressures, particularly when the distributive consequences will fall hard on a given set of players or in this case ratepayers.

One final inducement for state compliance will be to undertake 'state measures' through legislation. This is because emissions trading enacted through state legislation avoids the federal Clean Air Act enforcement regime.

In closing, I hope I have given the Committee a sense of the legal and policy complexity confronting the states, and want to underscore the fact that compliance with the Rule's carbon rationing by states and utilities starts now.

Sources: Electric Utility Generating Units, at 359, Docket EPA-HQ-OAR-2013-0602; FRL-XXXX-XX-OAR (Aug. 3, 2015).

The Clean Power Plan: Carbon Trading, State Legislation and the Political Economy Issue

Market-based solutions and politics collide under proposed trading platforms

"[T]he EPA believes that it is reasonable to anticipate that a virtually nationwide emissions trading market for compliance will emerge, and that ERCs will be effectively available to any affected EGU wherever located, as long as its state plan authorizes emissions trading among affected EGUs."

- EPA, Clean Power Plan, August 3, 2015

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Executive Summary

The notion of headroom available for states in the Western Interconnection and Texas Interconnection assumes the accuracy and feasibility of the inputs to EPA's BSER formula. The BSER formula in the Western Interconnection and Texas Interconnection yielded carbon budgets that no state could reasonably achieve. The notion of "headroom" fails by extension, because the amount of the headroom is predicated on the low emission rates in the Western Interconnection and Texas Interconnection, as compared to the Eastern Interconnection. Therefore, states and entities presented with the headroom argument in favor of the achievability and ease of CO_2 emissions trading schemes should be highly skeptical, if not outright dismissive, of this position as support for viable trading regimes. Nevertheless, the ineluctable logic of the CPP Final Rule still leads states toward trading.

Rate-based trading regimes appear unlikely given the significant complexities inherent in these schemes. Given the concerns raised by states and other stakeholders in comments about the feasibility and complications with rate-based trading, as well as EPA's implicit promotion of mass-based trading at the expense of rate-based trading in the CPP Final Rule, it is highly unlikely states will pursue rate-based trading on any level.

Mass-based trading is where the CPP is headed. Mass-based trading plans appear to give states the most advantages under the rule. EPA's final rule points states toward a national 'cap and trade' model as the least cost of compliance, and this compliance approach is easier to administer and when combined with "state measures" creates the least dislocation, relatively speaking.

Historical trends, political economy issues and complexities with existing contractual arrangements will complicate state trading plans. The CPP Final Rule and any emissions trading scheme adopted as a compliance pathway will force state regulators and elected officials to confront numerous distributive issues with regard to revenues, allowances, ERCs or other trading currency. States will face pleas to mitigate the effect on specific utilities (e.g., rural cooperatives, municipal utilities, small utilities, and utilities with politically advantageous customer bases) or EGUs, including by redistributing allowances through non-economic means, and creating allowance cross-subsidies between favored and disfavored generators. Calls akin to the telecommunications universal service subsidy system will be made and responded to politically, or not. Utilities lacking scale, but having much coal, will be particularly inclined to the political economy path. Likewise existing power purchase contracts and potential non-performance because of changed implicit carbon costs will ripple through markets.

States that pursue mass-based trading will face strong inducements to undertake 'state measures' through legislation. States that persevere with a mass-based trading regime face strong inducements to consider state legislation enacting any such trading regime. Emissions trading enacted through state legislation avoids federal enforceability of requirements within the emissions trading architecture and allows states and trading market participants to develop and implement nascent CO_2 emission trading schemes outside the purview of the citizen suit and penalty provisions of the Clean Air Act. It also allows states to "create" more trading currency through new build, renewable additions and energy efficiency programs.

I. Introduction

On August 3, 2015, the Environmental Protection Agency (EPA) and President Obama announced the release of its Final Rule under the Clean Power Plan (CPP).[1] The CPP Final Rule ("CPP Final Rule" or "Final Rule") makes explicit that carbon dioxide (CO_2) emissions trading is both a compliance option and an expectation of EPA. To the extent states attempt to comply with the emission targets by submitting a state or multi-state plan, trading is the conclusion for how states comply. Indeed, EPA employed trading as an assumption in its construction of the best system of emission reduction (BSER) under the Clean Air Act. The CPP Final Rule provides that:

> [S]tates should be expected to allow their affected EGUs to trade rate-based emission credits or mass-based emission allowances (trading) because trading is well-established for this industry and has the effect of focusing costs on the affected EGUs for which reducing emissions is most cost effective. Because trading facilitates implementation of the building blocks and may help to optimize cost-effectiveness, trading is a method of implementing the BSER as well.[2]

EPA further states that significant benefits flow from the implementation of either rate-based or mass-based CO_2 emissions trading because "[t]hese approaches lower overall costs, add flexibility, and make it easier for individual sources to address pollution control objectives."[3] Given these benefits, the agency believes that "it is entirely feasible for states to establish standards of performance that incorporate emissions trading, and it is reasonable to expect that states will do so."

Trading, then, is where state compliance with the Clean Power Plan ends. This White Paper examines how EPA's rule inexorably leads states to elect carbon allocation trading as the compliance path, and what dynamics will emerge under such an institutional scheme.

EPA ties its optimism about the implementation and ultimate success of CO_2 emission trading to its past implementation of trading programs for other pollutants regulated under the Clean Air Act, as well as measures implemented by the states:

> Congress, the EPA, and state regulators have established successful environmental programs for this industry that allow trading of environmental (or similar) attributes, and trading has been widely used by the industry to comply with these programs. Examples include the CAA Title IV Acid Rain Program, the NO_X SIP Call (currently referred to as the NO_X Budget Trading Program), the Clean Air Interstate Rule (CAIR), the Cross-State Air Pollution Rule (CSAPR), the Regional Haze trading programs, the Clean Air Mercury Rule, RGGI, the trading program established by California AB32, and the South Coast Air Quality Management District RECLAIM program.[4]

"Trading has worked elsewhere, and will work here too" is a persuasive, but not dispositive, precedent. Simply put, the transformative effect carbon allocation trading must have on the nation's electric grid and generation fleet is on a scale that has not been tried with more modest trading schemes. The theoretical superiority of trading as a least cost and economically efficient means of compliance cannot be controverted. However, as can be seen with other government-mandated and -run trading, political economy concerns can swamp the theoretical efficiency of trading.

The political economy of trading, coupled with the sizeable transfer payments and sheer amount of capital that will move between entities and states in these

[1] Environmental Protection Agency, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, Docket EPA-HQ-OAR-2013-0602; FRL-XXXX-XX-OAR (Aug. 3, 2015) (hereinafter "CPP Final Rule"). As of the release date of this white paper, EPA has not published the CPP Final Rule in the Federal Register.

[2] *CPP Final Rule*, at 239-240.

[3] *CPP Final Rule*, at 325-326.

[4] *CPP Final Rule*, at 373-374.

markets, will force states and EPA to confront issues and complexities seen for instance in spectrum and European carbon markets, but not seen in previous EPA-sanctioned trading regimes.

This paper proceeds as follows: How notional "headroom" in the Final Rule creates state incentives to trade as a means of compliance; why mass-based trading becomes the most attractive (and only reasonable) compliance option to states; how state-level CO_2 emission trading schemes coupled with "state measures" implemented through state legislation sidestep federal sanctions; and, finally, the political economy incentives confronting states as they gravitate toward trading solutions. In the end, the Final Rule ushers all states toward a national cap and trade regime, bolstered by "state measures" that will reflect the political economy tug-and-pull of favored and disfavored constituencies.

II. The Notion of Headroom

The fundamental underpinning of EPA's confidence that CO_2 emission trading is feasible and achievable is the notion that all states outside of the Eastern Interconnection have significant "headroom" in any trading regime. EPA asserts:

> [I]f emission limits are set at the CO_2 emission performance rates, affected EGUs in two of the three interconnections on average do not need to implement the building blocks to their full available extent in order to achieve their emission limits (because the performance rates for each source category are the emission rates achievable by that source subcategory through application of the building blocks in the interconnection where that achievable emission rate is the highest), providing further opportunities in those interconnections to generate surplus emission reductions that could be used as the basis for issuance of ERCs [emission reduction credits].[5]

A brief recap of the revised BSER in the CPP Final Rule is pertinent background for an analysis of this purported headroom. The revised BSER eliminates Building Block 4, excludes the previous nuclear components from Building Block 3, and requantifies the amount of renewable energy adoption baked into Building Block 3.[6] EPA divides the country into three regions: the Eastern Interconnection, Western Interconnection, and Texas Interconnection.[7] At the risk of oversimplification, EPA's calculation for each of the three regions unfolds as follows: (1) quantify generation and emissions from coal-fired EGUs and natural gas combined cycle (NGCC) units in a given region using a 2012 baseline; (2) apply Building Block 1 (heat rate improvement of 4.2% (Eastern Interconnection), 2.1% (Western Interconnection) or 2.3% (Texas Interconnection)) to the appropriate region to reduce total emissions; (3) apply Building Block 3, which is a modeled level of potential renewables added to the system from 2022 to 2030, on a *pro rata* basis to replace emissions from coal-fired EGUs and NGCC facilities to further reduce total emissions;[8] and (4) apply Building Block 2 by taking the summer capacity rating of existing and under construction NGCC facilities and assuming a 75% utilization rate, then subtracting the remaining NGCC figure to reach an assumed level of redispatched NGCC and replacing additional coal-fired EGU emissions.[9] After performing this exercise, EPA was left with the following CO_2 emission rates for each of the three regions[10]:

Region	Coal-Fired EGU Rate	NGCC Rate
Eastern	1305 lbs CO_2/MWh	771 lbs CO_2/MWh
Western	360 lbs CO_2/MWh	690 lbs CO_2/MWh
Texas	237 lbs CO_2/MWh	697 lbs CO_2/MWh

The BSER formula yields extremely low emission rates in the Western Interconnection and Texas Interconnection. Therefore, EPA eliminated these emission rates and established uniform rates for two

[5] *CPP Final Rule*, at 357.

[6] *See CPP Final Rule*, at 65.

[7] *CPP Final Rule*, at 148-149.

[8] Significant calculation and practical issues associated with the Building Block 3 assumptions are addressed in a separate white paper by the authors released in August 2015.

[9] *See generally CPP Final Rule*, at 27.

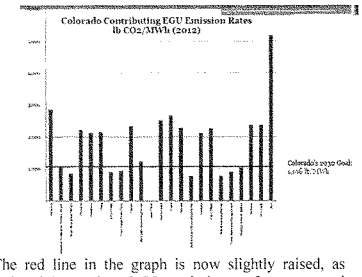
[10] *CPP Final Rule*, at 409 ("[T] the final rule establishes a performance rate of 1305 lbs. per net MWh for all affected steam EGUs nationwide and a performance rate of 771 lbs. per net MWh for all affected stationary combustion turbines nationwide.")

subcategories of sources (fossil-fuel fired electric steam generating units and stationary combustion turbines (*i.e.*, NGCC units)) using only the Eastern Interconnection emission rates.[11] Accordingly, the performance rate is 1305 lbs CO_2/MWh for the latter and 771 lbs CO_2/MWh for the former.

This formula and the accuracy (or inaccuracy) of these assumptions are fundamental to the headroom concept:

> [U]sing the least stringent rate provides greater 'headroom' – that is, emission reduction opportunities beyond those reflected in the performance rates – to affected EGUs in the interconnections that do not set the nationwide level [*i.e.*, in the Western Interconnection and Texas Interconnection]. This greater 'headroom' provides greater nationwide compliance flexibility and assurance that the standards set by the states based on the emission guidelines will be achievable at reasonable cost and without adverse impacts on reliability.[12]

Headroom for states in the Western Interconnection and Texas Interconnection only exists, however, if one accepts that the BSER formula is reasonable and the assumptions used in it are accurate. For example, the chart below[13] shows Colorado's CO_2 performance goal under the proposed rule as applied to EGUs in the state (a larger version is attached as Appendix A):



The red line in the graph is now slightly raised, as Colorado's rate-based CO_2 emission performance goal is 1,174 lbs CO_2/MWh. Nevertheless, it illustrates where a single state's current EGU fleet is with regard to emissions and how unattainable the Western Interconnection emission rate of 360 lbs CO_2/MWh is as compared to the fleet. Not a coal-fired single facility comes close to this rate, which illustrates why EPA dismissed the Western Interconnection and Texas Interconnection calculations.[14] EPA asserts that it removed these rates and instead employed only the Eastern Interconnection rates in the interest of uniformity.[15] Just as likely, EPA threw out the BSER calculations for Texas and the Western Interconnect out of necessity given the unfeasible emission rate targets. The Building Block formula in the Western Interconnection and Texas Interconnection yielded carbon budgets that no state could reasonably achieve. The notion of "headroom" fails by extension, because the amount of the headroom is predicated on the low calculated emission rates in the Western Interconnection and Texas Interconnection as compared

[11] *CPP Final Rule*, at 411 ("Having determined that the performance rates computed on a regional basis merit consideration as nationally applicable performance rates, we are also determining that the objectives of achievability and flexibility would best be met by using the least stringent of the regional performance rates for the three interconnections for each technology subcategory as the basis for nationally uniform performance rates for that technology subcategory than by using the most stringent of the regional performance rates.")

[12] *CPP Final Rule*, at 413.

[13] This chart is sourced from a slide that was part of a presentation by Colorado Air Quality Control Commission Staff at the July 17, 2014 meeting of the Air Quality Control Commission.

[14] The Colorado chart is illustrative, but suffice to say, no states' fossil-fired generation could meet the Texas Interconnection or Western Interconnection rates.

[15] *CPP Final Rule*, at 410 ("Having determined to adopt regional alternatives for computing the emission reductions achievable under each building block, the EPA has further determined to exercise discretion not to subcategorize based on the regions, and instead to apply a nationally uniform CO2 emission performance rate for each source subcategory. Evaluating the emission reduction opportunities achievable through application of the BSER on a broad regionalized basis, which is appropriate for the reasons discussed above, makes it possible to express the degree of emission limitation reflecting the BSER as CO_2 emission performance rates that are uniform for all affected EGUs in a technology subcategory within each region.")

to the Eastern Interconnection.[16] Therefore, states and entities presented with the headroom argument in favor of the achievability and ease of CO_2 emissions trading schemes should be highly skeptical, if not outright dismissive, of this position as support for viable trading regimes. Nevertheless, the ineluctable logic of the CPP Final Rule still leads states toward trading.

III. Rate-Based Emission Trading

Rate-based trading has received significantly less attention and focus than mass-based trading as affected states, entities, and stakeholders digest and analyze the CPP Final Rule. Advanced Energy Economy (AEE) has performed some of the most detailed design work on a rate-based CO_2 emission trading platform to date.[17] While AEE addresses the rate-based plan as a federal plan under the Clean Air Act, the design principles and issues are equally applicable to any state plan prepared pursuant to the CPP Final Rule.

There are essentially three ways that credits are generated (or credit deficits created) under the AEE construct: (1) credits/deficits for affected EGUs, (2) credits for zero- and low-emitting generation, and (3) credits for energy efficiency and other demand-side resources. The credit formula for the latter two categories is premised upon the calculation of the avoided emission rate, and EPA provided some methodologies for making this calculation in the proposed rule and State Plan Considerations Technical Support Document. The tables below illustrate how the credits and deficits would work for each of these three categories. AEE premises this approach on the establishment of increasingly stringent emission rate milestones for affected EGUs.

For affected coal-fired sources and NGCC units, credits and deficits would be calculated as follows[18]:

State A in Year X	NGCC Facility	Coal Facility
State Target: 1300 lbs/MWh	Prescribed Rate: 1300 lbs/MWh Unit Emission Rate: 900 lbs/MWh Credits for Each MWh: Prescribed Rate - Unit Emission Rate = (1300 - 900) lbs = 400 credits generated per MWh of Output	Prescribed Rate: 1300 lbs/MWh Unit Emissions Rate: 2100 lbs/MWh Credits for Each MWh: Prescribed Rate - Unit Emission Rate = (1300 - 2100) lbs = 800 credit deficit per MWh of Output

Zero- and low-emitting sources generate credits, or "emission reduction credits" as they are called in the CPP Final Rule, in the following manner[19]:

Low-Emission Resource	Zero-Emission Resource
[Estimated Avoided Emission Rate]: 1500 lbs/MWh Unit Emission Rate: 200 lbs/MWh Credits for Each MWh: [Estimated Avoided Emission Rate - Unit Emission Rate = (1500 - 200) = 1300 credits generated per MWh of Output	[Estimated Avoided Emission Rate]: 1500 lbs/MWh Unit Emission Rate: 0 lbs/MWh Credits for Each MWh: [Estimated Avoided Emission Rate] - Unit Emission Rate = (1500 - 0) = 1500 credits generated per MWh of Output

Finally, energy efficiency and demand-side resources are treated as follows[20]:

Estimated Avoided Emission Rate: 1500 lbs/MWh
Credits for Each MWh of Savings: 1500 lbs credit generated per MWh of Energy Savings

Under AEE's design, all states are not created equal. States with higher emission rates (*e.g.*, Wyoming, North Dakota, Kentucky, etc.) have more valuable zero- and low-emitting resources and energy efficiency and demand-side resources than states with lower emission rates. AEE recommends that the formula apply based upon the state where the resource is located or demand-side reduction occurs as opposed to the state where the credit is ultimately retired for compliance purposes.[21] However, this likely oversimplifies the purported CO_2 emission displacement from renewables and, absent a significant energy storage breakthrough, overestimates the value to the electric grid of these intermittent resources.

Like the CPP Final Rule itself, the AEE approach creates winners and losers among states. The incongruities as between states and the complications that flow from measuring avoided CO_2 emissions may

[16] *CPP Final Rule*, at 357.
[17] Advanced Energy Economy, *Design Principles for a Rate-Based Federal Plan under EPA's Clean Power Plan* (May 2015), *available at* http://info.aee.net/hubfs/PDF/AEE-CPP-Federal-Plan-Design.pdf?t=1443636029720 (hereinafter "AEE White Paper").
[18] *AEE White Paper*, at 7.
[19] *AEE White Paper*, at 10.
[20] *AEE White Paper*, at 13.
[21] *AEE White Paper*, at 8 ("The most straightforward and predictable estimate of avoided emissions would be based on the prescribed rate for EGUs in the state in which the resource was located for the relevant compliance period .... This approach would be identical to the methodology for calculating emission credits (and obligations) for affected EGUs, as described above.")

be fatal to rate-based trading systems.[22] Indeed, EPA explicitly notes the limitations and difficulties associated with rate-based trading in the CPP Final Rule. The CPP Final Rule provides in part that "[t]he EPA received significant comment to the effect that mass-based allowance trading was not only highly familiar to states and EGUs, but that it could be more readily applied than rate-based trading for achieving emission reductions in ways that optimize affordability and electric system reliability."[23] EPA also points to concerns raised about the difficulties with rate-based trading as support for the promulgation of mass-based CO_2 performance goals for each state in the CPP Final Rule: "The inclusion of mass-based goals, along with information provided in the proposed federal plan and model rules that are being issued concurrently with this rule, paves the way for states to implement mass-based trading, as some states have requested, reflecting their view that mass-based trading provides significant advantages over rate-based trading."[24] Given the concerns raised by states and other stakeholders in comments about the feasibility and complications with rate-based trading, as well as EPA's implicit promotion of mass-based trading at the expense of rate-based trading in the CPP Final Rule, it appears unlikely states will pursue rate-based trading on a single- or multi-state level. The remainder of this white paper therefore focuses on mass-based trading and relevant issues with this trading approach.

IV. Mass-Based Emission Trading

Contrary to the concerns expressed about rate-based trading, EPA asserts in the CPP Final Rule that revisions from the proposed rule make implementation of mass-based trading regimes straightforward and the preferable method of CPP compliance:

> One of the key messages conveyed by state and utility commenters was that the final rule should make it easier for states to adopt mass-based programs and for utilities accustomed to operating across broad multistate grids to be able to avail themselves of more "ready-made" emissions trading regimes. The inclusion of both of these new features – mass-based state goals in addition to rate-based goals, and source-level emission performance rates for the two subcategories of sources – is intended to make it easier for states and utilities to achieve these outcomes. In fact, these additions [in the CPP Final Rule], together with the model rules and federal plan being proposed concurrently with this rule, should demonstrate the relative ease with which states can adopt mass-based trading programs, including interstate mass-based programs that lend themselves to the kind of interstate compliance strategies so well suited for integration with the current interstate operations of the overall utility grid.[25]

A primary goal of EPA in making revisions from the proposed rule to the CPP Final Rule appears to be facilitating the widespread adoption of mass-based CO_2 emission trading programs:

> Through a combination of features retained from the proposal and changes made to the proposal, these final guidelines provide states and utilities with a panoply of tools that greatly facilitate their putting in place and participating in emissions trading programs. These include: 1) expressing BSER in uniform emission performance rates that states may rely on in setting emission standards for affected EGUs such that EGUs operating under such standards readily qualify to trade with affected EGUs in states that adopt the same approach, 2) promulgating state mass goals so that states can move quickly to establish mass-based programs such that their affected EGUs readily qualify to trade with affected EGUs in states that adopt the same approach, and 3) providing EPA resources and capacity to create a tracking system to support state emissions trading programs.[26]

[22] A simple illustration should make this clear: under rate-based trading between states, each state will have a different "currency" value based on its unique rate under the CPP Final Rule. Because state currencies are not commensurate, there is no ready way to trade credits on an interstate basis. Instead, there would need to be an intermediate brokering step to convert each state's unique currency into a tradable commodity representing the same amount of CO_2 emission reductions or avoided carbon CO_2 emissions.

[23] *CPP Final Rule*, at 12-13.

[24] *CPP Final Rule*, at 29.

[25] *CPP Final Rule*, at 55-56.

[26] *CPP Final Rule*, at 72.

EPA asserts that history teaches that trading is the most appropriate compliance mechanism, as "Congress and the EPA have selected emissions trading approaches when addressing regional pollution from the utility power sector contributing to problems such as acid precipitation and interstate transport of ozone and particulate matter. Similarly, states have selected market-based approaches for their own programs to address regional and global pollutants."[27] With the changes in the CPP Final Rule and this regulatory history, EPA concludes "that it is reasonable to anticipate that a virtually nationwide emissions trading market for compliance will emerge …."[28]

V. The Political Economy of Emission Trading

The repeated discussions of the ease, simplicity and universal support for mass-based emissions trading and "trading-ready" state plans[29] elides the significant political economy issues that will develop in a trading regime. Indeed, EPA cites the history of trading regimes in support of the use of mass-based emissions trading as a CPP compliance tool, but overlooks or sidesteps other trends that have developed in regulatory trading and auction processes.

a. Historical analyses of trends in emissions trading and import to the CPP Final Rule

Studies of emission trading markets establish that state public utilities commission (PUC) regulations strongly influence the trading markets. An October 2009 study by Resources for the Future (RFF)[30] regarding trading markets for sulfur dioxide (SO_2) and nitrous oxide (NO_x) surveyed several studies that analyzed how PUC regulation and oversight influenced the use of trading markets and attendant cost savings from these markets. RFF summarizes the findings of its review as follows:

> Several early studies point to the role played by state public utility regulations and other state laws as influences that have tended to erode some of the cost savings that might have been achieved when viewed from a national perspective (Bohi 1994; Winebrake et al. 1995; Bohi and Burtraw 1997; Fullerton et al. 1997; Ellerman et al. 2000; Hart 2000; Swift 2001). Rose (1997) suggests that public utility commission (PUC) activities discouraged the use of the market in favor of strategies such as fuel switching. Arimura (2002) uses econometric techniques to examine the extent to which PUC regulations have affected the performance of the SO_2 market and finds that generating units facing PUC regulations are more likely to rely on fuel switching for compliance rather than the allowance market. He also finds that in states with high-sulfur coal, where efforts were made to protect local coal producers, allowance purchases were used more than fuel switching for compliance. Using utility data for 1996, Sotkiewicz (2002) obtains a similar result by exercising a simulation production-cost model to evaluate facility performance. He also finds that PUC regulations governing cost recovery for investment in scrubbers led to cost increases ranging from 4.5 to 139 percent above least-cost compliance.[31]

There are several important takeaways from RFF's review. First, state-specific laws and regulations affect the functions of the emission trading markets and the realized cost savings. This consideration is particularly important with regard to the CPP Final Rule. Previous EPA-driven emission trading schemes involved predetermined blocks of states. For example, the NO_x Budget Trading Program implemented in 2003 initially

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[27] *CPP Final Rule*, at 326.

[28] *CPP Final Rule*, at 359.

[29] *CPP Final Rule*, at 367 ("[E]missions trading is thus an integral part of our BSER analysis. Again, we concluded that this is reasonable given the global nature of the pollutant, the transactional and interconnected nature of this industry, and the long history and numerous examples demonstrating that, in this sector, trading is integral to how regulators have established, and sources have complied with, environmental and similar obligations (such as RE standards) when it was appropriate to do so given the program objective. The reasonableness is further demonstrated by the numerous comments (some of which are noted above) from industry, states, and other stakeholders in this rulemaking that supported allowing states to adopt trading programs to comply with section 111(d) and encouraged EPA to facilitate trading across state lines through the use of trading-ready state plans.")

[30] Dallas Burtraw and Sarah Jo Szambelan, Resources for the Future, *U.S. Emissions Trading Markets for SO2 and NOX* (Oct. 2009), *available at* http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-09-40.pdf (hereinafter "RFF Study").

[31] *RFF Study*, at 15.

involved 19 states and was subsequently expanded to 20 states.[32] The Cross-State Air Pollution Rule targeted 23 states for annual SO_2 and NO_x emissions to attain the 24-hour or annual fine particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).[33] CSAPR further required 25 states to reduce NOx emissions during ozone season to assist with the attainment of the 1997 8-Hour Ozone NAAQS in downwind states.[34] Despite EPA's confidence that "a virtually nationwide emissions trading market for compliance will emerge," it is more likely given the state-centric nature of the regulatory scheme under Section 111(d) and EPA's promotion of "trading-ready" state plans that a diverse assortment of trading platforms and architectures will emerge. As discussed further below, the structures will be heavily influenced by political economy issues in each state. These incongruences may create trading markets that are less simple, and less efficient, than prior EPA trading schemes under rules that predetermined the state participants and used common currency and uniform architecture.

Second, RFF's survey illustrates that the level of regulation of affected EGU owners and operators will influence their activities, as the applicable regulatory structure drives the incentives for market participants. Indeed, the conclusion that "generating units facing PUC regulations are more likely to rely on fuel switching for compliance rather than the allowance market" supports the notion that rate-regulated utilities may simply shutter coal-fired EGUs with emission rates well above 1305 lbs CO_2/MWh and build new NGCC capacity, as well as solar and wind, rather than participate robustly in an emissions trading market. These utilities can recover costs and the PUC-sanctioned return on equity for these investments, and this provides an established and familiar path forward.[35] EPA recognizes as much in the CPP Final Rule:

> [T]he study of utility IRPs placed in the docket for this rulemaking shows that sources are able to replace coal-fired generation with natural-gas fired generation and add incremental amounts of RE [renewable energy] (as well as take other actions, such as implement demand-side EE [energy efficiency] programs), on a gradual basis, after a several-year lead time, over an extended period, as provided for under the final rule.[36]

Accordingly, market participation from these rate-regulated utilities may not be as extensive as anticipated based on historical analyses. Equally relevant is many utilities (*i.e.*, rural cooperatives and municipal utilities) do not have this option to earn a return on these investments, and/or have fewer customers across which to socialize the costs. This latter issue is discussed in more detail below, as states will face pressure to structure markets to favor these utilities or mitigate the substantial capital costs tied to overhauling the CO_2 intensity of the generation fleet. One avenue to accomplish this outcome is by inducing rate-regulated utilities to engage in more extensive fuel-switching than their cooperative and municipal counterparts.

Finally, RFF's review of relevant analyses highlights that well-established cost recovery mechanisms, as well as any new cost recovery mechanisms enacted as part of legislation or proceedings directed at marrying existing IRP processes and CPP Final Rule compliance, will cause incremental costs above least-cost compliance. This may render emissions trading schemes more expensive than forecasted;[37] furthermore, it could create conflict

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[32] *RFF Study*, at 18; *see generally* NO_x Budget Trading Program Home Page, *available at* http://www.epa.gov/airmarkets/programs/nox/.

[33] Cross-State Air Pollution Rule Home Page, *available at* http://www3.epa.gov/airtransport/CSAPR/basic.html.

[34] Cross-State Air Pollution Rule Home Page, *available at* http://www3.epa.gov/airtransport/CSAPR/basic.html.

[35] *CPP Final Rule*, at 20 ("Those states committed to Integrated Resource Planning (IRP) will be able to establish their CO_2 reduction plans within that framework ....")

[36] *CPP Final Rule*, at 420-421; *see CPP Final Rule*, at 743-744 ("A recent study of IRPs, included in the docket for this rulemaking, shows this trend.710 For instance, Dominion plans for over 800 megawatts of wind and solar in their 2015 to 2029 planning period. Duke Energy Carolinas' IRP has no plans for new coal, but describes plans for roughly 1,250 megawatts of additional RE by 2021, and approximately 2,150 megawatts by 2029. A significant portion (1,670 megawatts) of the planned RE is solar.")

[37] *CPP Final Rule*, at 370 ("Essentially, trading does nothing more than commoditize compliance, with the following two important results emerging from that: it reduces the overall costs of controls and spreads those costs among the entire category of regulated entities while providing a greater range of options for sources that may not want to make on-site investments for controlling their emissions and may prefer to make the same investment, via the purchase of the tradable compliance instrument, at another generating source.")

between emissions trading regimes and state law or regulations mandating least-cost resource planning.[38]

b. Political economy incentives in CO_2 emission trading

Buried in the CPP Final Rule is a discussion of state discretion in formulating mass-based emission platforms, which spawns a significantly broader issue:

> (1) Allowance allocation. A key example is state discretion in the CO_2 allowance allocation methods included in the program. This includes the methods used to distribute CO_2 allowances and the parties to which allowances are distributed. For example, if a state chose, it could include CO_2 allowance allocation provisions that provide incentives for certain types of complementary activities, such as RE generation, that help achieve the overall CO_2 emission limit for affected EGUs established under the program. In addition, a state could use its allocation provisions to encourage investments in RE and demand-side EE in low-income communities. States could also use CO_2 allowance allocation provisions to provide incentives for early action, such as RE generation or demand-side EE savings that occur prior to the beginning of the interim plan performance period in 2022. For example, a state could include CO_2 allowance allocation provisions where CO_2 allowances are distributed to RE generators based on MWh of RE generation that occurs prior to 2022. Such provisions might be addressed through a finite set-aside of CO_2 allowances that are available for allocation under these provisions. This set-aside could be additional to a set-aside created by the state for the CEIP [Clean Energy Incentive Program] discussed in section VIII.B.2.

This discretion on a state-by-state basis highlights the foremost issue with any mass-based trading scheme: the creation and allocation of trading "currency" and the related political economy issues inherent in its process. The creation of interchangeable currency requires state uniformity among "trading-ready" plans, with the congruency of currency (and general trading architecture) between participating states of the Regional Greenhouse Gas Initiative (RGGI) as an example. Further, the currency cannot be so inflated that the trading does not induce real carbon reductions.

RGGI provides the negative example here, as the RGGI cap of allowed emissions from regulated power plants was 165 million tons in 2013, but actual 2012 emissions were only 91 million tons. Emissions were lower than previously anticipated due to low natural gas prices, energy conservation measures, and the economic downturn. Consequently, with a cap set at that level, no real CO_2 emission reductions were achieved through the trading scheme over this period. In February 2013, the RGGI cap was lowered to 91 million tons for 2014 with 2.5% annual reductions until 2020. In sum, loose currency policy cannot be used to avoid real CO_2 emission reductions and the political consequences that follow.

The allocation of the currency also becomes challenging to a state determined to plot its own destiny through an emissions trading scheme in a state plan. Coal-centric utilities, particularly those without scale or a broad customer base, will be faced with large trading credit costs. Indeed, those costs must be large enough for the given utility as a whole or specific EGU to prefer alternate generation source(s) to its current CO_2 intensive generation mix. However, in turn, this creates a political demand to mitigate the rate impacts from this shift. Hence, regulators and politicians will be faced with claims that allowances or emission reduction credits be given freely, or at a much reduced cost, to plaintive and/or politically attractive constituencies. Examples of these constituencies include (1) rural cooperatives or municipal utilities without the significant customer base needed to socialize significant CPP costs and (2) low-income customers. One can imagine a "universal service" policy for carbon credits emerging under state law, where favored constituencies seek free or reduced-cost trading credits, and in turn disfavored constituencies will bear the increased cost for credits underpriced to others.[39]

[38] *See, e.g.*, 807 Ky. Admin. Regs. § 5:058(8)(1) ("The plan shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements *at the lowest possible cost*. The plan shall consider the potential impacts of selected, key uncertainties and shall include assessment of potentially cost-effective resource options available to the utility.") (emphasis added)

[39] Of course, each state will have unique circumstances and ability to allocate credits through a non-market-based pricing

Government-run spectrum markets provide an illustrative example. When Ronald Coase suggested the Federal Communications Commission (FCC) auction off spectrum as opposed to allocating spectrum on a command-and-control basis, he touched off a revolution in economic thinking about how to allocate resources.[40] Indeed, Coase is credited with inspiring emission trading markets as well.[41] However, these trading markets – particularly when the costs or benefits are large enough – inspire a market for rentseekers acting within those markets. In other words, certain constituencies will bargain with the state or federal government for "free" or reduced cost emission trading allocations to mitigate the burden on industries or customers or other relevant constituencies.

The development of spectrum auctions shows how politics drive the function and outcomes within these markets. In fact, commentators point to the use of set asides, bidding credits and spectrum caps as tools used to subsidize entry or otherwise assist certain constituencies in spectrum auctions.[42] Canada provides an example, where a 2008 auction set aside 44 percent of available spectrum for new market entrants.[43] In more recent Canadian auctions for AWS-3 spectrum, rules were put in place "that effectively prevented successful companies (those with market shares in excess of 20 [percent]) from bidding on many of the available blocks. As a result, three carriers — Eastlink, Videotron and Wind — were able to purchase spectrum for tens of millions of dollars while incumbents Bell Canada and TELUS — paying effective prices about 30 times higher — had to spend more than $2 billion."[44]

It can be expected that similar behavior will occur with CO_2 emission trading markets. Indeed, EPA's discussion of state discretion in allowance allocation almost assures it. A discussion from a June 2011 paper from the Centre for Climate Change Economics and Policy housed by the London School of Economics and Political Science and University of Leeds in the United Kingdom offers telling commentary to this end:

> As with markets generally, environmental markets should not necessarily be expected to promote distributive justice or reduce inequality. Other things being equal, one might therefore expect the move to emissions trading to generate more unequal outcomes. However, the distributional consequences of an individual ETS [emissions trading scheme] are a function of the specific rules for allocating permits. Indeed, there is no reason in principle for an ETS to lead to more unequal distribution of wealth. It will depend on how the scheme is designed. The key point is this: whatever account of distributive justice one favours, the ETS can be designed to deliver a just outcome, either by specifying the allocation of permits in line with this favoured principle or by auctioning the permits and then distributing the revenues in line with this favoured principle.

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mechanism. A largely rural state with a stringent target and no large scale utility to absorb increased credit prices – say, a North Dakota, Wyoming or Montana – lacks the ability to insulate its most affected utilities from the full economic cost of credits – the utilities will have to buy credits, fuel switch, or both. By contrast, one would expect states with smaller, poorer utilities without scale or with poorer customers will be entreated by those affected utilities to mitigate the effects with credit set-asides. In restructured markets, where the EGU stands outside of a vertically-integrated utility, the political economy may play out at the customer-level for creating programs to mitigate the carbon trading costs away from a given customer class, for instance.

[40] *See* R.H. Coase, *The Federal Communications Commission*, 2 Journal of Law and Economics 1 (Oct. 1959)

[41] Tom Tietenberg, *The Evolution of Emissions Trading*, at 2 (2008), *available at* https://www.aeaweb.org/annual_mtg_papers/2008/2008_90.pdf ("In 1960 Ronald Coase published a remarkable article in which he sowed the seeds for rather different mind set. Arguing that Pigou's analysis had an excessively narrow focus, Coase argued that by making property rights explicit and transferable, the market could play a substantial role not only in valuing these rights, but also in assuring that they gravitated to their best use. To his fellow economists Coase pointed out that a property rights approach allowed the market to value the property rights (as opposed to the government in the Pigouvian approach.) To policy-makers Coase pointed out that the then existing legal regimes provided no incentives for the rights to flow to their highest valued use. It remained for this key insight to become imbedded in a practical program for controlling pollution.")

[42] *See, e.g.*, Jeffrey A. Eisenach, American Enterprise Institute, *Spectrum Favoritism is Bad Economics*, Forbes (Apr. 28, 2015), *available at* http://www.forbes.com/sites/realspin/2015/04/28/spectrum-favoritism-is-bad-economics/.

[43] *Id.*

[44] *Id.*

In practice, two considerations will determine whether an ETS exacerbates or reduces inequality: first, the impact of increasing the cost of emitting pollution on different segments of the population and second, the transfers of wealth involved in the sale or free allocation of emissions allowances.

Controlling pollution directly or indirectly leads to an increase in the cost of pollution so that individuals and firms produce less of it. The evidence available strongly suggests that controlling carbon dioxide emissions is regressive, which is to say that the impacts are worse for low-income households (as a proportion of their income) than high-income households. This effect can be neutralised or reversed if the policy (whether emissions trading or taxes or otherwise) raises government revenue which is recycled to compensate poorer households. In Australia, for instance, the Garnaut Review notes that roughly 10 per cent of income is spent on transport fuel, gas and electricity by low-income households, while high-income households spend only 5 [percent] on these goods. Pricing pollution thus hits poorer people relatively harder. Further, poorer households often rent, rather than own, their accommodation, which further constrains their ability to respond by adopting low-emissions substitutes, such as insulation, efficient space heating, hot water systems and cooking appliances. Similar effects are found in other countries.

For emissions trading to avoid regressive impacts, allowances must be sold to firms with a portion of the revenues directed to provide compensation to poorer households. This compensation could be a function of the costs required to adjust to a low-carbon economy, or could simply be given to low-income households through the tax system.[45]

The CPP Final Rule and any emissions trading scheme adopted as a compliance pathway will force state regulators and elected officials to confront numerous "favoured principles" and pressure to distribute revenues, allowances, ERCs or other trading currency "in line with [the applicable] favoured principle." States will face pleas to mitigate the effect on specific utilities (*e.g.*, rural cooperatives, municipal utilities, small utilities, and utilities with politically advantageous customer bases) or EGUs, including by incenting the larger utilities to bear more significant CO_2 emission reductions and associated costs through fuel-switching and other activities. In particular, states with coal-centric utilities will be confronted with programs to allocate trading currency not according to market principles, but political principles. In turn, responding to these incentives will create cross-subsidy flows between utilities. It will look something like the universal service system in telecommunications, where urban customers subsidize telephony and increasingly broadband for rural customers.[46] In the electricity context in many (if not all) states, this amounts to customers of large investor-owned utilities or significant municipal utilities covering the CPP compliance costs of rural cooperatives and small municipal utilities, as well as rural generation and transmission providers.[47]

[45] Simon Caney and Cameron Hepburn, *Carbon Trading: Unethical, Unjust and Ineffective?*, at 25-26 (June 2011), *available at* http://www.ceccp.ac.uk/Publications/Working-papers/Papers/50-59/WP59_carbon-trading-caney-hepburn.pdf.

[46] *See, e.g.*, Federal Communications Commission Universal Service Home page, *available at* https://www.fcc.gov/encyclopedia/universal-service ("Universal service is the principle that all Americans should have access to communications services. Universal service is also the name of a fund and the category of FCC programs and policies to implement this principle. Universal service is a cornerstone of the law that established the FCC, the Communications Act of 1934. Since that time, universal service policies have helped make telephone service ubiquitous, even in remote rural areas. Today, the FCC recognizes high-speed Internet as the 21st Century's essential communications technology, and is working to make broadband as ubiquitous as voice, while continuing to support voice service.")

[47] The other alternative is that negatively affected utilities or EGU owners and operators lacking scale sell to larger players to achieve more scale and socialize compliance costs across a larger customer base. This will be resisted because of traditional attachments, particularly to the municipal or cooperative model. By the same token, PUCs or PSCs might look askance at an IOU roll-up of carbon-unattractive utilities because it would require IOU customers to pay for compliance costs properly belonging on the acquired utility's customers.

c. Complications with existing bilateral arrangements

An additional and complex distortion flows from the overlay of a CO_2 emission trading regime on existing contractual arrangements. Specifically, a trading scheme that requires EGU owners and operators to possess allowances creates issues with preexisting bilateral power purchase agreements (PPAs) or tolling agreements, which may have varied payment terms regarding who and when payments are made as between the parties.

An example is useful to illustrate the complications. In a state with a trading regime in place, an independent combustion turbine (CT) power plant has a tolling agreement with a utility executed prior to the existence of the trading platform. Given the timing of execution, the tolling agreement does not contemplate CO_2 costs and any costs not specified in the agreement are borne by the power plant owner and operator. However, the tolling agreement does provide for a capacity payment and two additional payments depending on operations of the power plant: (1) a megawatt-hour payment (*i.e.*, a fuel pass-through) and (2) a start-up payment for each time the plant cycles on from zero. Meanwhile, the purchaser utility is given exclusive control of this plant pursuant to the tolling agreement and decides when to bid into the independent system operator (ISO) and the amount of the bid. The utility's bidding behavior presumably represents the amount of variable costs that it is responsible for under the arrangement. However, with the trading regime in place, an additional variable cost in the form of the CO_2 price or CO_2 emission allowance cost is in play that was not contemplated at the time the tolling agreement was executed between the parties. The tolling agreement does not anticipate or otherwise provide for this new variable cost, and therefore the utility does not have to pay it. Rather, the EGU owner or operator (*e.g.*, an independent power producer) is responsible for the cost. Now insert an additional plant into the equation such as a utility-owned plant or a plant that is a more efficient combined cycle combustion turbine (CCCT) power plant. The CCCT has a better heat rate and also a more prescient contractual arrangement that includes the CO_2 price or CO_2 emission allowance cost as a cost for which the *bidder is responsible*. Therefore, the bidder incorporates this variable cost into its bid price.

The circumstances described above create a situation where, though the CO_2 price or CO_2 emission allowance cost is paid in the end, economically efficient behavior is reduced. Because of the bidding-actor problem, preference is given to the less-efficient, more CO_2-intensive CT peaker facility rather than the more efficient CCCT power plant with a better heat rate. Dismissing this scenario as a contracting issue (*i.e.*, one agreement contemplated the future regulation of CO_2 and one did not) is a natural impulse but ignores the broader issue. This type of scenario creates a dispatch curve that is not consistent with the most efficient scenario where plants are dispatched based on the actual variable costs of running one power plant as compared to another power plant. We arrive at this result because the notion of environmental dispatch stimulated by the CO_2 price or CO_2 emission allowance cost is draped upon a preexisting and complex regime of bilateral contracts and agreements between EGU owners and operators and utilities that ultimately bid into ISOs.

The situation described above serves as a reminder and a worthwhile consideration as trading schemes are implemented on a state or multi-state basis knitted over the top of contractual agreements already in place in states and organized markets.

VI. The Attraction of State Legislation

Notwithstanding the political economy and implementation difficulties described above, states that persevere with a mass-based trading regime would be wise to consider state legislation enacting any such trading regime. To be sure, this will run contrary to the advocacy of many groups that states should administratively adopt EPA's model trading rule whole cloth to expedite the approval process. However, this approach overlooks key benefits of emissions trading enacted through state legislation. Specifically, it avoids federal enforceability of requirements within the emissions trading architecture and allows states and trading market participants to develop and implement nascent CO_2 emission trading schemes outside the purview of the citizen suit[48] and penalty[49] provisions of the Clean Air Act.

Notwithstanding these benefits, and before moving forward with this analysis, it is important to note that state legislation may be required to enact any emissions

[48] 42 U.S.C § 7604.
[49] 42 U.S.C. § 7413.

trading regime, even where EPA's model rate-based or mass-based trading rule is adopted in its entirety. This is a state-by-state question based upon state-specific constitutional provisions and administrative law constructs. It turns on the extent of the statutory delegation to air regulators (or the state agency charged with implementation) and whether that delegation satisfies EPA's requirement that CO_2 emission reductions measures be "enforceable."[50] In some, if not many, instances will be resolved by the state courts through litigation over what state law does, or does not, allow.

a. CPP plan types and CO_2 emission trading

The CPP Final Rule contemplates two types of state plan approaches: (1) an "emissions standard" approach and (2) a "state measures" approach.[51] Under the emissions standard approach, states "establish emission standards for its affected EGUs sufficient to meet the requisite performance rates or state goal, thus placing all of the requirements directly on its affected EGUs …."[52] These emissions standards are federally enforceable.[53] The state measures approach, on the other hand, grows out of the portfolio approach[54] and state commitment approach[55] set forth in the proposed rule. This approach allows states to rely on *state-enforceable* measures to meet a statewide mass-based CO_2 emission goal (a state may only use a mass-based CO_2 emission goal if it chooses to proceed under the state measures approach).[56] The state measures relied upon in the state plan are not federally enforceable,[57] but must be "measures that the state adopts and implements as a matter of state law."[58] States have the option of coupling state measures with federally enforceable emission standards for affected EGUs or proceeding with a state plan that relies only on state measures.[59] The state measures must result in achievement of the mass-based CO_2 emission goal for the state or the mass-based CO_2 emission goal with new source complement to be approved by EPA.[60] In addition, the state plan must include "a demonstration of adequate legal authority and funding to implement the state plan and any associated measures."[61] Finally, any state measures plan must have a federal backstop, which would be "composed of federally enforceable emission standards for the affected EGUs that are sufficient to achieve the state CO_2 emission goal or the

[50] *CPP Final Rule*, at 37.
[51] *CPP Final Rule*, at 32-33.
[52] *CPP Final Rule*, at 32.
[53] *CPP Final Rule*, at 897.
[54] *See* EPA Office of Air and Radiation, *State Plan Considerations – Technical Support Document for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, Docket ID No. EPA-HQ-OAR-2013-0602 (June 2014), available at http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-state-plan-considerations.pdf.
[55] 79 Fed. Reg. 34,902 (June 18, 2014) ("[U]nder the state commitment approach, the state requirements for entities other than affected EGUs would not be components of the state plan and therefore would not be federally enforceable. Instead, the state plan would include an enforceable commitment by the state itself to implement state-enforceable (but not federally enforceable) measures that would achieve a specified portion of the required emission performance level on behalf of affected EGUs.")
[56] *CPP Final Rule*, at 33 ("A state that adopts a state measures approach must use its mass CO_2 emission goal as the metric for demonstrating plan performance.")
[57] *CPP Final Rule*, at 899 ("This plan type would allow the state to implement a suite of state measures that are adopted, implemented, and enforceable only under state law, and rely upon such measures in achieving the required level of CO_2 emission performance from affected EGUs.")
[58] *CPP Final Rule*, at n. 795 ("'State measures' refer to measures that the state adopts and implements as a matter of state law. Such measures are enforceable only per applicable state law, and are not included in the federally enforceable state plan.")
[59] *CPP Final Rule*, at 901 ("For a state measures plan to be approvable, it must include a demonstration of how the measures, *whether state measures alone or state measures in conjunction with any federally enforceable emission standards for affected EGUs*, will achieve the state mass-based CO_2 emission goal for affected EGUs (or mass-based CO_2 goal plus new source complement)." (emphasis added)
[60] *CPP Final Rule*, at 901; *see CPP Final Rule*, at 1178 (Table 14 setting forth mass-based goals plus the new source complement for each state). The CPP Final Rule discusses the "new source complement" in part as follows: "[t]he EPA is providing a mass budget for each state that account for the state's mass CO_2 goal for affected EGUs and a complementary emission budget for new sources, referred to as the new source CO_2 emission complement. States that both adopt the EPA-provided mass budget, based on the state mass-based CO_2 goal for affected EGUs plus the new source CO_2 emission complement, and regulate new sources under this emission budget as a matter of state law, in conjunction with federally enforceable emission standards for affected EGUs as part of the mass-based state plan may be able to submit a presumptively approvable plan." *CPP Final Rule*, at 1177.
[61] *CPP Final Rule*, at 901.

CO_2 emission performance rates in the event that state measures do not result in the required CO_2 emission performance ...."[62] States may choose to have the model trading rule promulgated by EPA as the federal backstop.[63]

State measures may take many forms, from existing IRP or similar resource planning processes to renewable portfolio standards to energy efficiency standards to even a carbon tax implemented through state legislation.[64] Importantly for purposes of this analysis, however, EPA states as follows in the CPP Final Rule:

> The EPA believes the state measures plan type will provide states with additional latitude in accommodating existing or planned programs that involve measures implemented by the state, or by entities other than affected EGUs, that result in avoided generation and CO_2 emission reductions at affected EGUs. This includes market-based emission budget trading programs that apply, in part, to affected EGUs, such as the programs implemented by California and the RGGI participating states in the Northeast and Mid-Atlantic ....[65]

Accordingly, a mass-based CO_2 emission trading program is an eligible state measure *so long as* it is adopted and implemented according to state law. Under this scenario, which is the case in California pursuant to Assembly Bill 32 (AB 32)[66] and in all of the RGGI states save New York,[67] states may pass legislation implementing emissions trading regimes and sidestep the federal enforcement overlay.[68] This has distinct advantages over emissions trading schemes that are adopted through administrative processes at state agencies.

b. Setting aside the Clean Air Act citizen suit provision

Any trading program developed through an administrative process cannot satisfy the state measures standard because the program components are not "measures that the state adopts and implements as a matter of state law."[69] This leaves the trading scheme federally enforceable as part of the approved state plan. A trading program implemented through state law,

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[62] *CPP Final Rule*, at 902-903.
[63] *CPP Final Rule*, at 904.
[64] *CPP Final Rule*, at 898-899 (stating in part "that the state measures plan type could accommodate imposition by a state of a fee for CO_2 emissions from affected EGUs, an approach suggested by a number of commenters.")
[65] *CPP Final Rule*, at 898.
[66] Cal. Assembly Bill No. 32, *California Global Warming Solutions Act of 2006* (Sept. 27, 2006), *available at* http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.
[67] *See* Connecticut (R.C.S.A 22a-174-31; Conn. Gen. Stat. Section 22a-200c); Delaware (7 DE Admin Code 1147; Title 7 Chapter 60 of the Delaware Code, Subchapter IIA, §6043); Maine (DEP Chapter 156-158; Maine Rev. Stat., Title 38, Chapter 3-B); Maryland (Department of Environment, Title 26, Subtitle 9; Environment Article, §§1-101, 1-404, 2-103, and 2-1002(g). Annotated Code of Maryland); Massachusetts (DEP Regulations 310 CMR 7.70; 225 CMR 13.00; M.G.L. c. 21A, §22); New Hampshire (NH Code of Admin. Rules, Chapter Env-A 4600; Chapter Env-A 4700; Chapter Env-A 4800; RSA 125-O:19-28p; RSA 125-O:8, I(c)-(g)); Rhode Island (Dept. of Environmental Management Office of Air Resources, Air Pollution Control Regulation No. 46 and 47; R.I. Gen. Laws §42-17.1-2(19), §23-23 and §23-82); Vermont (30 V.S.A. § 255; 30 V.S.A. § 209(d)(3); Agency of Natural Resources, Vermont CO2 Budget Trading Program 23-101 – 23-1007). New York did not pass legislation, which resulted in subsequent litigation. However, the court did not consider the merits of the claims because they were time-barred. *See Thrun v. Cuomo*, 112 A.D.3d 1038 (N.Y. App. Div. Dec. 5, 2013).
[68] *State Plan Considerations* at n.19. For this reason, the RGGI trading platform in New York does not meet the state measure requirements in the CPP Final Rule.
[67] 2007 RGGI By-Laws, at Art. I, *available at* http://www.rggi.org/old/docs/rggi_bylaws_12_12_07.pdf.
[68] It is also noteworthy that on October 8, 2015, New York Governor Andrew Cuomo announced it planned to work with other RGGI states to link the RGGI program with the AB 32 market in California. Press Release, *Governor Cuomo, Joined By Vice President Gore, Announces New Actions to Reduce Greenhouse Gas Emissions and Lead Nation on Climate Change* (Oct. 8, 2015) ("New York and the other northeast regional greenhouse gas cap and trade states have demonstrated that carbon markets are a powerful tool for reducing the pollution that is contributing to climate change. Therefore, in order to maximize impact of proven strategies, New York State will engage its partners in the Regional Greenhouse Gas Initiative (RGGI) and California, Quebec and Ontario to explore the possibility of linking the successful carbon markets.")
[69] *CPP Final Rule*, at n. 795 ("'State measures' refer to measures that the state adopts and implements as a matter of state law. Such measures are enforceable only per applicable state law, and are not included in the federally enforceable state plan.")

however, would be a state measure – no different than RGGI and AB 32 in California – and avoid federal enforcement.

Status as a state measure "adopted, implemented and enforceable only under state law"[70] would put the emissions trading scheme outside the scope of the citizen suit provision of the Clean Air Act. 42 U.S.C. § 7604(a)(1) allows "any person … on his own behalf" to enforce compliance with emission standards or limitations or orders issued by EPA or a state with regard to the emission standards or limitations under the Clean Air Act.[71] Emission standards or limitations are defined in detail under this provision and include "a schedule or timetable of compliance, emission limitation, standard of performance or emission standard …."[72] However, the statute further provides that any emission standard or limitation must be "in effect under this Act … or under a particular implementation plan."[73]

Section 111 of the Clean Air Act defines "standard of performance" as "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."[74] This term is incorporated into Section 111(d) requiring the establishment of standards of performance for existing sources:

> [E]ach State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance.[75]

Any standards of performance established pursuant to Section 111(d) is therefore as "emission standard or limitation" under the citizen suit provision of the Clean Air Act and subject to enforcement through this section of the statute. By establishing an emissions standard approach and a state measures approach, however, EPA has created two compliance pathways. The emissions standard approach comports with the express language of Section 111(d) and creates federally enforceable standards of performance applied to affected EGUs. The state measures approach, and in turn any emissions trading regime established pursuant to state law, operates outside of this statutory paradigm and is enforceable "only under state law."[76] Therefore, any state measure is not an "emission standard or limitation" under the citizen suit provision because it would not constitute "a schedule or timetable of compliance, emission limitation, standard of performance or emission standard … which is in effect under this Act … or under an applicable implementation plan."[77] Rather, it is a state measure referenced in a state plan submitted under the CPP but enforceable only by the state – not through any federal avenue including the citizen suit provision of the Clean Air Act.

This legal jargon leads to a simple conclusion. Emissions trading regimes established pursuant to state law operate as state measures and not as federally enforceable components of a state plan. Without this federal enforcement hook, the oft-utilized citizen suit provision of the Clean Air Act is inapplicable. This immunity provides significant benefits to states, EGU owners and operators, and any other participant with potential liability under a state plan. Without the constant threat of litigation that exists in other Clean Air Act contexts through the citizen suit provision, entities can work to develop and refine complicated CO_2 emissions trading markets if that is the desired path of a particular state. To do so, however, the emissions trading regime must be established under state law.

[70] *CPP Final Rule*, at 899.
[71] 42 U.S.C. § 7604(a)(1).
[72] 42 U.S.C. § 7604(f)(1).
[73] 42 U.S.C. § 7604(f).
[74] 42 U.S.C. § 7411(a).
[75] 42 U.S.C. § 7411(d).
[76] *CPP Final Rule*, at 899.
[77] 42 U.S.C. § 7604(f).

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c. Setting aside Clean Air Act penalties

An emissions trading program implemented through state law also may operate (assuming the federal backstop is not triggered) outside of the Clean Air Act penalty regime. This regime is set forth at 42 U.S.C. § 7413 and allows for the issuance of administrative penalties of up to $37,500 per day[78] and instituting criminal proceedings against "[a]ny person who knowingly" violates relevant provisions of an approved state or federal plan.[79]

Again, however, the state measures approach puts any state measure relied upon as part of a CPP compliance strategy outside the scope of these penalty provisions. Administrative penalties, for example, may be sought in several instances, including where "any person … has violated or is violating any requirement or prohibition of an applicable implementation plan …."[80] EPA can and does issue severe penalties under this provision, and the agency lists all civil settlements and fines on its website.[81] With state measures being enforceable under state law only, these measures are not a federally enforceable component of a state plan under the CPP and therefore not subject to administrative penalties or any other sanction under this section of the statute.

To be sure, the exemption of state measures from the Clean Air Act penalty regime does not give participants in an emissions trading scheme established by state law the ability not to meet targets under the scheme. However, it gives state legislatures and agencies the ability to design a less onerous compliance and penalty scheme. This may have significant benefits as states that chose to comply with the CPP through mass-based emission trading work through market design and compliance issues as trading schemes are implemented on a single- or multi-state basis.

d. Controlling the proceeds from any mass-based trading system auction

In the proposed model federal plan (Model Federal Plan)[82] issued contemporaneously with the CPP Final Rule, EPA discusses potential uses for auction proceeds from mass-based CO_2 emission trading programs. This is a key issue because the use of auction proceeds has been a significant public policy issue in the context of CO_2 emission trading. As discussed in a previous white paper by the authors,[83] Washington Governor Jay Inslee's Carbon Accountability Act of 2015[84] sought to direct the projected $1 billion in annual revenues from the trading program towards transportation, education and disadvantaged communities. In addition, the state of New York has and is diverting RGGI revenues to the general fund.[85] EPA tackles this issue in the Model Federal Plan:

Many ascribe benefits, in terms of economic

[78] 42 U.S.C. § 7413(d). In late 2013, EPA made the default penalty up to $37,500 per day of violation. 78 Fed. Reg. 66,643 (Nov. 6, 2013).
[79] 42 U.S.C. § 7413(c)(1).
[80] 42 U.S.C. § 7413(d)(1)(A).
[81] Civil Cases and Settlements by Statute, Clean Air Act Home Page, *available at* http://cfpub.epa.gov/enforcement/cases/index.cfm?templatePage=12&ID=1.

[82] Environmental Protection Agency, *Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations*, Docket EPA-HQ-OAR-2015-0199; FRL_XXXX-X (Aug. 3, 2015) (hereinafter "Model Federal Rule"). As of the release date of this white paper, EPA has not published the Model Federal Rule in the Federal Register.
[83] Raymond L. Gifford, Gregory E. Sopkin and Matthew S. Larson, *EPA's CO2 Rules and the Common Elements Approach: Legal and Practical Issues with the Compliance Avenue* (Apr. 2015), *available at* http://www.wbklaw.com/uploads/file/Articles-%20News/2015%20articles%20publications/White%20Paper%20-%20EPAs%20CO2%20Rules%20and%20the%20Common%20Elements%20Approach%20April%202015(1).pdf.
[84] Washington Senate Bill 5283, available at http://app.leg.wa.gov/billinfo/summary.aspx?bill=5283&year=2015; Washington House Bill 1314, *available at* http://app.leg.wa.gov/billinfo/summary.aspx?bill=1314&year=2015 (companion bills).
[85] Scott Waldman, *Sources: Lawmakers agree to sweep clean energy funds*, Capital New York (Mar. 26, 2015) ("State lawmakers have reached a tentative deal to move $41 million from a clean energy fund and put it in the state's general fund. Under a deal reached Wednesday, lawmakers will put $18 million of the revenue earned by the Regional Greenhouse Gas Initiative in to the Environmental Protection Fund, according to sources close to the talks. An additional $23 million will go toward other programs, sources said …. RGGI has raised $760 million since it started in 2008. Counting the additional amount this year, about $130 million has been diverted from the fund since then.")

> efficiency, to the use of auctioning as a means of allocating allowances. The EPA notes that some states (e.g., RGGI participating states) have used auctions to distribute allowances and have used auction revenues for a variety of purposes, including the implementation of demand-side EE measures intended to help reduce electricity rate impacts and overall program costs, as well as targeted investments in low-income income communities. The EPA believes that if it conducted allowance auctions, any revenue from such auctions received by the agency must be deposited in the U.S. Treasury under federal law. As a result, the EPA notes that states implementing state plans may have greater flexibility than the federal government would to direct auction funds for particular activities.[86]

This discussion raises two issues. First, EPA purports to have no choice but to funnel auction proceeds under a federally-imposed emission trading scheme to the U.S. Treasury. Assuming that proposition is accurate, and further assuming a state wishes to move forward with an emissions trading scheme to effectuate CPP compliance to avoid this result, it creates a question of state authority to direct proceeds from trading to specific ends. First, as discussed in the previous white paper, it is an open question whether any trading revenue distribution results in a new tax, which could trigger constraints imposed by state law such as a requirement for legislative or voter approval.[87] Second, it is highly questionable whether a state air regulator or other agency has existing authority (*i.e.*, absent new legislation) to develop regulations directing trading proceeds to address low-income energy issues, facilitate deployment of renewable energy, subsidize demand-side management efforts or supplement the state's general fund. Moreover, some states may want to use trading proceeds to pay down the costs of stranded assets under the CPP and mitigate rate impacts to customers. A state agency that administratively implements a trading scheme that directs proceeds in any of these manners runs the risk of engaging in *ultra vires* action and becoming embroiled in litigation. It is not happenstance that Governor Inslee in Washington, by way of example, sought legislative approval to direct trading proceeds to transportation, education and disadvantaged communities.

Finally, from a public policy standpoint, many states may deem it appropriate to have *elected* state legislators weigh in and direct the use of trading proceeds consistent with the wishes of constituents. These elected officials are in the most appropriate position to evaluate the wisdom and subsequent distribution of any intra-governmental cross-subsidy or subsidy of another form. Therefore, legal and public policy reasons surrounding the collection and distribution of CO_2 emission trading proceeds support the notion that emissions trading schemes implemented through state legislation are superior to an administratively-derived emissions trading compliance approach.

VII. Conclusion

In a not unanticipated move, EPA is pushing CO_2 emission trading schemes as the most appropriate, efficient, cheapest and easiest form of CPP compliance for states. EPA further promotes mass-based trading and implicitly dissuades states from pursuing complicated and difficult rate-based emission trading programs. EPA oversimplifies the implementation issues associated with mass-based CO_2 emission trading, however, by simply pointing to the historical use of these platforms within other Clean Air Act constructs. The size and scale of trading that would effectuate nationwide carbon resource planning for the entire U.S. electric sector is unprecedented. To be effective, carbon trading must contemplate extremely large transfer payments among states and utilities, as well creating incentives for new capital projects to effectuate fuel switching. Political economy issues will loom large within these trading schemes whether they are implemented on a single- or multi-state basis. To be effective, the design of a carbon trading market must create winners and losers. The winners will be states with credits to sell – the relatively coal-free Northeast and Pacific Coast. The losers will be states that presently have lower electric rates and have coal-

[86] Model Federal Rule, at 260-261.

[87] The Colorado Constitution, for example, requires a vote of the people before the State or any local government may create new debt, levy new taxes, increase tax rates or institute tax policy changes directly causing a net tax revenue gain. Colo. Const. Art. X, § 20. According to a 2010 National Conference of State Legislatures study, 30 states have some kind of tax or expenditure limitation. Bert Waisanen, *State Tax and Expenditure Limits – 2010* (2010), *available at* http://www.ncsl.org/research/fiscal-policy/state-tax-and-expenditure-limits-2010.aspx.

centric generation fleets – the interior West, Midwest and Southeast.[88]

To the extent states remain undeterred and seek to implement mass-based CO_2 emission trading programs, states and affected entities would be astute to disregard the advocacy seeking to implement these schemes through administrative processes. CO_2 emission trading programs implemented by state legislation give states control over proceeds and allows the program and its components to qualify as state measures. The state measures approach also allows states to 'manufacture' more tradable currency. More importantly, by rendering the citizen suit and penalty scheme of the Clean Air Act inapplicable, states avoid a huge entanglement in litigation and EPA enforcement.

All that said, while the design of the rule drives states both toward mass-based trading accompanies by state measures, it does not mean that trading will be easy. While the trading market will operate impersonally as utilities or EGU owners and operators make the "buy credits or retire units" calculus, beneath that calculus will of necessity be large distributive effects that the political markets in the states and at the federal level will be asked to mitigate. Depending on its status in the courts, expect this CPP Final Rule to let the trading, and lobbying, begin.

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[88] Explaining to a Wyoming rancher, Texas technology worker or Indiana manufacturer why her state just bought hundreds of millions or billions of dollars' worth of Clean Power Plan compliance credits from coastal states might create some interesting political dynamics.

Wilkinson Barker Knauer, LLP

[redacted]

Mr. WHITFIELD. Thank you, Mr. Gifford. And thank all of you for your testimony.

At this time, we will open it up for questions, and I will recognize myself for 5 minutes of questions to begin with.

Some people have made the argument that the challenges to the Clean Power Plan have been soundly refuted by the courts already, some people say that these are frivolous lawsuits, and some people say that they have already been rejected. So I would ask Mr. Lin and Ms. Wood, has the court really addressed the Clean Power Plan in a legal way at this point?

Mr. LIN. Thank you, Mr. Chairman.

The lawsuits I think that you are referring to, two of them that were brought by West Virginia last year and then earlier this fall, given what we read as the clear illegality of the rule, we thought that these were efforts worth making to save massive amounts of taxpayer dollars both at the Federal level and at the State level to stop EPA from even moving forward with what is, in our belief, an unlawful rule no matter what form it takes.

The courts have not ruled on the merits of our arguments. The courts have only ruled on the procedural grounds as to whether the lawsuits were——

Mr. WHITFIELD. And was that because the regulation had not been printed in the Federal Register so it was not final? Was that the reason for the ruling or was there another reason?

Mr. LIN. That is, in short, the reason on the first one. The second one was slightly different and involved the timing of publication. But yes, it was essentially that it was not final, and it will be final tomorrow.

Mr. WHITFIELD. Do you have a comment, Ms. Wood?

Ms. WOOD. No. Mr. Lin has covered it.

Mr. WHITFIELD. OK. So it will be final tomorrow, so lawsuits would be proper at that time, is that correct?

Ms. WOOD. Yes, under section 307(d) of the Clean Air Act, once a final rule by EPA is published in the Federal Register, it may be challenged in the DC Circuit.

Mr. WHITFIELD. OK. Now, is it true—I have heard the arguments, I have read the various memos, there have been statements about this in the hearings—that EPA actually reversed its legal opinion within the department about whether or not it could regulate under 111(d)? Is that your understanding? Is that correct, or is that not correct?

Mr. LIN. Well, the one thing that—and I mentioned this in my oral testimony—hthat they have changed is they have, for 25 years since the amendments in 1990, taken the position that the text of the 112 exclusion that is in the U.S. Code is clear, and they have always had one reading of that. Now, as Professor Revesz has mentioned, they have said that there is this two-amendment theory that makes it ambiguous, but they have always had one reading of the text that is in the United States Code.

In the final rule they have taken a brand-new position that they now do not think that that text is clear, that they don't understand it, it is ambiguous, and based on that, have come up with a new reading of the text.

Mr. WHITFIELD. You are not speaking for EPA. I am assuming they have a goal that they want to reach. Their traditional legal opinions would not get them to that position, so they have got to invent a new legal authority to give them the position to use the power to use 111(d) is what I would assume it. They can't get there any other way.

Mr. LIN. Well, as you said, Mr. Chairman, I can't speculate as to what EPA was thinking, but there was a lot of commentary and litigation on the two-amendment theory, and they have now relegated that theory to a footnote as an alternative.

Mr. WHITFIELD. And basically, they are not really arguing the two-amendment theory anymore, I don't believe.

Mr. LIN. That is not their primary basis.

Mr. WHITFIELD. I mean they have even admitted in documents that the substantive amendment is the one and not the conforming amendment.

Mr. LIN. Back in the early '90s when they promulgated the landfill rule under section 111(d), they said that the substantive amendment, which is the one that originated in the House and is in the U.S. Code, is the controlling amendment.

Mr. WHITFIELD. Right. Now, the bottom line is I am assuming what they are arguing now is that CO_2 is not listed as a hazardous air pollutant, and therefore, they can regulate under 111(d). Would that be where they are on this?

Ms. WOOD. Yes. Basically, what EPA is now saying—and you are correct, Mr. Chairman, that they have changed their position on this—is that you only are precluded from regulating under 111(d) if the pollutant in question is listed under 108 as a criteria air pollutant, which CO_2 is not. And if under 112 you are listed as a source category and the pollutant is regulated—and it is that last part that is new; it used to just be is the source category regulated——

Mr. WHITFIELD. Right.

Ms. WOOD [continuing]. This source category is regulated under 112.

Mr. WHITFIELD. There is no question about that.

Ms. WOOD. No, there is not.

Mr. WHITFIELD. And so the issue is CO_2 is not listed as a hazardous air pollutant, so that is an argument, which good lawyers do to make up to win their case, I am assuming. OK.

My time is expired. Mr. Rush?

Mr. RUSH. Well, thank you, Mr. Chairman.

Dean Hammond, in your testimony you say that it is important to have policies in place that are both environmentally conscious and that place a premium on reliability, and you cite nuclear power as a clean, reliable, and safe fuel source but one that is struggling to operate in the wholesale markets. In your professional opinion, are the New Source Performance Standards and the CPP examples of reasonable policy approaches to increasing greenhouse gas emissions while also keeping the lights on?

And the second part of the question is how does this plan impact the value of the Nation's nuclear fleet in States such as Illinois and others who rely heavily on nuclear power plants?

Ms. HAMMOND. Thank you, Mr. Rush. First of all, the Clean Power Plan and the New Source Performance Standard do take a step toward ensuring that our electricity sources incorporate those negative externalities so that the market operates more efficiently.

Do I wish the EPA had done more for nuclear power? Yes. It could have gone farther and it didn't. It does provide credits for new nuclear construction, but it doesn't really incentivize the reactors that are currently struggling to stay open, and that is something for which more could be done.

Mr. RUSH. Does the CPP mandate any particular approach for States to reduce their carbon emissions, or is there flexibility for States to take measures based upon each State's circumstances and the work that is already undertaken?

Ms. HAMMOND. One of the strengths of the Clean Power Plan is that it provides flexibility for the States.

Mr. RUSH. Well, can you elaborate—I am interested in your recommendations or your desires for the EPA to further incentivize and protect and propagate nuclear power plants. Can you give us some examples of some ideas that you might have wanted to see the EPA promote as it relates to nuclear power?

Ms. HAMMOND. Sure. So, as I mentioned, the Clean Power Plan does give States credit for new nuclear construction. It also gives States credit for upgrading existing plants. But it doesn't really recognize that we have significant portions of the fleet that are having trouble on these wholesale markets because of the market dysfunctions that I have identified. And so to have given credits to States for keeping those plants open would have been a very beneficial step toward encouraging that fleet to stay in place.

Mr. RUSH. I want to thank you very much for your testimony.

Mr. Chairman, I want you to note that I have given 1 minute and 27 seconds of the 3 minutes that I used in excess for an opening statement, so I want to get credit for that.

Mr. OLSON [presiding]. So noted. The gentleman yields back.

I recognize myself for 5 minutes for some questions.

Before I ask a few questions, last week, the grid operator in my home State of Texas, ERCOT, released a report on the Clean Power Plan, the CPP, and its impacts on our State's grid. ERCOT is nonpartisan. They have one job, to keep the lights on for all Texans they serve. Here are a few of their quotes about the CPP's impact in my home State: "ERCOT estimates that the final CPP, by itself, will result in the retirement of at least 4,000 megawatts of coal generation capacity. This amount of unit retirements could pose challenges for maintaining grid reliability, and these impacts are likely to intensify ... when the effects of the CPP are combined with other environmental regulations."

ERCOT continued, "energy costs for customers may increase by up to 16 percent by 2030 due to the CPP alone, without accounting for the associated costs of transmission upgrades, higher natural gas prices caused by increased gas demand, procurement of additional ancillary services, and other costs associated with the retirement" of plants.

I ask unanimous consent to submit ERCOT's report for the record. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. OLSON. So costs are going up without any explanation from EPA about the benefits. A few weeks ago, EPA's clean air guru Janet McCabe could not give me any details at a recent hearing about the impacts of the CPP on our climate. And this was despite the fact that she admitted that a major driver for the CPP is climate change. She started dancing, danced around questions on temperature and sea level because she had no answer.

Take time to read EPA's Regulatory Impact Analysis. You will find no specifics because they don't know. They do know that this sweeping rule threatens my home State's grid, and it may violate the Clean Air Act.

My first questions are for you, Ms. Wood, and you, Mr. Lin. For the first time ever, EPA is proposing a rule which goes beyond the fence line. Mr. Lin mentioned in his opening statement, but please share your thoughts and details of the legal impacts of this new rule and what kind of precedent it sets for future actions by EPA. Ms. Wood, you get the first crack, ma'am.

Ms. WOOD. Thank you. As I described to the subcommittee the last time I was here, there is an analogy that I think makes it easier for, you know, most people to understand what is going on here. And when you start talking about the grid and, you know, shifting dispatch, et cetera, I think it is difficult to understand. So an easier way to think about it, the analogy is with cars. And I am not suggesting that EPA could regulate cars under section 111. In fact, it couldn't. Those are regulated under a different title of the Clean Air Act.

But what EPA is doing here is akin to instead of just saying we are going to put, you know, a catalytic converter on your car to limit air pollutants, which would be permissible—that would be the equivalent of building block 1 here where they are doing energy efficiency—we are also going to require that 1 or 2 days a week if it is available to you, you need to take public transportation. You need to take the bus or the train. That is equivalent to what is happening with the re-dispatching to gas. And what EPA is saying here is if you have sufficient capacity to generate your electricity using natural gas, you must do that.

And then the final thing that EPA is doing is it is now dictating what kind of car you can buy and it says that, say, for example every third car you buy, it must be electric. And here what they are saying is you have to build a lot more renewable solar and wind generation.

The one thing that EPA did do between the proposal and the final rule would be to eliminate building block 4, which was going to require programs be put in place to force consumers to reduce their use of electricity. EPA has now conceded that it can't force consumers to do that and that the owners and operators of power plants can't have that done. So that has been removed, but that at the time was equivalent to requiring folks to telecommute.

Mr. OLSON. In the spirit of bipartisanship, I am over 45 seconds, so to follow my friend's lead here, I yield back and now recognize the ranking member of the full committee, Mr. Pallone from New Jersey.

Mr. PALLONE. Thank you.

We have heard quite a few hyperbolic legal arguments today, so I would like to spend some time setting the record straight in my opinion. Since 1970, the Clean Air Act has had several key features that have helped make it one of the most successful environmental laws on the books. Science-based, health-protective standards keep our eye on the prize: healthy air for everyone. Cooperative federalism allows EPA to set the clean air goals and States decide how best to achieve them. EPA retains backstop enforcement authority ensuring that every citizen of the United States receives the minimum level of protection from environmental risks even if their State fails to act.

Now, some have claimed that this cooperative federalism arrangement violates the Tenth Amendment. I have heard from one of the panelists it basically says that if States refuse to submit State plans, EPA will impose its own Federal plan imposing a Federal takeover of the generation of interstate energy. Essentially, that is what—I don't know if it is a direct quote but one of the panelists essentially said that.

So I just want to ask Professor Revesz, does the Clean Air Act's State plan-Federal plan provisions, essentially this cooperative federalism, violate the Constitution, in your opinion?

Mr. REVESZ. Thank you, Mr. Pallone. It does not. In fact, the Federal-State allocation responsibility under section 111(d) is exactly the same as the allocation of responsibility for meeting the National Ambient Air Quality Standards with State Implementation Plans. These are the centerpiece of the Clean Air Act, as you noted, and they have been in place since 1971. So this is a 44-year history that has served us very well, has saved tens of thousands of lives every year.

Section 111(d) by its terms says, "the administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title," which is the State Implementation Plan provision under which the National Ambient Air Quality Standards are met. So we have been doing this for 44 years.

There is no constitutional problem because the States are not required to do anything. They are given an option. They can come up with State plans if they wish to do so, and if they don't, the Federal Government has the authority to implement the Federal Implementation Plan. In fact, under the Clean Power Plan, unlike under the National Ambient Air Quality Standards, EPA has made clear that it will not withhold highway money. There will not be highway sanctions for States that refuse to put together State plans.

So there is no compulsion here. This is in no way similar to any of the cases that were decided in which commandeering of State institutions was at issue. This is a plain vanilla cooperative federalism program of the sort that we have had for almost half-a-century.

Mr. PALLONE. All right. Let me just ask you quickly this next one because I want to ask Professor Hammond something. Is the Clean Power Plan any different than previous Clean Air Act rules?

Mr. REVESZ. Well, it is different in that it is directed at greenhouse gases. It is not different in many of the ways that were discussed earlier. As I indicated, the Good Neighbor provision is im-

plemented by EPA through a broad cap-and-trade system, and it has been done by the administrations of Presidents Clinton, George W. Bush, and Barack Obama for over 20 years. I mentioned the incinerator rule where owners of incinerators are required to come up with recycling plans.

The features that have been found or have been said to be problematic by the Clean Power Plan can find historical antecedents in other Clean Air Act programs over a period of several decades implemented by administrations of both political parties.

Mr. PALLONE. All right. Let me ask Professor Hammond, Robert Nordhaus recently said that "although global warming likely wasn't on the minds of lawmakers working on the Clean Air Act in 1970, they were aware that the science of air pollutants was still evolving and 111(d) was written to account for this issue, that the statute itself, in my views, anyway, it was really designed to be forward-looking."

So, Professor Hammond, what do you think about this comment? Is the flexibility reflected in the regulatory framework that Congress established in the Clean Air Act?

Ms. HAMMOND. Yes, it is. And I agree with that comment. Just to the terms, air pollutant, as we know from the Supreme Court's decision in Massachusetts v. EPA, is a capacious term. It is meant to accommodate new circumstances in the future. And with respect to section 111(d), it is meant to fill a gap. If a pollutant is not regulated as a criteria pollutant or as a toxic, this is the place for EPA to do that. And so it is meant to have a holistic approach to air pollution.

Mr. PALLONE. All right. Thank you very much.

Thank you, Mr. Chairman.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I am going to go and talk to and ask Mr. Gifford a line of questions.

Is it correct that the proposed rule and the final 111(d) rule EPA scaled back its expected carbon dioxide reduction for existing coal plant efficiency improvements?

Mr. GIFFORD. Yes.

Mr. SHIMKUS. And so from what your report or your testimony says from 6 percent to 2.1, that is 4.2 percent depending upon the region of the country. With lower performance requirements for actual existing sources, I would assume that EPA would produce smaller carbon dioxide reduction mandates, but that is not the case. EPA actually increased the overall carbon reduction mandates under the rule. Is that correct?

Mr. GIFFORD. That is correct.

Mr. SHIMKUS. Are the carbon dioxide caps derived from what can be achieved at existing fossil fuel-fired power plants?

Mr. GIFFORD. No. In fact, the increased carbon dioxide reductions in EPA's, you know, carbon rationing, you know, methodology all come from increased assumptions of an addition of renewable capacity to the grid.

Mr. SHIMKUS. I had a similar line of questions in the last hearing we had, and there is really terrible faulty assumptions, and we are going to continue on this line of questioning.

My understanding is that you have examined the numbers and identified that EPA assumes a massive increase in renewable energy to reach its carbon reduction mandates. Can you explain what assumptions EPA appeared to use to generate its assumed massive growth of renewables?

Mr. GIFFORD. Sure. How EPA increased the final carbon budget for each State while changing the methodology to reduce the amount of carbon reductions they could get from building blocks 1, 2, and eliminating building block 4, is what they said is let's assume that you can add renewable resources at the largest historic number from years 2010 to 2014 that have been added to capacity year-over-year, and let's assume that is potential to add that amount of renewable energy year-over-year from 2025 to 2030. Where they really got that number high and pumped it up is if you picked, as EPA did, the year 2012 when we added twice the amount of wind to the system that we did in any other year historically.

Mr. SHIMKUS. And I agree with you. How do EPA's assumptions stack up against—and I used this agency last time, too—the U.S. Energy Information Administration's assumption for renewables over the same period?

Mr. GIFFORD. EPA is larger by about a factor of 2.

Mr. SHIMKUS. Yes. And we found that to be true in the last hearing.

If EPA is overestimating its renewable energy assumptions in its baseline, is it underestimating the potential impacts of the rule?

Mr. GIFFORD. Well, based on what EPA is calculating, which is a best system of emission reduction, if you can't conceivably add that much renewable at least notionally, you are obviously imposing far too heavy a carbon reduction budget than is actually feasible.

Mr. SHIMKUS. And that is why it is significant, right——

Mr. GIFFORD. Correct.

Mr. SHIMKUS [continuing]. Because it is just an unachievable analysis of where we can get to.

Mr. GIFFORD. Yes. And, Congressman, the reason that the year 2012 was so anomalous in the amount of wind that was added nationally was because there was a dash to add wind because of the expected expiration of the production tax credit. So if you look at the amount of wind capacity added year-over-year in that time period, all of a sudden 2012 pops way up by a factor of 2. Then, EPA takes that number and then you use that number year-over-year to show potential carbon reduction.

Mr. SHIMKUS. So what might we see in the electricity sector if EPA's assumptions about renewables are wrong and the energy information agencies are correct and there is a smaller renewable build-out?

Mr. GIFFORD. Well, I think what you will probably see is less renewable energy than is actually assumed by EPA. What you will probably see more practically is a, you know, massive build-out of new gas plants and gas capacity because that is the simplest and most reliable way to do it. Now, that is not free but that is, I think, probably the first option given many of the issues that Professor

Hammond mentioned about nuclear, which isn't really on the table these days for the reasons she mentioned.

Mr. SHIMKUS. Which I wish they were also.

And with that, Mr. Chairman, thank you. I yield back.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. Well, I thank the chairman.

And this is a hearing that I don't think we really need to have, but we will go ahead.

Mr. Lin, West Virginia's moving forward with the lawsuit regarding the Clean Power Plan basically unless the EPA were to withdraw the plan. You are going to go forward with that lawsuit, is that correct?

Mr. LIN. Congressman, my boss the Attorney General has made very clear that we intend to challenge the rule, together with a growing bipartisan coalition of States.

Mr. MCNERNEY. So what would be the ideal outcome of your lawsuit?

Mr. LIN. Well, in any kind of a challenge like this, what you are looking for is a vacatur of the rule and remand to the Agency. And so, you know, under the two arguments that I have articulated today, the EPA doesn't have the authority to do what it is doing, and so the rule should be struck down.

Mr. MCNERNEY. So in other words, you would stop the administration from curbing carbon dioxide emissions altogether?

Mr. LIN. Well, what we would do is we would corral the Agency within its statutory authority. I think the question of, you know, whether this is good policy is an entirely different question. I don't think there is——

Mr. MCNERNEY. Because that would be the effect. It would curb the administration's ability to curb carbon emissions?

Mr. LIN. It would stop this particular rule from going forward.

Mr. MCNERNEY. Well, Mr. Revesz, how long do you think the adjudication is going to be lasting on these lawsuits?

Mr. REVESZ. There will be a case filed at the D.C. Circuit. It will then depend whether the D.C. circuit, after having a decision by the panel, takes the case en banc. I assume——

Mr. MCNERNEY. Is your microphone on?

Mr. OLSON. Microphone on, please, sir.

Mr. REVESZ. All right.

Mr. OLSON. Thank you.

Mr. REVESZ. It would go before the DC Circuit first. The length of time will depend on whether once the panel of the DC Circuit decides the case, whether the whole court decides to take it en banc, I assume that whoever loses in the DC Circuit will petition the court for cert. If the court grants cert, it will add time.

So I would say that it would take between 1 and 3 years to get this case finally adjudicated depending on various moving pieces.

Mr. MCNERNEY. But didn't the EPA delay some provisions of the Clean Power Plan about that length of time?

Mr. REVESZ. Yes, EPA delayed two provisions. It delayed the period for State compliance. It is true, as Ms. Wood indicated, the period. The States have to comply in roughly a year, but very easily

they can get a 2-year extension. It is very, very easy for States to do that and EPA basically said it was essentially a pro forma thing. So EPA essentially added 2 more years from the proposed rule to the final rule. And it also delayed the period for compliance by roughly the same period of time.

Mr. MCNERNEY. Do you feel that a hearing like this can have any impact on the adjudication?

Mr. REVESZ. I don't think so. I mean this case will be up the courts. I assume that by tomorrow or Monday it will be before the courts, and the judges will interpret the statute in the way they see best. I don't think they will be affected by this conversation.

Mr. MCNERNEY. Thank you.

Ms. Hammond, would you tell us how the Clean Power Plan has addressed the reliability issue?

Ms. HAMMOND. Yes. The Clean Power Plan relies on the interconnected nature of the grid to promote reliability even with some shifts in our electricity fuel sources. It relies on the fact that the grid is built to be resilient by connecting electricity generation from all sorts of fuel sources. By also correcting at least some of those market dysfunctions, it permits those other fuel sources to compete, at least some of them to some extent, on those markets in a way that further promotes reliability because diversity is important to the reliability of the grid as well. Different fuel sources have different characteristics that enable not only baseload but peak demand can be met as well.

Mr. MCNERNEY. So you do feel like their provisions for reliability will be effective in helping to ensure that we have reliable electricity?

Ms. HAMMOND. Yes. I think that the lights will stay on.

Mr. MCNERNEY. Thank you. That is all, Mr. Chairman.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTA. Well, thank you, Mr. Chairman. And to our panel, thanks very much for being here today.

Mr. Lin, if I could ask my opening questions to you. You argue that the 111(d) rule was unlawful, would not withstand judicial scrutiny. How is EPA's rule influencing electricity-sector planning today?

Mr. LIN. Thank you, Congressman. I think that is a very good question. And maybe the best place to look at it is—well, to answer the question directly, I think it is having a tremendous effect. The utilities, as I understand it, have a very long time line in terms of what they do in terms of their planning and their decision-making. And of course the States are taking steps as well.

And I think the thing to take note of is what happened recently with what has been commonly called the MATS decision, the Mercury and Air Toxics Standards under Section 112. That litigation, sort of consistent with what Professor Revesz said, took 3 years from publication of the rule to the Supreme Court decision this last June. And after the EPA lost that decision, which they did, they said, to reassure their supporters, that it was not really a big deal because a majority of the power plants were already in compliance.

And that gives us great pause and great concern about the decisions that are already happening here, and that compliance is going to happen before judicial review is completed. And we could have what essentially amounts to a Pyrrhic victory.

Mr. LATTA. Well, thank you very much.

Mr. Gifford, would you like to comment?

Mr. GIFFORD. No, I think Solicitor General Lin is exactly right. In recent weeks we have seen what are called Integrated Resources Plans, which are plans that utilities file with the State utility commission that have been presented that incorporate the assumptions of the rule. And that is what a prudent utility has to do given their planning horizons.

So as Solicitor General Lin said, if you are an electric-generating unit or a vertically integrated utility right now, you have to, in your planning process, incorporate your carbon budgets that EPA has handed you. And I think the same thing is happening is if this rule were overturned by the Supreme Court in 2018, 2019, you could have a situation where a good chunk of the Nation's coal fleet is already scheduled to be retired under State planning processes.

Mr. LATTA. Thank you. Mr. Lin, back to you if I may. If I understand your testimony, you indicate the rules are a disguise for broader regulatory planning. Would you like to elaborate on that?

Mr. LIN. Thank you, Congressman. I think the thing to look at is building blocks 2 and 3, and the way that EPA itself describes them is those are about substituting electric generation of another type, whether it is natural gas under building block 2 or renewables under building block 3, for coal-fired power plants. So they use those building blocks to set the target level of emissions reduction, so they are assuming in their calculation that there will be a shift in the kind of energy generation.

There has been a lot of talk today about flexibility and that the States are being given flexibility and that they don't have to do these particular things, but the fact of the matter is the reductions that are being required build in these assumptions of shifting generation. And if you look at my State of West Virginia, we have to meet a 37 percent emissions reduction, and we rely almost entirely on coal-fired energy. So practically speaking, there is no way to get where they want us to go without shifting from one type of generation to another.

Mr. LATTA. Thank you.

Ms. Wood, under the construct of section 111, is the power plant the source of the pollution or is the electricity the source of the pollution?

Ms. WOOD. Thank you, Congressman. That is an excellent question. The title of section 111 is standards of performance, you know, for sources. And the source is in fact here the electric-generating unit. It is not the product that that electric-generating unit produces, which is electricity. It is whatever the thing is that is actually creating the emissions. So in the case of a power plant, it is the electric-generating unit. If you were talking about a petroleum refinery, it would be the refinery. It wouldn't be the gasoline that it made. And that is how it is controlled and that is how section 111 works.

Mr. LATTA. Well, thank you very much.

And, Mr. Chairman, I see my time is about ready to expire and I yield back.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentleman from New York, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair.

One of the current statements those who oppose the Clean Power Plan keep making is that this rule mandates, mandates an emissions-trading scheme. As I read it, there is no mandate to use emissions trading as the way to meet the standard. Assistant Administrator McCabe confirmed that at the hearing about 2 weeks ago. And it was the utilities and system operators who advocated for including this compliance option in the final rule, not just State governments that were already participating in these systems.

So my question to you, Mr. Revesz, is is there anything in the Clean Air Act that precludes States from using an emissions-trading system to achieve compliance with this rule?

Mr. REVESZ. There is nothing in the Clean Air Act, Congressman, that would preclude States from doing that. And in fact, under other really important programs of the Clean Air Act like the Good Neighbor provisions, we already use trading schemes of that sort. And the Supreme Court a year ago upheld that program.

Mr. TONKO. Thank you. And is there anything in the Clean Air Act that prevents EPA from allowing emissions trading as an option for achieving compliance?

Mr. REVESZ. There is not, Congressman, and EPA has done that in the past under other programs.

Mr. TONKO. Thank you. And we keep hearing that this rule is unprecedented. Well, considering that it is the first time that EPA has regulated carbon emissions specifically from power plants, that is true, but hasn't EPA regulated other emissions by, for instance, setting mass or rate limits for new and existing sources?

Mr. REVESZ. EPA has. It is very clear that the term standard of performance—which actually the statute doesn't say standard of performance for a source; it is just standard of performance—does not involve necessarily the use of end-of-pipe technologies. It can involve changes in production processes. If there are three ways of producing the same product and one way is a lot dirtier than other ways, EPA can decide that a standard of performance is to produce the product in a cleaner way. EPA and the courts have made very clear that changes in production processes are a perfectly fine way of meeting standard-of-performance requirements.

Mr. TONKO. Thank you. Given that the States are given flexibility to achieve compliance with pollution limitation through the preparation of individual State plans, I would believe that offers great flexibility——

Mr. REVESZ. It does.

Mr. TONKO [continuing]. To our States? And further, Assistant Administrator McCabe also confirmed that two of the factors that led EPA to include emissions trading as an option in the final rule are 1) the extensive experience that States and power plants already have with emissions trading, and 2) a strong interest on the part of many States' utilities and grid operators in using emission trading to help meet their obligations. Is that not true?

Mr. REVESZ. That is true. Once the limitations are set, trading provides a lower-cost way of meeting the requirement, and that is why market operators find it attractive.

Mr. TONKO. Well, thank you. I think this is noted in the preamble to the rule, and I think it just needs to be further clarified. And so I appreciate your response to the questions concerning whether or not there is a mandate that is brought to bear with an emissions-trading scheme that is placed on all the operators out there.

So with that, I thank you for the clarification. And, Mr. Chair, I yield back.

Mr. OLSON. The gentleman yields back. The Chair would like to announce when the bells ring, we have votes being called. That will be about an hour, so we intend to recess for an hour, try to do two more questions, one Republican, one Democrat, after the bell rings. So calm down, OK?

I now recognize Mr. McKinley from West Virginia for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman.

Mr. Gifford, there is a Mildred Schmidt in every community of West Virginia, and I am just curious if West Virginia does indeed have to reduce its CO_2 emissions by 37 percent, is Mildred Schmidt going to have to pay more for her electricity?

Mr. GIFFORD. Without a doubt.

Mr. MCKINLEY. OK.

Mr. GIFFORD. Right. And that is the feature of this rule to the proponents is it induces you to close down your coal-fired power plants.

Mr. MCKINLEY. Thank you.

Ms. Wood, 111(b) is based on the use of carbon capture and storage. I just had the opportunity to visit China and India to inspect their carbon capture facilities, and the officials there have already determined that CCS is not commercially viable, and they are not going to implement it on their people, recognizing the cost that they would be burdened with. And there are none in America operating commercially, is that correct?

Ms. WOOD. That is correct. Right now, there are none.

Mr. MCKINLEY. So 111(b) is a predicate for 111(d). I that not correct?

Ms. WOOD. Yes, it is.

Mr. MCKINLEY. If 111(b) is struck down, what is going to be the impact on 111(d)?

Ms. WOOD. You can't have a 111(d) existing-source rule without first having or simultaneously having a 111(b) new-source rule. So if the new-source rule were struck down, regardless of everything we are talking about, the legal infirmities of the 111(d) rule, it would not have its legal foundation and could not exist.

Mr. MCKINLEY. I just find this incredible that major producers, major users of coal are saying it is just not commercially viable. So we will follow up with that.

Mr. Lin, in your testimony you raised a remark about the building blocks. Some of the building blocks are illegal partially because they are aimed at reducing the use of coal-fired energy. Could you elaborate a little bit on that?

Mr. LIN. Of course. There are two points I think that are worth making. The first is that the scope of EPA's power under section 111(d) is to set standards that lead to standards of performance. And we are talking about performance of individual coal-fired power plants.

And one thing that I wanted to address is Professor Revesz has said a number of times, you know, that he has got a lot of examples talking about the method of producing the product and that there is plenty of precedent for that. Well, that belies I think an important distinction here. EPA is not talking about changing the method of—at these particular—the method of generating electricity is a very, very different question from shifting generation from one power plant to some other power plant. And so I think, you know, all of his examples talk about ways to improve operations at one particular facility, and that is what we are talking about. That is the scope of authority under 111(d), and that is not what they have done here.

Mr. MCKINLEY. OK. Again, Mr. Chairman, in consideration of the time, I yield back the balance of my time.

Mr. OLSON. The gentleman yields back. The Chair recognizes the gentlelady from—sorry, the gentleman from Texas, Mr. Green, slipped in there.

Mr. GREEN. I thank my neighbor. Mr. Chairman, I would like to place a short statement into the record so I can go straight to questions.

Professor Revesz, I have repeatedly stated it makes more sense to address climate change by legislation without congressional action. However, Federal agencies have acted under existing authority. There are many attorneys in Washington and around the country doing very well advising their clients on the version of the House and Senate amendments to the Clean Air Act or the law.

In their relatively recent Supreme Court decision, what is your view on whether Congress spoke directly to that question at issue? Do you believe that the Court will rule with the Agency on interpretation?

Mr. REVESZ. As long as an agency interpretation is not inconsistent with the clear intent of Congress, the Court, under traditional doctrines, will defer to the Agency's interpretation. And in this case, the Clean Air Act talks about the regulation of air pollutants. The Congress in 1970 didn't specify which those were because it understood over time the science around air pollutants would change. The Supreme Court in 2007 held that greenhouse gases are air pollutants. And then the administration in 2009 found that they endangered public health or welfare, and therefore needed to be regulated under the existing provisions of the Clean Air Act.

Mr. GREEN. OK. The EPA believes that the House bill's exclusion from 111(d) apply only to hazardous air pollutants, not any air pollutant. What are your thoughts on that?

Mr. REVESZ. As I indicated in my opening statement, I think EPA has interpreted this statute in the correct way, that if sources' emissions are regulated under section 112, that same emission can't be regulated under section 111(d) as well. But if a source's hazardous emissions are regulated under section 112, the other emissions of a source can be regulated under section 111(d) because

otherwise it would be a gap in the Clean Air Act that Congress didn't intend.

Mr. GREEN. How willing has the Court been to apply Chevron in cases in the past? Is there any indication that the Court would lean this way again or would a pending case offer a new point of view?

Mr. REVESZ. Well, legal scholars have debated this for many, many years. My own view is that this case will get the traditional Chevron deference, as EPA cases have been getting since the Chevron case was decided in 1984.

Mr. GREEN. OK. Ms. Hammond, isn't there a major difference between Burwell and a potential Clean Power Plan case, namely that the Affordable Care Act had already taken hold across the Nation and the CPP is newly finalized?

Ms. HAMMOND. Well, it is true that the CPP is newly finalized, but I think the issue for how a court would interpret the statutory provisions and decide about deference to the agency doesn't hinge on that particular factual scenario.

Here, I agree that Chevron deference would be appropriate in this situation, but I think a court could also decide the issue is too important to leave to the Agency, in other words, promote regulatory certainty. If a court holds that a statute has a particular meaning, then they Agency is not free to change that meeting later, and the Supreme Court here should interpret this section 112 exclusion issue to permit EPA's regulations here. And taking that route would promote the regulatory certainty and let everybody know, yes, it is time to implement the Clean Power Plan.

Mr. GREEN. Mr. Chairman, I will yield back so somebody else can have time before we go vote.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentleman from West Virginia, Mr. Griffith, for 5 minutes, and then recognize Mrs. Capps for 5 minutes. Then, we will go vote.

Mr. GRIFFITH. OK. Thank you very much, Mr. Chairman.

I would note that while I love the people of West Virginia and my district borders them, I come from the original Commonwealth of Virginia and not our separated segment thereof.

That being said, we have heard arguments even today that in interpreting section 111(d) of the Clean Air Act we should treat a technical conforming amendment produced by the Senate as equal to a substantive House amendment that prevailed in conference on the 1990 Clean Air Act amendments. We know the Senate receded to the House with respect to this language.

What people may not remember but provides important context is that the language that the House judged to be appropriate was initially proposed by the President of the United States. He proposed the language that excludes dual regulation of sources in his formal submission of proposed Clean Air Act amendments to Congress in the summer of 1989. The language to prevent dual regulation of sources under section 111(d) and other sections was intentional and a substantive amendment to the act.

Mr. Chairman, I would like to enter into the record the cover page of the message from the President and the actual revision to section 111(d) that President Bush, the first President Bush, proposed and Congress ultimately adopted.

Mr. OLSON. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. GRIFFITH. Thank you, Mr. Chairman. I appreciate that.

Mr. Lin, you state in your testimony that in the context of the Clean Air Act amendments of 1990, Congress was particularly concerned about electric-generating units being subject to double regulation. Can you elaborate?

Mr. LIN. Yes, Congressman. In the legislative history, as recounted by EPA itself, there is tremendous concern about power plants being subject to double regulation. One piece of evidence of that is section 112(n)(1)(a), which is the provision that carved out power plants for special treatment with regard to hazardous air pollutants. And it said, as opposed to other major stationary sources, it did not automatically subject power plants to 112 regulation, but instead it said that EPA was to do a study to assess the effect of other parts of the Clean Air Act and to determine whether regulation of power plants was appropriate and necessary.

Mr. GRIFFITH. OK. I appreciate that. You know, it is kind of interesting. Mr. Shimkus earlier said that when Acting Assistant Administrator McCabe was in, she started dancing around. I had a similar problem when we were talking. She insisted that this was not a cap-and-trade scheme, and yet I have heard most of you—I think the only one I haven't heard say that it was a cap-and-trade process or program was Ms. Hammond. So, you know, it was curious. I speculated they are just so afraid that the negative connotations to cap-and-trade the American public holds is why she wouldn't give me that, but I asked her in several different ways isn't this going to be a cap-and-trade scheme? She refused to use those words. Mr. Lin, predominantly isn't this a cap-and-trade program?

Mr. LIN. Well, as I said in my opening statement, I think it is clear that what EPA is doing is trying to drive States toward cap-and-trade. And they say at several points in the preamble that emissions trading is a critical part of their analysis. The Federal——

Mr. GRIFFITH. And in fact, Ms. Wood—and I am sorry. I am just looking at the clock.

Mr. LIN. That is OK. Of course.

Mr. GRIFFITH. Ms. Wood, I note that I think you said that they had two different types of cap-and-trade plans within their preamble that they mentioned that they promote. Isn't that correct?

Ms. WOOD. Yes, that is correct.

Mr. GRIFFITH. But they are still cap-and-trade plans, isn't that right?

Ms. WOOD. They are. One is mass-based and one is rate-based, and the State can choose, but at the end of the day, you have a cap on your emissions.

Mr. GRIFFITH. Now, the question that I then followed up with Ms. McCabe and we have heard some testimony on today is if the State just says we are not doing anything, do you, Mr. Lin, see this as the EPA coming in and then forcing a cap-and-trade program on the State that doesn't do anything?

Mr. LIN. If the Federal plan stays the way that it has been proposed, there will be a federally imposed cap-and-trade system.

Mr. GRIFFITH. I also thought it was interesting, Mr. Lin, that you brought up the MATS rule. On that border between West Virginia and Virginia was a little place called Glen Lyn plant in Virginia that closed on, I believe, May 1 of this year. And the ruling from the Supreme Court saying that, because of MATS—it was aging and all that is true, but it was closed because of the MATS rule. On May 1 it had to close down. I lost another plant in Clinch River, which is close to West Virginia and probably provides some power to your State as well as mine, but the ruling came out on June 28 saying the EPA had overstepped its authority. Isn't that accurate?

Mr. LIN. That is correct.

Mr. GRIFFITH. And, Mr. Gifford, these power companies are having to make these decisions well in advance, and as a result of that, they are building all kinds of gas pipelines, isn't that true, across the country?

Mr. GIFFORD. Absolutely. They have to.

Mr. GRIFFITH. Can you put that on the record?

Mr. GIFFORD. Yes. Absolutely. They have to.

Mr. GRIFFITH. All right. Because we have got a lot of gas pipeline opponents in my district. They need to know where it is coming from. It is coming from this Clean Power Plan of the administration.

I yield back.

Mr. OLSON. The gentleman yields back.

The Chair recognizes the gentlelady from California, Mrs. Capps, for 5 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman, for holding the hearing. I thank the witnesses for your testimonies.

I would like to think that we are making progress in this discussion, but unfortunately, we have repeatedly heard the same story. We keep going over the same questions. While I do appreciate there are a wide range of opinions on this topic, the science is clear. Human activities are producing vast amounts of carbon dioxide, and these are contributing to global climate change.

Furthermore, the energy sector is the leading source of emission for carbon dioxide in the United States, and as a country, we have an obligation in my opinion to contribute to national and worldwide reductions of greenhouse gases. Given our status as a global superpower, we have an obligation to lead this charge. Unfortunately, we spend more time debating the scientific consensus on climate than identifying and implementing tangible solutions.

But here is the bottom line: Our dependence on fossil fuels is driving climate change, and we need to take bold action to curb carbon pollution and move toward a clean sustainable energy future.

So, Professor Revesz, we have heard on multiple occasions from the majority that the costs associated with the Clean Power Plan will be exorbitant, yet you have stated that this plan will have reasonable costs and in fact will return significant benefits. Would you please expand on how you have come to this conclusion?

Mr. REVESZ. Well, EPA has estimated that the net benefits—that is benefits minus costs—of the Clean Power Plan, range between 26 and 45 billion a year in 2030, and that is because the Clean Power Plan has two big categories of benefits. One is the benefit

that comes from greenhouse gas reductions, and the other is health benefits to come to citizens of the United States.

By 2030 and every year after that, the Clean Power Plan is expected to avoid 3,600 premature deaths, 1,700 heart attacks, 90,000 asthma attacks, and 300,000 missed days of work and school. Those are the benefits. There are costs, about $8.4 billion a year. And the benefits minus the costs yield a net benefit of between 26 and $45 billion a year starting in 2030.

Mrs. CAPPS. That is pretty precise, too. And as a former school nurse, I can relate to the increased asthma costs and some other health-related matters in southern California where I am from.

Professor Hammond, you referred to the negative environmental externalities of power generation and the fact that the Clean Power Plan and CO_2 regulation would lead to a more diverse energy generation landscape in the future. I have had some experience with this recently in my district on the central coast of California with two leading academic institutions that are spawning all kinds of new industry. Can you please elaborate on how, given the flexibility of the regulations, States will be able to meet the regulatory requirements with existing technology?

Ms. HAMMOND. Yes. Not only can they ask for fuel switching, but they can also innovate or encourage innovation related to electricity storage, which of course your State is a leader in, also demand-response and efficiency programs. So there are many ways for States to flexibly meet the requirements.

I want to emphasize that the building blocks are not what is required. States have the flexibility to meet their standards in ways that make sense for those States. And everything is on the table for the States.

Mrs. CAPPS. Right.

Ms. HAMMOND. It is very flexible.

Mrs. CAPPS. It is a very timely period of time right now, isn't it, very critical to see with this flexibility what can happen. Given the incentive for clean power development, do you see these regulations encouraging the development of new energy technology?

Ms. HAMMOND. Absolutely. That is something to be excited about with the Clean Power Plan, and it is also consistent with the Clean Air Act, which has always, since the '70s, been designed to encourage newer, cleaner technology.

Mrs. CAPPS. I am going to try one more question. I hope we can make it.

Professor Revesz, are there any reasons to expect the States will not be able to achieve the targets outlined in the Clean Power Plan?

Mr. REVESZ. No. The targets are very reasonable, and in fact, on average, the States are already about halfway there of the 32 percent reductions from the 2005 baseline the Clean Power Plan expects by 2030. We have already achieved about 15 percent of the 32 percent. And we are basically on a path to achieve further reductions, even absent the Clean Power Plan.

Mrs. CAPPS. I think that is a very exciting prospect, and, you know, I am impressed that we are on this track. We want to continue this. We want to resume our position as global leaders. In re-

newable energy we have a ways to go, but what you have said today is very encouraging.

I yield back. And thank you, Mr. Chairman, for squeezing me in.

Mr. OLSON. The gentlelady got it done.

Mrs. CAPPS. We got it done. Thank you.

Mr. OLSON. We will reserve. We will go in recess right now, come back in about an hour. This committee is in recess.

[Recess.]

Mr. OLSON. We will come to order. Thank you all so much for coming back. As you can see, no Members we expected to come back, but I have one final question for you, Ms. Wood. Can you explain this Good Neighbor provision that Professor Revesz talked about? Does it really support the Clean Power Plan, the CPP? Last question.

Ms. WOOD. Thank you. The Good Neighbor provision is part of the NAAQS program, the National Ambient Air Quality Standard provision. It is part of section 110 of the Clean Air Act. It is different. And what that provision covers is the attainment of National Ambient Air Quality Standards. And the way that States can do that is much more broad than under section 111, which is the standards of performance for sources. So it can encompass many more things than a standard of performance can. It is not as limited to the source or limited to an emission rate. It works differently. It is a completely different program.

Mr. OLSON. Thank you for that clarification.

OK. In conclusion, I would like to thank so much all the witnesses, the Members for coming and for taking part in today's hearing. I remind Members that they have 10 business days to submit questions for the record and ask that witnesses all agreed to respond promptly to those questions.

This subcommittee is adjourned.

[Whereupon, at 5:02 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. FRED UPTON

In 2010, during the second year of the Obama administration, a Democratically controlled Congress failed to pass sweeping cap-and-trade legislation. That flawed scheme was rejected because it would have done far more economic harm than environmental good and people realized that cap and trade was nothing more than an economywide energy tax. But now, the EPA is regulating where the administration failed to legislate, issuing final rules for CO_2 emissions from new and existing power plants that seek to fundamentally change the way we generate, distribute, and consume electricity here in the United States. For the sake of jobs and affordable energy, these rules must be stopped as the case for cap-and-trade has only gotten worse with time. Today, we continue our review of this expansive regulatory agenda, and focus on the legal concerns with these rules.

Beyond the constitutional issues of these sweeping measures, these rules take the Clean Air Act in an unprecedented new direction, in which it was never designed to go. In the past, EPA emissions performance standards were technologically achievable. With these rules we are seeing new coal generated electricity effectively banned, costly renewables favored over other sources, and even clean-burning natural gas and nuclear power relegated to a constrained future, this is just plain wrong.

These rules raise significant concerns for States and consumers. Back in Michigan the temperatures are dropping, the lakes are near freezing, and we face another winter. Affordable electricity for heating is absolutely essential for my State, and especially for low-income households and those on fixed incomes. Manufacturers in Michigan and across the country need affordable energy to remain globally competi-

tive—American manufacturers can compete against anybody, except the EPA. One study from NERA estimates that the existing source rule as proposed would boost electric rates in Michigan and 42 other States by double digits, and that is on top of already rising electricity rates due to other onerous EPA regulations. This will deal a crushing blow just as things are looking brighter for manufacturing.

Michigan winters are cold enough that if the electricity goes out, people may be harmed. Despite some acknowledgement of this future by EPA, their rules ensure that reliability concerns remain. This is not surprising, since Congress did not authorize EPA with the responsibility for electric reliability. In contrast, NERC and others with such expertise have warned of serious reliability concerns with the steps EPA insists on taking.

The Ratepayer Protection Act fixes many of the problems with the existing source rule. It restores the State authority envisioned in the Clean Air Act by empowering every Governor to waive the provisions of the rule if found to threaten the affordability or reliability of their electricity systems. Under this bill, any State that wishes to go along with EPA's regulations remains completely free to do so.

These and other legal concerns are not mere technicalities. Quite the contrary, if left unaddressed they could lead to higher electric bills, an increased likelihood of blackouts, and lost American jobs. The new EPA's regulations on their own do significant damage—but cumulatively they will break the camel's back—that is why our continued work is so important,



ERCOT Analysis of the Impacts of the Clean Power Plan

Final Rule Update

ERCOT Analysis of the Impacts of the Clean Power Plan

Final Rule Update

In August 2015, the U.S. Environmental Protection Agency (EPA) released the Clean Power Plan (CPP) final rule, which sets limits on carbon dioxide (CO_2) emissions from existing fossil fuel-fired power plants. EPA had originally proposed the rule in June 2014, and the Electric Reliability Council of Texas (ERCOT) subsequently evaluated the potential implications for the resource mix and grid reliability in the ERCOT Region.[1] However, the final rule made adjustments to the emissions limits, as well as to the deadlines for compliance. Because the timing and magnitude of the required reductions for Texas have changed in the final rule, ERCOT updated its CPP analysis to reflect these changes.

Based on this analysis, ERCOT continues to see the potential for significant impacts on the planning and operation of the ERCOT grid resulting from compliance with the CPP. ERCOT estimates that the final CPP, by itself, will result in the retirement of at least 4,000 MW of coal generation capacity. This amount of unit retirements could pose challenges for maintaining grid reliability, and these impacts are likely to intensify and occur earlier when the effects of the CPP are combined with other environmental regulations, particularly EPA's proposed Regional Haze Federal Implementation Plan (FIP) for Texas. If ERCOT does not receive adequate notification of these retirements, and if multiple unit retirements occur within a short timeframe, there could be periods of reduced system-wide resource adequacy and localized transmission reliability issues.

A recent reliability analysis conducted by ERCOT of potential retirement scenarios resulting from compliance with the Regional Haze requirements showed that the retirement of 4,200 MW of coal-fired capacity, comparable to the amount expected to retire due to the CPP alone, would have a significant impact on the reliability of the transmission system. Model results indicated the exceedance of thermal capacities of 10 circuits (143 miles) of 345 kV transmission lines, 31 circuits (147 miles) of 138 kV transmission lines, 6 circuits (39 miles) of 69 kV transmission lines, and 11 transformers. As a general estimate, new 69 kV and 138 kV lines cost on the order of one million dollars per mile and new 345 kV lines cost on the order of three million dollars per mile. Additionally, in the ERCOT Region, it takes at least five years for a new major transmission project to be planned, routed, approved, and constructed.

As with ERCOT's analysis of the proposed rule, this study predicts a sizeable amount of renewable capacity additions, due both to the improving economics of these technologies as well as the impacts of regulating CO_2 emissions. The need to maintain operational reliability (i.e., sufficient committed and dispatchable capacity and ramping capability) could require the curtailment of renewable generation resources. Curtailment would reduce production from renewable resources, and could delay achievement of compliance with the CPP limits.

The CPP will also result in increased wholesale and retail energy costs in the ERCOT Region. Based on ERCOT's analysis, energy costs for customers may increase by up to 16% by 2030 due to the CPP alone, without accounting for the associated costs of transmission upgrades, higher natural gas prices caused by increased gas demand, procurement of additional ancillary services, and other costs associated with the retirement or decreased operation of coal-fired capacity in the ERCOT Region. Consideration of these factors would result in even higher energy costs for customers.

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[1] Electric Reliability Council of Texas, Inc. *ERCOT Analysis of the Impacts of the Clean Power Plan*, November 2014. Available at http://www.ercot.com/content/news/presentations/2015/ERCOTAnalysis-ImpactsCleanPowerPlan.pdf.

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1. Introduction

The EPA proposed the CPP in June 2014. Under the proposed rule, Texas would have been required to meet an interim CO_2 emissions limit of 853 lb CO_2/MWh on average during the period from 2020 to 2029, and a final limit of 791 lb CO_2/MWh on average from 2030 onward. Following the publication of the proposed rule, ERCOT evaluated the potential implications of compliance with the CPP proposal for the resource mix and grid reliability. ERCOT published a report on the results of the analysis in November 2014.[2] That analysis found that implementation of the CPP *as proposed* would have a significant impact on the planning and operation of the ERCOT grid. Specifically, ERCOT estimated that the proposed rule could result in the retirement or seasonal mothballing of up to 8,700 MW of coal generation capacity, result in potential transmission reliability issues due to the loss of generation resources in and around major urban centers, and strain ERCOT's ability to integrate additional renewable generation resources.

EPA released details of the CPP final rule on August 3, 2015. In the final rule, several changes were made to the proposal, including modifications to the emissions limit calculation and the compliance deadlines. Under the CPP final rule, Texas will be required to meet a final CO_2 emissions rate limit of 1,042 lb CO_2/MWh on average from 2030 onwards, or 190 million tons of CO_2. EPA calculated these limits based on assumptions about coal plant efficiency improvements, increased production from natural gas combined cycle units, and growth in generation from renewable resources. EPA also modified the compliance deadlines in the final rule, phasing in the reductions over three interim compliance periods between 2022 and 2029, referred to as the "glidepath."

Changes to the calculation methodology make it difficult to compare the emissions rates in the final rule directly to the rates in the proposed rule, but overall the final limits for Texas are less stringent than in the proposal. Though EPA made a number of modifications in the final rule, the most impactful for the stringency of the limits for Texas is EPA's shift to a uniform national approach for setting the standards in the final rule, rather than the state-by-state approach used in the proposal.

Because the timing and magnitude of the required reductions for Texas have changed in the final rule, ERCOT updated its analysis of the potential impacts for the ERCOT Region's resource mix and grid reliability. To do so, ERCOT conducted a modeling analysis using similar assumptions and methods as the 2014 study. This report describes the results of the modeling analysis and discusses the implications for grid reliability.

2. Modeling Analysis

As with ERCOT's previous modeling analysis of the CPP, this analysis uses stakeholder-vetted planning processes and methodologies consistent with ERCOT's regional Long-Term System Assessment (LTSA) studies. This analysis is focused on evaluating the potential impacts of the CPP, in combination with the Cross-State Air Pollution Rule (CSAPR) and the currently proposed Regional Haze FIP for Texas. It does not consider the impacts of other pending environmental regulations affecting generation resources, including the Mercury and Air Toxics Standards (MATS), which have more limited or unit-specific implications and are unlikely, by themselves, to impact overall trends on the ERCOT system. However, these other regulations, in combination with the CPP, CSAPR, and the Regional Haze FIP, could result in additional grid operational impacts and reliability challenges. For example, a number of coal-fired units in the ERCOT region have compliance extensions until April 2016 from the Texas Commission on Environmental Quality (TCEQ) for MATS compliance. There remains a risk that owners may choose to

[2] Ibid.

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retire the affected units rather than comply with MATS next year, especially in light of the proposed Regional Haze FIP and eventual compliance with the Clean Power Plan. The implications of potential MATS-related retirements in 2016 are *not* considered in this analysis. Information about other environmental regulations affecting generation resources is available in ERCOT's December 2014 report, *Impacts of Environmental Regulations in the ERCOT Region.*[3]

2.1. Modeling Methodology

This analysis uses the same model (PLEXOS) and modeling approach as ERCOT's environmental regulatory impact study completed in 2014. A complete description of this methodology is provided in ERCOT's December 2014 report.[4] Certain assumptions have been updated for this analysis based on more recent information currently being developed for the 2016 LTSA[5] and the Future Ancillary Services Cost Benefit Analysis,[6] including natural gas prices and renewable capacity capital costs. Figure 1 shows the updated natural gas prices, in nominal dollars, used in this analysis.

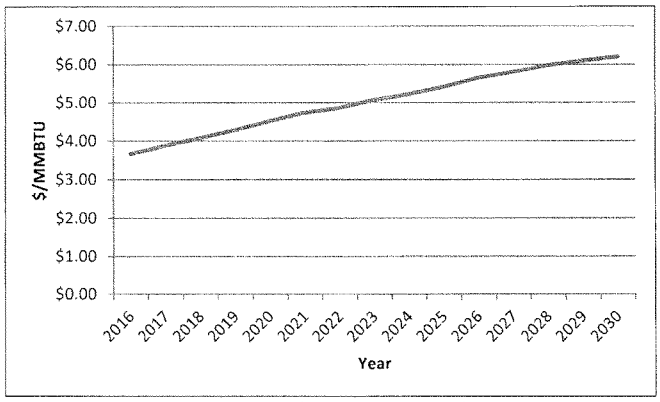


Figure 1: Natural Gas Price Assumptions

In this analysis, ERCOT models compliance with the mass-based CO_2 limits that EPA finalized for Texas. This is a departure from the 2014 study, where ERCOT modeled compliance with the rate-based standards proposed by EPA. In the final rule, EPA published both the rate- and mass-based forms of the CO_2 emissions standards, and states may choose to comply with either form of the standard. Compliance with a rate-based standard would allow overall emissions to increase as generation increases and new renewable energy and energy efficiency are added. Conversely, a mass-based standard would require emissions to remain under a set amount. Though the relative stringency of either form of the standard will depend on program design and availability of emissions reduction credits from renewable energy, energy efficiency, etc., in general modeling the mass-based form of the standard results in a slightly more stringent requirement, and thus provides a conservative estimate of

[3] Electric Reliability Council of Texas, Inc. *Impacts of Environmental Regulations in the ERCOT Region*, December 2014. Available at http://www.ercot.com/content/news/presentations/2015/Impacts%20of%20Environmental%20Regulations%20in%20the%20ERCOT%20Region.pdf.

[4] Ibid.

[5] These assumptions are available at http://www.ercot.com/content/wcm/key_documents_lists/75283/2016_LTSA_Scenario_Assumptions.pptx.

[6] Information on the proposal for a new framework for ancillary services in ERCOT and the cost benefit analysis is available at http://www.ercot.com/committees/other/fast/index.html.

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the impacts of compliance. ERCOT scaled the mass limits for Texas based on the relative amount of load served in the ERCOT Region within Texas to derive ERCOT-specific limits. Figure 2 shows the mass-based emissions limits for Texas published in the CPP final rule and the ERCOT-specific limits modeled in this study.

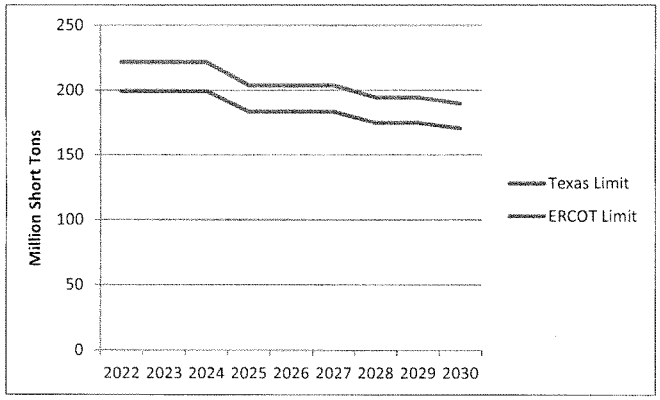


Figure 2: Carbon Dioxide Mass-Based Emissions Limits

As in the previous study, ERCOT modeled scenarios in which the CPP limits are achieved through a system CO_2 emissions constraint and a price per ton of CO_2. These scenarios were developed to evaluate the potential reliability implications of CPP compliance; they do not indicate any assessment of the policy merits or legal permissibility of either compliance approach. In addition to the CPP, the current requirements of CSAPR are included in all of the modeled scenarios, and the proposed Regional Haze FIP is included in one of the modeled scenarios.

The CSAPR program seeks to address cross-state air pollution through a cap and trade program for annual nitrogen oxide (NO_x) and sulfur dioxide (SO_2) emissions, and ozone season (summer) NO_x emissions. In the 2014 study, ERCOT modeled scenarios that included CSAPR as both an emissions limit and an emissions price, but did not include CSAPR in the baseline. Since the rule came into effect on January 1, 2015, this analysis includes CSAPR in both the baseline and CPP scenarios at current allowance prices to reflect the current status of the program.[7] CSAPR allowance prices have been relatively low since the rule came into effect, and therefore the inclusion of these prices in the modeled scenarios is likely to have minimal impacts on unit operations and retirements in the modeling results.

ERCOT modeled four scenarios over the timeframe 2016 to 2030 to evaluate the implications of the CPP on reliability in the ERCOT region:

1. **Baseline** – This scenario estimates a baseline of the ERCOT system under current market trends against which anticipated CPP changes are compared.
2. **CO_2 Limit** – This scenario applies the limits in the CPP to the ERCOT system to determine the least-cost way to comply with the limits. This scenario does not place a price on CO_2 emissions.
3. **CO_2 Price** – This scenario applies a CO_2 emissions price that causes the ERCOT system to achieve compliance with the limits.

[7] ERCOT did not consider any potential future changes to the CSAPR program that could result from recent legal proceedings.

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4. **CO_2 Price & Regional Haze** – This scenario adds the impacts of compliance with the proposed Regional Haze FIP to the CO_2 price scenario.

It should be noted that the CO_2 limit scenario allows the simulation model to select the least-cost way to achieve CPP compliance from electric generating resources. While this approach minimizes the overall system costs, it may not be achievable within the current electricity market design in ERCOT. Electric supply is deregulated in the ERCOT region at the wholesale and retail level. As a result, electric generation and construction of new capacity is driven by market forces, and there is no mechanism to force the ERCOT system to achieve compliance with environmental regulations in a specific manner. Resource owners will make decisions about how to operate existing resources and whether to add new capacity based on market forces. In contrast, the CO_2 price scenarios rely on price signals to obtain emissions compliance rather than direct control of plant emissions, and thus may represent a potential approach to compliance.

To ensure that the price scenarios captured operational and economic constraints not considered by the model, ERCOT reviewed capacity factors and operating revenues from the modeling results in the two CO_2 price scenarios, and assumed that any coal unit operating below a 20% capacity factor annually would retire.[8] This retirement criterion was not applied to the CO_2 limit scenario in order to allow the model to select the least-cost way to achieve compliance for the ERCOT system.

In the two scenarios that implemented the CPP using an emissions price, ERCOT calculated a price for each year that would put carbon dioxide emissions from affected units below the mass-based emissions limit for that year. As shown in Figure 3, the prices in both scenarios follow a similar trend, increasing as the emissions limits tighten in each of the performance periods. The prices required for initial compliance in 2022 are relatively low, at $1.00/ton CO_2 in the CO_2 Price scenario. In the CO_2 Price & Regional Haze scenario, unit retirements driven by the Regional Haze requirements put ERCOT-wide emissions below the emissions limit for the first interim performance period, resulting in a $0.00/ton CO_2 price for the first three years of compliance. These prices then increase in the subsequent performance periods as the CO_2 emissions limits become more stringent. To meet the final emissions limit in 2030, a price of $22.50/ton CO_2 is required, or $21.00/ton CO_2 in the scenario that also includes Regional Haze.

[8] To account for this in the 2014 analysis, ERCOT reviewed capacity factors and operating revenues in the model output to determine additional units at risk of retirement, and reported a range of potential impacts in the 2014 report.

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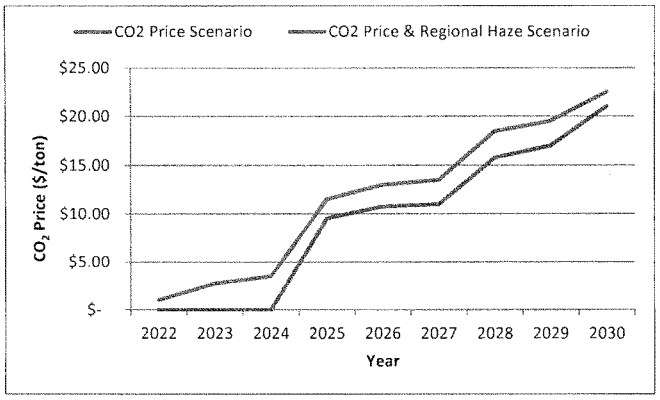


Figure 3: Carbon Dioxide Emissions Prices

In November 2014, EPA proposed a FIP disapproving portions of the Texas state implementation plan for Regional Haze, and setting SO_2 emissions limits for certain coal-fired units in Texas. EPA's proposed FIP would require seven coal-fired units in Texas to upgrade their existing scrubbers, and seven units (five of which are located in ERCOT) to install new scrubber retrofits. To model the proposed Regional Haze FIP requirements, ERCOT added the costs of scrubber upgrades and retrofits to units' fixed costs, as described in the December 2014 report.

In the 2014 study, ERCOT had modeled a 5% energy efficiency savings in scenarios that included the CPP. In this updated analysis, all four scenarios assume energy efficiency savings at 1% of load for all modeled years. At this time, it is unclear how the CPP will be implemented in Texas and how energy efficiency savings might be leveraged for compliance. If, for example, Texas becomes subject to a Federal Plan, it is unclear whether and how energy efficiency could be counted towards compliance. Therefore, the assumption that energy efficiency savings remain at current levels provides a conservative scenario for analysis, and is consistent with the current status of these programs in Texas. However, because energy efficiency remains a potentially cost-effective method for CPP compliance, ERCOT also modeled a scenario where energy efficiency may be used to help achieve compliance, discussed in Section 2.3.

2.2. Modeling Results

ERCOT's modeling of the CPP final rule suggests a different magnitude of impacts compared to the proposed rule. While these modeling results continue to indicate the potential for shifts in the generation mix away from coal and towards natural gas and renewables, the timing and magnitude of these trends differ. The modeling results indicate the potential retirement of at least 4,000 MW of coal-fired capacity due specifically to compliance with the CPP, occurring starting in 2025. However, when the impacts of the CPP are considered in combination with the requirements of EPA's proposed Regional Haze FIP, there are additional unit retirements, many of which occur before the start of CPP compliance in 2022. As with the proposed rule, the modeling predicts a sizeable amount of renewable capacity additions, due both to the improving economics of these technologies as well as impacts of regulating CO_2 emissions. Whereas the previous study saw customer costs increase as early as 2020, due to the stringency of the proposed interim compliance requirements, this analysis sees negligible increases in customer costs by 2022, but sizeable increases in 2030.

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Table 1 shows the existing and planned capacity included in the model as the starting point for this analysis. The modeled scenarios resulted in different amounts of unit retirements and capacity additions relative to this baseline. Table 2 summarizes cumulative unit retirements in 2030 by scenario. The modeling results predict 2,300 MW of unit retirements in the baseline, including 800 MW of gas steam retirements and 1,500 MW of coal unit retirements.[9] The unit retirements estimated in the baseline are due to economics, and not compliance with environmental regulations. The next three scenarios consider the CPP, implemented either as a system emissions limit or an emissions fee. When the CPP is imposed as a limit, there are no additional unit retirements above the baseline scenario. When imposed as a price in the next scenario, however, compliance with the CPP results in 4,000 MW of additional coal unit retirements. These retirements occur starting in 2025, at the beginning of the second CPP interim performance period. Finally, the combined impacts of the CPP and Regional Haze result in 4,700 MW of additional coal retirements relative to the baseline. In this scenario, many of the units retire before 2022 due to the timing of the Regional Haze requirements. The number of gas steam unit retirements remains the same across all four scenarios.

Table 1: Baseline Capacity Assumptions

Fuel Type	Capacity (MW)
Nuclear	5,200
Coal	19,900
Natural Gas	59,300
Wind	19,400
Solar	250
Hydro	500
Other	1,000
Total	**105,500**

Table 2: Unit Retirements by 2030

Generation Technology Type	Baseline	CO_2 Limit	CO_2 Price	CO_2 Price & Regional Haze
Retired Gas Steam (MW)	800	800	800	800
Retired Coal (MW)	1,500	1,500	5,500	6,200
Total Retirements (MW)	**2,300**	**2,300**	**6,300**	**7,000**

Table 3: Capacity Additions by 2030

Generation Technology Type	Baseline	CO_2 Limit	CO_2 Price	CO_2 Price & Regional Haze
Wind (MW)	1,000	4,600	9,400	9,100
Solar (MW)	13,000	13,400	13,700	14,100
Combined Cycle (MW)	0	700	0	0
Combustion Turbine (MW)	1,100	700	2,600	2,900
Total Additions (MW)	**15,100**	**19,400**	**25,700**	**26,100**
Capital Costs of new capacity (billions of $2016)	**16**	**21**	**29**	**29**

The model added new capacity to replace retiring units and meet forecasted demand. Table 3 summarizes the cumulative capacity additions and associated capital costs (in real 2016 dollars) by 2030 for each scenario. In the baseline scenario, the model added 13,000 MW of solar capacity, 1,000 MW of wind capacity, and 1,100 MW of natural gas combustion turbines. It should be noted that this analysis assumes the expiration of the Production Tax Credit (PTC) and step-down of the Investment Tax Credit (ITC), as per current law. In the scenarios with the CPP, the model added an additional 4,000 to 9,200 MW of renewable capacity. There are also 1,500 to 1,800 MW of additional natural gas combustion turbines added in the CO_2 price scenarios.

Figure 4 summarizes the capacity additions and retirements in the modeled scenarios. The observed reserve margins resulting from these changes to the resource mix are comparable across all four scenarios.

[9] This includes the announced mothballing of CPS Energy's J.T. Deely units 1 and 2 in 2018.

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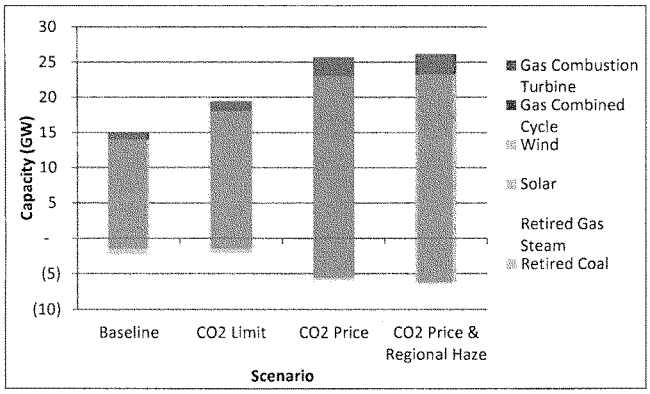


Figure 4: Capacity Additions and Retirements by 2030

Compliance with the CPP results in shifts in the generation mix away from coal and towards natural gas and renewables. Tables 4 and 5 show the annual generation by fuel in 2022 and 2030, respectively, in each of the scenarios. In 2022, the annual generation by fuel is very similar across the first three scenarios. In the fourth scenario, CO_2 Price & Regional Haze, a decrease in generation from coal is made up by increased generation from natural gas and solar resources. By 2030, the generation mix shifts more significantly as the CPP limits become more stringent. The share of generation provided by coal-fired capacity in the CPP scenarios is lower compared to the baseline, at 14 to 16%, versus 27% in the baseline. The difference is made up by increases in generation from natural gas and wind resources. As a result of increased generation from natural gas-fired capacity, in 2030 consumption of natural gas (in MMBTUs) is 14 to 18% higher compared to the baseline in the CPP scenarios.

Figure 5 shows the carbon dioxide emissions from units subject to the CPP in 2022 and 2030 for each scenario.[10] In 2022, CO_2 emissions in the baseline scenario are just above the CO_2 emissions limit for

Table 4: 2022 Annual Generation by Fuel

Fuel Type	Baseline	CO_2 Limit	CO_2 Price	CO_2 Price & Regional Haze
Natural Gas (%)	46	46	47	49
Coal (%)	27	27	26	24
Wind (%)	15	15	15	15
Solar (%)	2	2	2	3
Nuclear (%)	10	10	10	10
Other (%)	<1	<1	<1	<1

Table 5: 2030 Annual Generation by Fuel

Fuel Type	Baseline	CO_2 Limit	CO_2 Price	CO_2 Price & Regional Haze
Natural Gas (%)	43	51	50	50
Coal (%)	27	16	14	15
Wind (%)	14	16	20	20
Solar (%)	7	7	7	7
Nuclear (%)	9	9	9	9
Other (%)	<1	<1	<1	<1

[10] Figure 5 includes emissions only from those units that are subject to the CPP, it does *not* reflect total CO_2 emissions for the ERCOT generating fleet. Only existing fossil steam and combined cycle units subject to certain criteria are regulated under the CPP.

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the first performance period. As noted previously, emissions in the CO_2 Price & Regional Haze scenario are below the limit in 2022 due to Regional Haze-related retirements. In 2030, the projected baseline CO_2 emissions are above the final CO_2 emissions limit, and the two price scenarios require a price of $22.50/ton CO_2 and $21.00/ton CO_2, respectively, to attain compliance with the limits.

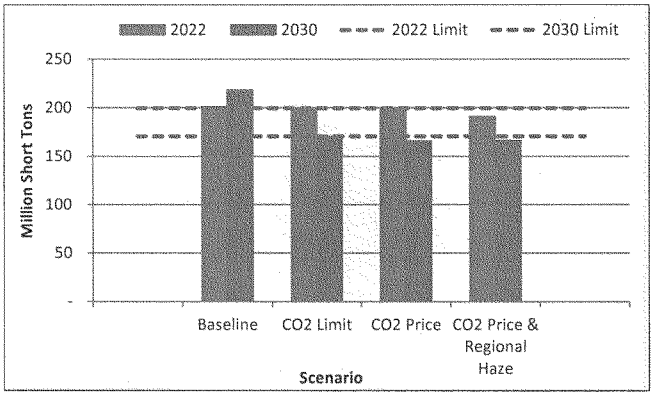


Figure 5: Carbon Dioxide Emissions from Clean Power Plan Affected Units

Compliance with the CPP will impact electricity prices in the ERCOT Region. Table 6 shows the impacts of CPP compliance on average locational marginal prices (LMPs) compared to the baseline scenario. In 2022 the average LMPs are similar across all four scenarios. By 2030 compliance with the CPP results in a 20 to 44% increase in LMPs relative to the baseline. As a general estimate, if wholesale power is 40% of the customer bill, these increases in average LMPs would result in a retail energy price increase of 8 to 18% in 2030. These results do not include the associated costs of building or upgrading transmission infrastructure, natural gas infrastructure upgrades, ancillary services procurement, or potential reliability-must-run contracts.

Table 6: Locational Marginal Prices

Locational Marginal Price	Baseline	CO_2 Limit	CO_2 Price	CO_2 Price & Regional Haze
2022 LMP ($/MWh)	$43.35	$43.08	$44.12	$43.25
2030 LMP ($/MWh)	$57.20	$68.53	$79.78	$82.59
2022 LMP % change from baseline	n/a	-1%	2%	<1%
2030 LMP % change from baseline	n/a	20%	39%	44%
2022 retail energy bill % change	n/a	<1%	<1%	<1%
2030 retail energy bill % change	n/a	8%	16%	18%

2.3. Energy Efficiency Scenario

As discussed in Section 2.1, energy efficiency is a potential tool that could be used to assist with CPP compliance, but at this time it remains uncertain what role energy efficiency could play in a state or Federal plan for Texas. For this reason, ERCOT did not assume any energy efficiency savings incremental to current levels in the four scenarios described in the previous section. However, because energy

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efficiency is a potentially cost-effective method for CPP compliance, ERCOT modeled an additional scenario in which greater deployment of energy efficiency measures may be used to help achieve compliance.

In this scenario, a cumulative energy efficiency savings of 7% by 2030 is assumed, which is consistent with the amount EPA assumed for Texas in the Regulatory Impact Analysis (RIA) of the CPP final rule.[11] To construct the energy efficiency scenario, ERCOT customized the energy efficiency assumptions used by EPA to the ERCOT load forecast. The scenario with energy efficiency savings applies the CO_2 limits in the final CPP as a system constraint, comparable to the CO_2 limit scenario.

Tables 7 and 8 summarize the unit retirements and capacity additions, respectively, for this scenario. The number of unit retirements in the energy efficiency scenario is the same as the baseline and CO_2 limit scenarios. However, the number of capacity additions is lower, due to the energy efficiency measures offsetting increases in demand. The annual generation by fuel, shown in Table 9, is similar to that of the other scenarios in 2022. The differences in the generation mix compared to the other scenarios in 2030 are, again, attributable to the reduced demand resulting from energy efficiency measures, which leads to fewer wind and solar capacity additions, and thus slightly lower generation from those technologies.

The 2022 average LMP in the energy efficiency scenario is $43.48/MWh, which is similar to the results in the other scenarios. In 2030, the LMP is $63.75/MWh, representing an 11% increase above the baseline or a 5% increase in retail energy prices. However, these estimates do not account for the capital costs of investments in energy efficiency measures. Although ERCOT has not estimated these costs, EPA's estimates from the RIA can be illustrative of the potential costs. Based on inflating EPA's estimates to real 2016 dollars and scaling the costs to the level of estimated ERCOT savings, the capital costs to achieve the specified savings would be approximately $31 billion ($2016) by 2030.

Table 7: Unit Retirements by 2030

Generation Technology Type	CO_2 Limit & Energy Efficiency
Retired Gas Steam (MW)	800
Retired Coal (MW)	1,500
Total Retirements (MW)	**2,300**

Table 8: Capacity Additions by 2030

Generation Technology Type	CO_2 Limit & Energy Efficiency
Wind (MW)	2,200
Solar (MW)	10,200
Combined Cycle (MW)	0
Combustion Turbine (MW)	900
Total Additions (MW)	**13,300**
Capital Costs of new capacity (billions of $2016)	**14**

Table 9: Annual Generation by Fuel

Fuel Type	2022	2030
Natural Gas (%)	46	51
Coal (%)	27	18
Wind (%)	15	16
Solar (%)	2	6
Nuclear (%)	10	9
Other (%)	<1	<1

3. Discussion

As with ERCOT's 2014 analysis of the CPP proposed rule, this modeling analysis indicates that compliance with the CPP is likely to result in the retirement of existing generation capacity and require significant amounts of generation from renewable sources. Though the specific amounts of unit retirements and capacity additions differ from ERCOT's previous study of the CPP proposal – due both to changes to the emissions limits and timing in the CPP final rule as well as changing market economics – ERCOT continues to see potential challenges to grid reliability resulting from these resource mix changes, as well as associated impacts to the transmission system.

[11] U.S. Environmental Protection Agency. *Demand-Side Energy Efficiency Technical Support Document*, August 2015. Available at http://www3.epa.gov/airquality/cpp/tsd-cpp-demand-side-ee.pdf.

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3.1. Impact of Unit Retirements

The modeling results suggest that compliance with the CPP could result in the retirement of at least 4,000 MW of coal-fired capacity in the ERCOT region. In addition to these retirements, several units in the modeling results operate at low capacity factors during off-peak months, and would be potential candidates for suspended operations during those months (seasonal mothball). Though overall fewer coal units are at risk compared to the number of units under the CPP proposal, due to the differing level of stringency in the final rule, there continues to be a risk that the ERCOT Region could see multiple unit retirements within a short timeframe, which could result in implications for reliability.

The potential impacts to coal-fired generation increase when other environmental compliance requirements are considered. There are several environmental regulations for which owners of coal units will need to take actions to comply between now and 2022. With the implementation of the CPP to consider, resource owners may choose to retire units rather than install the required control technology retrofits to comply with these other rules. For more information about other environmental regulations affecting generation resources, see ERCOT's December 2014 report.

In this analysis, ERCOT included the CO_2 Price & Regional Haze scenario to assess the combined impacts of the two rules. The results of that scenario suggest that compliance with the CPP and the Regional Haze FIP could result in the retirement of at least 4,700 MW of coal-fired capacity. Model results indicate that many of the retirements will occur before the start of CPP compliance in 2022, due to the timing of the proposed Regional Haze FIP requirements. However, these results likely represent a lower bound on the number of potential coal unit retirements, in large part because the model is not requiring a competitive market rate of return for unit upgrades like investors would. Note that in the 2014 study, ERCOT considered 8,500 MW of coal-fired capacity to have some risk of retirement due to the proposed Regional Haze requirements.

If ERCOT does not receive adequate notification of these retirements, and if multiple unit retirements occur within a short timeframe, there could be implications for reliability. Coal resources provide essential reliability services necessary to maintain the reliability of the grid. The retirement of coal resources will require studies to determine if there are any resulting reliability issues, including whether there are localized voltage/reactive power control issues and the necessity of potential transmission upgrades, which is discussed in the following section.

3.2. Impact on Transmission

The modeling results indicate that the compliance requirements in the CPP could result in the retirement of at least 4,000 MW of coal-fired capacity. The retirement of legacy coal-fired generation could result in localized reliability issues and require transmission system upgrades. As part of ongoing work studying the potential impacts of environmental regulations, ERCOT recently conducted a reliability analysis that evaluated potential retirement scenarios resulting from compliance with the proposed Regional Haze FIP.[12] Though this study was focused specifically on scenarios associated with the Regional Haze requirements, the results are illustrative of the likely transmission reliability implications and associated costs of losing a substantial amount of legacy coal-fired generation over a relatively short period of time.

In the study, ERCOT retired affected units in phases – first assuming the retirement of units with scrubber retrofit requirements, and then adding to that the potential retirement of units with scrubber upgrade requirements. ERCOT evaluated the potential impacts separately for each region with affected

[12] Additional information on this study is available on ERCOT's Regional Planning Group (RPG) website at http://www.ercot.com/content/wcm/key_documents_lists/76860/Transmission_Impact_of_the_Regional_Haze_Environmental_Regulation_Oct_RPG.pdf.

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capacity (East/Coast, South/South Central, and North/North Central), using the 2015 Regional Transmission Plan (RTP) cases for the year 2020. New conventional and solar generation resources outside of the study region with a signed generator interconnection agreement (SGIA) were added to each scenario to balance the load, supply, and reserves.

The study showed that the retirement of coal-fired generation affected by the proposed Regional Haze FIP would have a significant impact on the reliability of the transmission system and would require substantial upgrades to transmission infrastructure. The study identified local transmission issues in all of the studied regions, as well as zonal transfer issues in the North/North Central region. In one scenario that assumed the retirement of 4,200 MW of coal-fired capacity, comparable to the amount expected to retire due to the CPP alone, model results indicated that the thermal capacities of 10 circuits (143 miles) of 345 kV transmission lines, 31 circuits (147 miles) of 138 kV transmission lines, 6 circuits (39 miles) of 69 kV transmission lines, and 11 transformers would be exceeded. Note that the transmission impacts of unit retirements are highly location specific. As a general estimate, new 69 kV and 138 kV lines cost on the order of one million dollars per mile and new 345 kV lines cost on the order of three million dollars per mile. Additionally, in the ERCOT Region, it takes at least five years for a new major transmission project to be planned, routed, approved, and constructed.

Growth in renewable generation would also likely have a significant impact on transmission requirements. In early 2014, the transmission upgrades needed to integrate the Texas Competitive Renewable Energy Zones (CREZ) were completed. These upgrades were intended to facilitate the integration of wind resources onto the ERCOT system and included more than 3,600 miles of new transmission lines, constructed at a cost of $6.9 billion dollars. The project took nearly a decade to complete. To date, more than 14 gigawatts of wind capacity have been successfully integrated onto the ERCOT grid. While the CREZ transmission upgrades provide some transmission capacity beyond current generation development, the modeling results indicate as much or more growth in renewable capacity over the next 15 years. Integrating these resources would likely require significant investments in new transmission and a substantial acquisition of new transmission line right of way, incremental to those that have already been completed as part of CREZ.

3.3. Impact of Renewables Integration

Integrating new wind and solar resources will increase the challenges of reliably operating the ERCOT grid. In 2014, 10.6% of the ERCOT region's annual generation came from wind resources. At its highest levels of instantaneous penetration, wind has provided enough energy to serve 40.58% of system load.[13] The modeling results predict further growth in both wind and solar resources, which together would constitute 27% of total generation by 2030 in the CO_2 Price and CO_2 Price & Regional Haze scenarios. However, in hourly operations, this level of renewables would result in intermittent generation serving more than 50% of load in over 400 hours of the year, and a peak instantaneous penetration of 67%. This is an increase in renewable generation compared to the results of ERCOT's 2014 study, due to the improving economics of these technologies, as reflected in the updated capital cost assumptions included in this analysis.

Further, these scenarios show significant growth in both wind and solar resources, compared to the 2014 study which predicted mostly solar capacity additions. Wind production in West Texas results in high renewable penetration during off-peak hours, when customer demand for electricity is lowest. The modeling results indicate lower net loads (defined as total customer demand minus generation from intermittent energy resources) compared to the 2014 study (14,611 MW in this analysis as compared to 17,611 MW in the 2014 study).[14] As a result, the anticipated challenges to grid reliability indicated by

[13] The current record in the ERCOT Region for wind penetration occurred on March 29, 2015 at 2:00 a.m.

[14] The current record in the ERCOT Region for net load is 14,809 MW, which occurred on March 24, 2014 at 2:25 a.m.

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these modeling results may be more severe. In addition, if a significant portion of future solar generation capacity is located on the distribution grid (e.g., rooftop solar and small scale utility solar connected at lower voltage levels), as opposed to the utility-scale, it could result in additional operational impacts.

The increased penetration of intermittent renewable generation, as projected by these results, will pose challenges to the reliable operation of all generation resources. In the periods when the output of renewable generation provides a large percentage of total energy, significant ramping capability and operational reserves will be required to maintain grid reliability. If there is not sufficient ramping capability and operational reserves during these periods, the need to maintain operational reliability could require the curtailment of renewable generation resources. The ability to curtail intermittent generation resources in real-time operations is a key backstop for maintaining the reliability of the system. Curtailment would reduce production from renewable resources, and could delay achievement of compliance with the CPP limits.

4. Conclusion

ERCOT's modeling of the CPP final rule suggests impacts of a different magnitude compared to the proposed rule. Though overall fewer coal units are at risk compared to the number of units under the CPP proposal, there continues to be a risk that the ERCOT Region could see multiple unit retirements within a short timeframe. When the impacts of the CPP are considered in combination with the requirements of EPA's proposed Regional Haze FIP, there are additional unit retirements, many of which occur even before the start of CPP compliance in 2022. If ERCOT does not receive adequate notification of these retirements, there could be periods of reduced system-wide reserve margins and localized transmission reliability issues due to the loss of generation resources in and around major urban centers. A recent reliability analysis of potential retirement scenarios resulting from compliance with the proposed Regional Haze FIP indicated that the retirement of 4,200 MW of coal-fired capacity would have a significant impact on the reliability of the transmission system.

As with ERCOT's analysis of the proposed rule, this study predicts a sizeable amount of renewable capacity additions, due both to the improving economics of these technologies as well as impacts of regulating CO_2 emissions. If there is not sufficient ramping capability and operational reserves during periods of high renewable penetration, the need to maintain operational reliability could require the curtailment of renewable generation resources. The ability to curtail intermittent generation resources in real-time operations is a key backstop for maintaining the reliability of the system. Curtailment would reduce production from renewable resources, and could delay achievement of compliance with the CPP limits.

The CPP will also result in increased energy costs for customers in the ERCOT region. Based on ERCOT's modeling analysis, energy costs for customers may increase by up to 16% by 2030 due to the CPP alone, without accounting for the associated costs of transmission upgrades, higher natural gas prices caused by increased gas demand, procurement of additional ancillary services, and other costs associated with the retirement or decreased operation of coal-fired capacity in ERCOT. Consideration of these factors would result in even higher energy costs for customers.

At this time, there is uncertainty regarding the implementation of the CPP in Texas. In the coming years, resource owners will need to make decisions about their generation units – taking into account the CPP as well as other environmental regulations – that could result in localized reliability issues and transmission constraints associated with a changing resource mix. As new information becomes available, ERCOT will continue to analyze the impacts of regulatory developments that may affect the ability to provide reliable electricity to customers in Texas.

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101st Congress, 1st Session - - - - - - - - - House Document 101-87

PROPOSED LEGISLATION—"CLEAN AIR ACT AMENDMENTS OF 1989"

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A DRAFT OF PROPOSED LEGISLATION TO AMEND THE CLEAN AIR ACT TO PROVIDE FOR THE ATTAINMENT AND MAINTENANCE OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS, THE CONTROL OF TOXIC AIR POLLUTANTS, THE PREVENTION OF ACID DEPOSITION, AND OTHER IMPROVEMENTS IN THE QUALITY OF THE NATION'S AIR



JULY 24, 1989.—Message and accompanying papers referred to the Committee on Energy and Commerce and ordered to be printed

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U.S. GOVERNMENT PRINTING OFFICE

19-703 WASHINGTON : 1989

To the Congress of the United States:

Today I am pleased to transmit proposed legislation entitled the "Clean Air Act Amendments of 1989." This proposal reflects the first major clean air legislation proposed by the executive branch in a decade. It is designed to achieve consensus by complementing the important efforts of the Congress in recent years, so that we can move forward this year with a plan to protect our Nation's air.

On June 12, 1989, I outlined the highlights of my program to provide clean air for all Americans, the first sweeping revisions to the Clean Air Act since 1977. This legislation implements that program. While emissions of some pollutants—such as lead and carbon monoxide—have been reduced since the Clean Air Act was passed in 1970, progress has not come quickly enough and much remains to be done.

My proposal is designed to curb three major threats: acid rain, urban air pollution, and toxic air emissions. The seven-title proposal I am sending you today represents the actions that we believe the Congress should take in each of these areas. If this legislation is enacted, acid rain-related pollutants will be reduced by nearly one-half, all urban areas in the country will finally attain national air quality standards, and emissions of toxic air pollutants will be slashed.

My acid rain proposal would permanently cut sulfur dioxide (SO2) emissions by 10 million tons from 1980 levels and would result in a 2 million ton cut in nitrogen oxide (NOx) emissions from levels projected by the year 2000. All cities currently not meeting the health standards for ozone and carbon monoxide would be brought into attainment. Most cities would attain the standard by 1995, and the plan is designed to ensure attainment in all but the most severely impacted cities by the year 2000. New plants emitting toxic compounds into the air would be required to employ the best technology currently available so as to achieve a significant cut in pollutants suspected of causing cancer.

More important, this proposed legislation makes deep, early cuts in air pollution and continues that progress forward into the 21st century. During my campaign I promised the American people that my Administration would work to protect the environment and to ensure clean air for all Americans. Enactment of the proposal I present to you today will be a major step in fulfilling that promise. I urge these important proposals be promptly considered and enacted. We owe the people of our great Nation nothing less.

GEORGE BUSH.

THE WHITE HOUSE, *July 21, 1989.*

A BILL

To amend the Clean Air Act to provide for the attainment and maintenance of the national ambient air quality standards, the control of toxic air pollutants, the prevention of acid deposition, and other improvements in the quality of the nation's air.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Section 1. SHORT TITLE AND TABLE OF CONTENTS

This Act may be cited as "The Clean Air Act Amendments of 1989".

TABLE OF CONTENTS

TITLE I -- PROVISIONS FOR ATTAINMENT AND MAINTENANCE OF AMBIENT AIR QUALITY STANDARDS

SEC. 101 General Planning Requirements
SEC. 102 General Provisions for Nonattainment Areas
SEC. 103 Additional Provisions for Ozone Nonattainment Areas
SEC. 104 Additional Provisions for Carbon Monoxide Nonattainment Areas
SEC. 105 Additional Provisions for Particulate Matter (PM-10) Nonattainment Areas
SEC. 106 Additional Provisions for Areas Designated Nonattainment for Sulfur Oxides, Nitrogen Dioxide, or Lead
SEC. 107 Provisions Related to Indian Tribes
SEC. 108 Miscellaneous Provisions
SEC. 109 Conforming Amendments.

TITLE II -- PROVISIONS RELATING TO MOBILE SOURCES

SEC. 201 Clean Fuel Requirements
SEC. 202 Emissions of Hydrocarbons, Carbon Monoxide and Oxides of Nitrogen from Passenger Cars
SEC. 203 Emissions of Hydrocarbons and Carbon Monoxide from Light-duty Trucks
SEC. 204 Carbon Monoxide Emissions at Cold Temperatures
SEC. 205 Evaporative Emissions
SEC. 206 Mobile Source-Related Air Toxics
SEC. 207 Emission Control Diagnostics Systems
SEC. 208 Heavy-duty Trucks
SEC. 209 Non-road Engines and Vehicles
SEC. 210 Vehicle Certification
SEC. 211 In-Use Compliance--Recall
SEC. 212 Compliance Program Fees
SEC. 213 Information Collection
SEC. 214 Fuel Volatility
SEC. 215 Diesel Fuel Sulfur Content
SEC. 216 Non-road Fuels
SEC. 217 Fuel Waivers
SEC. 218 Market-Based Alternative Controls
SEC. 219 Preemption of State Fuels Regulations
SEC. 220 Enforcement
SEC. 221 Technical Amendments

TITLE III -- HAZARDOUS AIR POLLUTANTS

SEC. 301 Technology-based Standards for Hazardous Air Pollutants

TITLE IV -- PERMITS

SEC. 401 Permits

TITLE V -- ACID DEPOSITION CONTROL

SEC. 501 Acid Deposition Control

TITLE VI -- PROVISIONS RELATING TO ENFORCEMENT

SEC. 601 Section 113 Enforcement
SEC. 602 Reviewability of Administrative Orders
SEC. 603 Compliance Certification
SEC. 604 Contractor Inspections
SEC. 605 Administrative Enforcement Subpoenas
SEC. 606 Enforcement of Administrative Orders
SEC. 607 Scope of Emergency Orders

which establish the elements of tribal implementation plans and procedures for approval or disapproval of tribal implementation plans and portions thereof.

"(4) In any case in which the Administrator determines that the treatment of Indian tribes as identical to States is inappropriate or administratively infeasible, the Administrator may provide, by regulation, other means by which the Administrator will directly administer such provisions so as to achieve the appropriate purpose.

"(5) Until such time as the Administrator promulgates regulations pursuant to this subsection, the Administrator may continue to provide financial assistance to eligible Indian tribes under section 105.".

SEC. 108. MISCELLANEOUS.

(a) Transportation Planning Guidance.-- Section 108 of the Clean Air Act is amended by--

(1) revising the first sentence of subsection 108(e) to read as follows:

"(e) Within nine months after the date of enactment of the Clean Air Act Amendments of 1989 and periodically thereafter as necessary to maintain a continuous process of transportation and air quality planning, including emissions inventory development, the Administrator shall, after consultation with the Secretary of Transportation and State and local officials, update the June 1978 Transportation-Air Quality Planning Guidelines; and

(2) amending the introductory language and subparagrapl (A) of paragraph 108(f)(1) to read as follows:

"(f)(1) The Administrator shall, from time to time publish and make available to appropriate Federal, State, anc local environmental and transportation agencies--

"(A) information, prepared as appropriate after consultation with the Secretary of Transportation, regarding the emission reduction potential of transportation control measures, including but not limited to--

"(i) trip-reduction ordinances;

"(ii) employer-based transportation management plans;

"(iii) transit improvements;

"(iv) traffic-flow improvements;

"(v) area-wide rideshare programs;

"(vi) no-drive days;

"(vii) parking-management programs;

"(viii) park-and-ride and fringe parking programs;

"(ix) work-schedule changes; and

"(x) road-pricing and tolls;".

(b) State Reports on Emissions-related Data.-- Section 110 of the Clean Air Act is amended by adding a new subsection (u) at the end thereof, to read as follows:

"(u) Any State shall submit, according to such schedule as the Administrator may prescribe, such reports as the Administrator may require relating to emission reductions, vehicle miles travelled, congestion levels, and any other information the Administrator may deem necessary to assess the development, effectiveness, need for revision, or implementation of any plan or plan revision required under this Act.".

(c) New Source Standards of Performance.--

(1) Section 111(b)(1)(B) of the Clean Air Act is amended by--

(A) striking "120 days" and inserting "one year";

(B) striking "90 days" and inserting "one year";

(C) striking "four years" and inserting "eight years";

(D) inserting "Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if he determines that such review is not appropriate in light of readily available information on the efficacy of such standard." immediately before the sentence beginning "Standards of performance or revisions thereof..."; and

(E) adding a new sentence at the end thereof, to read as follows: "When implementation and enforcement of any requirement of this Act indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are

achieved in practice, the Administrator shall, when revising those standards, consider the emission limitations and percent reductions achieved in practice.

(2) Section 111(f)(1) of the Clean Air Act is amended to read as follows:

"(f)(1) For those categories of major stationary sources that the Administrator listed under subsection (b)(1)(A) prior to the date of enactment of the Clean Air Act Amendments of 1989 and for which regulations had not been proposed by the Administrator by such date, the Administrator shall:

"(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within two years of the date of enactment of the Clean Air Act Amendments of 1989;

"(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within four years of the date of enactment of the Clean Air Act Amendments of 1989; and

"(C) propose regulations for the remaining categories of sources within six years of the date of enactment of the Clean Air Act Amendments of 1989;".

(d) Regulation of Existing Sources.-- Section 111(d)(1)(A)(i) of the Clean Air Act is amended by striking "or 112(b)(1)(A)" and inserting "or emitted from a source category which is regulated under section 112".

(e) Authority to Obtain Information.-- Section 114(a)(1) of the Clean Air Act is amended by--

(1) striking the term "or" and inserting a comma immediately after the phrase "any emission source"; and

(2) inserting "or who manufactures emission control equipment or process equipment, or who the Administrator believes may have information necessary for the purposes set forth in this subsection" immediately after "any person who owns or operates an emission source".

(f) Consultation.-- The second-to-last sentence of Section 121 of the Clean Air Act is amended to read as follows:
"The Administrator shall update as necessary the original regulations required and promulgated under this section (as in effect immediately before the date of enactment of the Clean Air Act Amendments of 1989) to ensure adequate consultation.".

(g) Permit Process for Addressing Interstate Effects.-- Section 126 of Clean Air Act is amended by adding a new subsection (d), to read as follows:

"(d) The provisions of this section shall not apply to any source or implementation plan in a State with a permit program fully approved under title IV.".

(h) Increment Exemptions.-- Section 163(c)(1) of the Clean Air Act is amended by--

(1) replacing the comma and "and" at the end of subparagraph (C) with a period;

FRED UPTON, MICHIGAN
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FOURTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
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Minority (202) 225-3641

November 12, 2015

Mr. Richard L. Revesz
Dean Emeritus
Lawrence King Professor of Law
Director, Institute for Policy Integrity
New York University School of Law
40 Washington Square South, 411
New York, NY 10012

Dear Mr. Revesz:

Thank you for appearing before the Subcommittee on Energy and Power on Thursday, October 22, 2015, to testify at the hearing entitled "EPA's CO2 Regulations for New and Existing Power Plants: Legal Perspectives."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Monday, November 30, 2015. Your responses should be mailed to Will Batson, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Will.Batson@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Ed Whitfield
Chairman
Subcommittee on Energy and Power

cc: The Honorable Bobby Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

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Richard L. Revesz
Lawrence King Professor of Law and Dean Emeritus

November 29, 2015

Will Batson
Legislative Clerk
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Mr. Batson,

Thank you for the opportunity to testify before the Subcommittee on Energy and Power on October 22, 2015. Below please find my response to the additional question for the record posed by the Honorable Frank Pallone.

1. **At the end of the hearing, Congressman Olson asked Ms. Wood about the Good Neighbor Provision in the Clean Air Act and whether it supports the Clean Power Plan. In response, Ms. Wood said: "The Good Neighbor Provision is part of the NAAQS program, the National Ambient Air Quality Standard provision. It is part of section 110 of the Clean Air Act. It is different. And what that provision covers is the attainment of National Ambient Air Quality Standards. And the way that States can do that is much more broad than under section 111, which is the standards of performance for sources. So it can encompass many more things than a standard of performance can. It is not as limited to the source or limited to an emission rate. It works differently. It is a completely different program."**

   Do you agree with Ms. Wood's assessment? Please explain.

I disagree with the suggestion that EPA has less freedom to employ flexible emission-reduction strategies under Section 111(d) of the Clean Air Act than it does under Section 110(a)(2)(D)(i)(I), commonly known as the Good Neighbor Provision. While Ms. Wood insists that Section 111(d) "works differently" from Section 110, the Clean Air Act in fact requires that the two sections *work similarly*. Section 111(d) instructs the EPA Administrator

to follow "a procedure similar to that provided by section [110]" when working with states to create standards of performance for existing sources.[1]

The Good Neighbor Provision is designed to prevent "any source" in an upwind state from "contribut[ing] significantly" to nonattainment of the National Ambient Air Quality Standards in a downwind state.[2] In implementing this provision, EPA has repeatedly taken a flexible, cost-minimizing approach to emission reduction. In the NO_x SIP Call, promulgated during the Clinton Administration;[3] the Clean Air Interstate Rule, promulgated during the George W. Bush Administration;[4] and the Cross-State Air Pollution Rule (CSAPR), promulgated during the Obama Administration,[5] the agency set statewide emission budgets that regulated plants could achieve collectively, through emission trading or other means. The Supreme Court upheld CSAPR in 2014, calling it a "permissible, workable, and equitable interpretation of the Good Neighbor Provision."[6]

Like CSAPR and its predecessors, the Clean Power Plan takes a flexible approach to the regulation of power plants, allowing emission reductions to occur where they can be achieved most cost-effectively. Nothing in the text of Section 111 forecloses this eminently sensible strategy.

Thank you once again for the opportunity to testify and to respond to this additional question.

Warm regards,

[redacted]

Richard L. Revesz

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[1] 42 U.S.C. § 7411(d)(1).
[2] 42 U.S.C. § 7410(a)(2)(D)(i)(I).
[3] Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,358, 57,456 (Oct. 27, 1998).
[4] Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_x SIP Call, 70 Fed. Reg. 25,162, 25,162, 25,229 (May 12, 2005).
[5] Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48,208, 48,210 (Aug. 8, 2011).
[6] EPA v. EME Homer City Generation, LP, ___U.S.___, 134 S. Ct. 1584, 1610 (2014).

FRED UPTON, MICHIGAN
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November 12, 2015

Ms. Emily Hammond
Professor of Law
The George Washington University Law School
2000 H Street, N.W.
Washington, D.C. 20052

Dear Ms. Hammond:

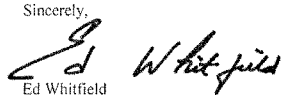
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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield
Chairman
Subcommittee on Energy and Power

cc: The Honorable Bobby Rush, Ranking Member, Subcommittee on Energy and Power

Attachment



THE GEORGE WASHINGTON UNIVERSITY LAW SCHOOL
WASHINGTON DC

The Honorable Ed Whitfield
Congress of the United States
House of Representatives
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Attn.: Will Batson, Legislative Clerk
via Email and U.S. Mail

November 30, 2015

Dear Chairman Whitfield:

Thank you for the opportunity to testify at the October 22, 2015 hearing entitled "EPA's CO2 Regulations for New and Existing Power Plants: Legal Perspectives." This letter responds to the additional question from the Honorable Frank Pallone, which states:

> In his testimony for the hearing, Mr. Gifford said, "The ambition of this Rule toward the electric sector is totalistic; that is, it needs to fundamentally reorder the traditional federal-state division in the power sector, and force rearrangement of the state institutions dealing with electricity . . . in practice, this means that state utility commissions . . . give way to state unified carbon resource planning under the auspices of the state air regulator.
>
> Do you agree with Mr. Gifford's assessment of the rule's impact on the electric sector? Please explain.

My response is as follows:

I disagree with Mr. Gifford's assessment of the rule's impact on the electric sector because it overlooks how existing legal frameworks at the state level actually operate. Indeed, the law and facts demonstrate that the "totalistic" vision he describes is unfounded. First, it is notable that state public utility commissions (PUCs) have long considered environmental factors in exercising their traditional powers over electricity generation and rates within their borders. For example, numerous state PUCs require Integrated Resource Planning (IRP), which involves evaluating and comparing electricity generation alternatives and is conducted in connection with licensing or rate proceedings.[1] At least twenty-seven states currently require IRP, and it can be a valuable tool for considering the carbon impacts of the electric sector.[2] States have also developed methodologies for valuing electricity generation externalities when they consider electricity fuel sources and engage in capacity planning.[3] The same PUCs are also already a part of the approximately two-thirds of states that have other low-carbon initiatives, like Renewable Portfolio Standards.[4]

Second, the Clean Air Act's (CAA) cooperative federalism structure has been in place for decades. Under this structure, most state environmental agencies are responsible for administering the CAA, including issuing permits, monitoring, and enforcing the laws that relate to electric generating units.[5] PUCs are accustomed to this structure, which is unchanged by the Clean Power Plan and new source standards.

Third, to the extent state PUCs and environmental agencies engage in additional cooperation as a result of the Clean Power Plan, the results are beneficial. As a matter of administrative law, interagency coordination stands to improve decisionmaking and help guard against judicial remands.[6] Further, state agencies have already begun to coordinate under the leadership of various national organizations.[7] For example, the National Association of State Energy Officials (NASEO) has partnered with the National Association of Regulatory Utility Commissioners (NARUC) and the National Association of Clean Air Agencies (NACAA) to form the "3N" group.[8] 3N has provided numerous resources addressing state compliance from the perspective of multiple state regulatory bodies, and has facilitated ongoing dialogue between them.[9]

Finally, the Clean Power Plan's flexibility helps ensure that states can select the compliance approaches that best fit their own state agency structures and authorities. There is no requirement in the Plan that state environmental agencies usurp the traditional authority of state PUCs. Instead, the Plan contemplates cooperation and tailoring to ensure that states as well as PUCs retain their authority.

I appreciate the opportunity to provide this response and would be happy to respond to any additional questions.

Sincerely yours,

[redacted]

Emily Hammond
Associate Dean for Public Engagement and Professor of Law
202-994-6024
ehammond@law.gwu.edu

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[1] *See* Energy Policy Act of 1992, Pub. L. No. 102-486, § 111, 106 Stat. 2776, 2795 (codified as amended at 16 U.S.C. § 2621(d)(7) (2012)) (directing utilities to implement ISP); Rachel Wilson

[2] For a helpful description of how Arizona, Colorado and Oregon use integrated resource planning, see Rachel Wilson & Bruce Biewald, *Best Practices in Electric Utility Integrated Resource Planning*, REG. ASSISTANCE PROJECT, 6–16 (June 2013), http://www.raponline.org/document/download/id/6608 [http://perma.cc/SX9Q-J7AH].

[3] William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614 (2014).

[4] For an up-to-date list, see DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, www.dsireusa.org (last visited Sept. 11, 2015) [http://perma.cc/54W6-PDTX].

[5] *See* Emily Hammond & David L. Markell, *Administrative Proxies for Judicial Review: Building Legitimacy from the Inside-Out*, 37 HARV. ENVTL. L. REV. 313 (2013) (providing overview).

[6] Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131, 1146-49 (2012).
[7] *See* Emily Holden, *Will tension between lawmakers and regulators hamstring the Clean Power Plan?*, ENERGYWIRE, June 29, 2015, at http://www.eenews.net/stories/1060021010 ("[a]ir and electric regulators are interacting more and getting along better than ever").
[8] NASEO, STATE 111(d) RESOURCE HUB, at http://111d.naseo.org/ (last visited July 21, 2015).
[9] *See* Regulatory Assistance Project, *Preparing for 111(d): 10 Steps Regulators Can Take Now* 2 (2014) (emphasizing need for "regular and detailed dialogues" between state agencies).

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