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Attention: Docket ID No. EPA-HQ-OAR-2013-0602

The States of New York, California, Connecticut, Maine, Maryland, New Mexico, Oregon, Rhode Island, Vermont, Washington, and the Commonwealth of Massachusetts, and the District of Columbia, by their Attorneys General, and the City of New York, by its Corporation Counsel (collectively, States), submit these comments on the Environmental Protection Agency's (EPA) proposed Carbon Pollution Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule, published at 79 Federal Register 34,830 (June 18, 2014) (Proposed Rule or Clean Power Rule). EPA proposes state-specific rate-based emission goals for carbon dioxide (CO_2) emissions from existing fossil fuel-fired electric generating units (power plants), as well as guidelines for states to use in developing plans to achieve the state-specific goals.

Many of the States were petitioners in *New York v. EPA* (D.C. Cir. 06-1322) and also submitted comments supporting EPA's proposed new source performance standards (NSPS) for new electric utility generating units, 79 Fed. Reg. 1,429 (Jan. 8, 2014), as well as comments on the design of a program to reduce carbon pollution from existing power plants as EPA was developing the Proposed Rule. As described below, the States support EPA's efforts to promulgate state-specific CO_2 emission

goals for existing power plants pursuant to section 111(d) of the Clean Air Act (Act), 42 U.S.C. § 7411(d), and guidelines for states to meet such goals. The States also provide comments on how EPA can improve the Proposed Rule in several areas, which together would make the final version more effective, equitable and able to withstand the court challenges that are likely to follow.

Executive Summary

The Proposed Rule would establish emission guidelines under section 111(d) of the Clean Air Act to address CO_2 emissions from existing power plants, the largest source of greenhouse gas emissions in the nation. The States submit these comments on specific issues related to the Proposed Rule, as well as to emphasize EPA's vital obligation to limit greenhouse gas emissions from existing power plants. The Act requires EPA to ensure that states achieve emission reductions from existing power plants necessary to protect human health and welfare from the harms of carbon pollution. Although each of the undersigned States has already taken significant steps to reduce greenhouse gas pollution emitted by the power sector, substantial work remains.

Section I of these comments provides background on the importance of EPA's rulemaking to address carbon pollution from existing power plants. First, we discuss the serious and well-recognized harms caused by carbon pollution and associated climate change. Against this backdrop, we summarize how EPA reached the point of regulating greenhouse gas emissions from power plants. We then explain that, in the absence of EPA action until now, states have implemented various programs to reduce greenhouse gas emissions from the power industry cost-effectively. Many of these approaches, which include renewable portfolio standards, market-based cap-and-trade systems, planned retirements of coal-fired power plants, and demand management and energy efficiency programs, are reflected in the Proposed Rule's building block approach to determining the best system of emission reduction adequately demonstrated.

Section II discusses EPA's legal authority to regulate CO_2 emissions from existing power plants under section 111(d), including the statutory text, structure, and legislative history supporting such regulation. Because EPA is regulating CO_2 emissions from new power plants under section 111(b) and CO_2 emissions from existing power plants are not already regulated under other programs of the Act, EPA must regulate those emissions from existing power plants under section 111(d). This obligation is abundantly clear from section 111(d)'s role in the Clean Air Act's comprehensive scheme to control air pollution, a role that was not altered by Congress's amendment of the statute in 1990.

Section III concerns issues related to the scope of EPA's regulatory authority under section 111(d). EPA is first tasked with issuing emission guidelines that include substantive emission limitations. In doing so, the Act authorizes EPA to

determine the degree of emission limitation achievable when the best *system* of emission reduction (BSER), as determined by EPA to have been adequately demonstrated, is applied. To make this determination, EPA properly adopted a sector-based approach, determining that the BSER includes a broad range of measures that states and power plant owners have demonstrated can cost-effectively reduce CO_2 emissions from the power sector. EPA then appropriately exercised its authority under section 111(d) to apply the best system to determine the required level of emission reduction, or "emission guideline," for the power plants in each state as a whole.

In Section IV, we provide comments on EPA's BSER and alternative BSER proposals. Specifically, each building block selected by EPA as comprising BSER, as well as all of the building blocks in combination, have been adequately demonstrated. In determining the BSER, EPA properly relied in the Proposed Rule on the many existing programs that states and power producers and suppliers have employed to begin the urgent task of reducing greenhouse gas emissions from the power sector. In this section, the States suggest revisions to the individual building blocks that would improve the Proposed Rule, such as (i) revising the second building block to incorporate the potential for new Natural Gas Combined Cycle (NGCC) plants and re-powering existing coal plants with less carbon-intensive fuels, and (ii) changing the approach used in the third building block to focus on the technical and economic potential of renewable energy in each state. We conclude this section by emphasizing the importance of EPA also taking action to control methane emissions from the oil and gas sector to ensure that the potential climate change benefits from increased use of NGCC plants are not undermined.

Finally, in Section V, we offer our comments concerning the states' critical responsibilities under section 111(d) and issues related to federalism concerns. Because section 111(d) puts states in the driver's seat to implement and enforce the required emission reductions, EPA appropriately provided each state with flexibility in establishing standards of performance for its affected power plants, in selecting the measures used to comply with its emission standards, in assigning responsibility for achieving that performance level among its sources, and in demonstrating to EPA compliance with its emission guidelines. EPA has provided states with the option to include in their state plans mechanisms other than those that EPA selected as the BSER, including emission trading, to achieve their state goals. Although EPA has expressed each state's emission guideline as a "rate-based" emission goal (pounds per megawatt hour), EPA has appropriately allowed states to convert to a "mass-based" goal (tons per year). In the experience of the Regional Greenhouse Gas Initiative-State signatories to the to these comments, the "mass-based" approach is effective in reducing CO_2 emissions and straightforward to administer, and we therefore recommend that EPA facilitate the ability of states to choose this option. Thus, consistent with the statute, EPA has provided states with sufficient flexibility to achieve meaningful and cost-effective reductions of

greenhouse gas emissions quickly and in a manner that does not usurp state authority.

I. There Is an Urgent Need to Aggressively Address the Largest Sources of Carbon Pollution.

In *Massachusetts v. EPA*, 549 U.S. 497, 521 (2007), the Supreme Court noted that "[t]he harms associated with climate change are serious and well recognized." The United States and other countries have already begun to feel the effects of climate change. As the recent U.S. Climate Action Report prepared by the Department of State succinctly stated: "The scientific consensus . . . is that anthropogenic emissions of greenhouse gases are causing changes in the climate that include rising average national and global temperatures, warming oceans, rising average sea levels, more extreme heat waves and storms, extinctions of species, and loss of biodiversity."[1] This year, 2014, is on track to be the hottest year on record globally.[2]

Continued emission of greenhouse gases, primarily CO_2, will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change requires substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.[3] Carbon dioxide emissions from human activities also are the primary cause of ocean acidification, which harms ecosystems and marine biodiversity, potentially impacting food security and the economy.[4] A recent report confirmed that "[t]he ocean continues to acidify at an unprecedented rate in Earth's

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[1] U.S. Dept. of State, *United States Climate Action Report 2014* (2014), *available at* http://www.state.gov/e/oes/rls/rpts/car6/index.htm.

[2] Nat'l Oceanic & Atmospheric Admin., *State of the Climate Global Analysis – Sept. 2014*, *available at* http://www.ncdc.noaa.gov/sotc/global/2014/09/.

[3] Intergovernmental Panel on Climate Change (IPCC), *Fifth Assessment Synthesis Report* (Nov. 2014), *available at* http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPM.pdf.

[4] International Geosphere-Biosphere Programme et al., *Ocean Acidification Summary for Policymakers, Third Symposium on the Ocean in a High-CO_2 World* (2013), *available at* http://www.igbp.net/publications/summariesforpolicymakers/summariesforpolicymakers/oceanacidificationsummaryforpolicymakers2013.5.30566fc6142425d6c9111f4.html.

history," with a projected 170 percent increase in ocean acidity by 2100 compared with preindustrial levels if current trends of CO_2 emissions continue.[5]

Significant long-term reductions in greenhouse gas emissions must occur to avoid or reduce the adverse climate impacts resulting from emissions of climate change pollution. The scope of climate impacts is large, encompassing all sectors of the American economy, including:

- increase in magnitude and frequency of extreme weather, including storms, floods and droughts;[6]
- coastal infrastructure and land impacts due to inundation, erosion, submergence and habitat loss from rising sea levels and storm surges;
- contamination of drinking water supplies due to increased salinity and saltwater intrusion and increased turbidity from increased storms;
- increased heat-related deaths and illnesses;
- higher smog levels, increasing the rate of asthma, pneumonia and bronchitis, and associated hospital visits;
- increase in insect-borne illnesses, destructive fungi and pests;
- increased frequency of wildfires;
- loss of plant and animal species;
- disruptions to vulnerable ecosystems, from the Adirondacks in New York to the Sierra Nevada in California;
- loss of snowpack in California's Sierra Nevada and the Cascade mountains in Oregon and Washington;
- loss of cold water fisheries, such as native brook trout in New York;
- reduced stream flows threatening aquatic ecosystems, including Chinook salmon, coho salmon and steelhead trout fisheries in California, Oregon and Washington;
- reduced hydroelectric production from drought and snowmelt-driven shifts in stream flow;
- disruption of our agriculture and our food supply system;
- decreased forest productivity;

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[5] *Id.*

[6] For example, a recent analysis of the frequency and intensity of extreme rainfall events in New York, based on data from the 2014 National Climate Assessment and the National Oceanographic and Atmospheric Administration Northeast Regional Climate Center, demonstrates that extreme rainfall events are increasing consistent with scientists' predictions regarding climate change. *Current & Future Trends in Extreme Rainfall Across New York State, A Report from the Environmental Protection Bureau of New York State Attorney General Eric T. Schneiderman* (Sept. 2014), *available at* http://www.ag.ny.gov/pdfs/Extreme_Precipitation_Report%209%202%2014.pdf.

- threats to our energy, transportation, wastewater, and water resource infrastructure; and
- increased socio-economic stresses to our communities, particularly for low-income and indigenous peoples.

The Supreme Court's decision not to disturb a federal court of appeals' ruling upholding EPA's determination that greenhouse gas emissions endanger public health and welfare, *see Coalition for Responsible Regulation v. EPA*, 684 F.3d 102 (D.C. Cir. 2012), *cert. denied*, 82 U.S.L.W. 3214 (U.S. Oct. 15, 2013) (No. 12-1272), switches the focus squarely to what the federal government and the states can do to address these emissions.

A. The History of Federal Regulation of Power Plant Greenhouse Gas Emissions

In 2006, after EPA revised its NSPS for power plants and failed to include standards for greenhouse gas emissions, the States of New York, Connecticut, California, Delaware, Maine, New Mexico, Oregon, Rhode Island, Vermont, Washington, the Commonwealth of Massachusetts, the District of Columbia and the City of New York filed a petition seeking judicial review of that failure. *New York v. EPA* (D.C. Cir. No. 06-1322). The matter was ultimately remanded to the agency after the Supreme Court's decision in *Massachusetts v. EPA*, and in 2010, the parties entered into a settlement agreement setting a schedule for EPA to propose and promulgate NSPS for greenhouse gas emissions from new and existing power plants.

Although EPA failed to meet that rulemaking schedule, on June 25, 2013, in conjunction with the issuance of the Administration's Climate Action Plan, President Obama issued a memorandum to the Administrator of the EPA in which he directed the Administrator to fulfill her statutory duty under sections 111(b) and 111(d) of the Act "to issue standards, regulations, or guidelines, as appropriate, that address carbon pollution from modified, reconstructed, and existing power plants and build on State efforts to move toward a cleaner power sector." The President established new dates for the Administrator to issue a new proposal for NSPS for greenhouse gas emissions for new power plants, for the Administrator to propose and finalize emission guidelines for existing power plants, and for the states to submit their implementation plans pursuant to those guidelines.

EPA proposed NSPS for greenhouse gas emissions from new power plants on September 20, 2013.[7] As discussed below, the proposal triggered EPA's obligation to

[7] EPA had previously proposed an NSPS for greenhouse gas emissions from new power plants on April 13, 2012. 77 Fed. Reg. 22,392 (Apr. 13, 2012). After receiving and reviewing

proceed with rulemaking under section 111(d), which governs regulation of air pollutants for existing sources that, if new, would be subject to the NSPS. EPA's authority to act under section 111 is supported by the Supreme Court's decision in *American Electric Power v. Connecticut*, 131 S. Ct. 2527, 2537 (2011) (*AEP*), where the Court specifically pointed to section 111 in finding that the Act "speaks directly" to CO_2 emissions from power plants and that therefore, the Act "and the EPA actions it authorizes" displace any federal common law right of action to abate CO_2 emissions from fossil fuel-fired power plants.[8]

B. State Efforts to Curb Power Plant Greenhouse Gas Emissions

In addition to pushing for action by the federal government, many states, recognizing the critical need to reduce carbon pollution without delay, moved forward independently to implement programs to reduce greenhouse gas emissions from fossil fuel-fired power plants. For instance, twenty states and the District of Columbia have set greenhouse gas emission targets, emission reduction levels that each state has committed to achieve by a specified time.[9] Further, as EPA recognizes in the Proposed Rule, 79 Fed. Reg. at 34,866, more than half the states now have renewable portfolio standards (RPS) that require electricity providers to obtain a given amount of their electricity from sources such as wind or solar, which creates demand for new renewable power generation, in turn displacing generation from existing fossil fuel-fired sources. States also have achieved significant cost-effective emission reductions and saved ratepayers money through efforts to reduce demand for electricity generation. More than half of the states require utilities to adopt Energy Efficiency Resource Standards, reducing demand by a specified amount each year.[10] Other state efforts include energy efficiency standards for consumer products and commercial and industrial equipment, efficiency components within residential and commercial building codes, incentives for consumers to adopt more efficient technologies, and investments in energy efficiency projects.

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more than a million public comments on the proposal, EPA decided to issue a new proposal. *See* http://www.gpo.gov/fdsys/pkg/FR-2014-01-08/pdf/2013-28668.pdf.

[8] Because *AEP* concerned existing power plants, not new ones, the Court's reference to EPA's authority under the section 111 of the Act to abate CO_2 emissions from fossil fuel-fired power plants must be to regulation under section 111(d).

[9] *See* Center for Climate and Energy Solutions, *Greenhouse Gas Emissions Targets*, *available at* http://www.c2es.org/us-states-regions/policy-maps/emissions-targets.

[10] *See* Am. Council for an Energy-Efficient Econ., *The 2014 State Energy Efficiency Scorecard* 21 (2014), *available at* http://www.aceee.org/sites/default/files/publications/researchreports/u1408.pdf.

States' innovative programs provided EPA with valuable data and experience in determining the "best system of emission reduction adequately demonstrated" for existing power plants. See, *infra*, Section IV. These states have demonstrated that it is possible to obtain substantial reductions in CO_2 emissions in a manner that is cost-effective and maintains grid reliability. EPA's "building block" approach in the Proposed Rule properly recognizes and builds upon these successful state programs.

C. The Clean Power Rule and U.S. Strategy to Combat Global Warming

EPA's proposal of the Clean Power Rule marks an important step in implementing the President's Climate Action Plan. For the first time, each state must require cuts in CO_2 emissions from the largest source nationally: existing fossil-fueled power plants. However, the Clean Power Rule alone will not result in sufficient greenhouse gas emission reductions to enable the U.S. to meet the goal of reducing our emissions by 80 percent from 2005 levels by 2050, a level of reduction in worldwide greenhouse gas emissions that scientists say is necessary to avoid the worst impacts of climate change. EPA therefore should consider improving the draft rule in ways to effectively and equitably secure more emission reductions and also discuss how the U.S. can meet this 80X50 goal through additional emission reductions from the power sector and other areas (transportation, oil and gas, etc.).

II. The Text, Structure, and History of the Clean Air Act Confirm That EPA Must Regulate CO_2 Emissions from Existing Power Plants Under Section 111(d).

The Clean Air Act provides a comprehensive scheme for regulating air pollutants from stationary sources. *See So. Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882, 886 (D.C. Cir. 2006). Section 111(d) of the Act, 42 U.S.C. § 7411(d), plays an important role by enabling EPA and states to control existing-source pollution not regulated under the National Ambient Air Quality Standards (NAAQS) program (sections 108-110, 42 U.S.C. §§ 7408–7410) or the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program (section 112, *id.* § 7412). Under this scheme, EPA must regulate existing power plant CO_2 emissions under section 111(d) of the Act because (1) such emissions are not regulated as a NAAQS pollutant or as a hazardous air pollutant; and (2) EPA has moved forward with regulating CO_2 emissions from new power plants.

Some critics of the Proposed Rule contend that EPA lacks the authority under section 111(d) of the Act to regulate *non-hazardous* pollutants (such as CO_2) from power plants because EPA is regulating *hazardous* pollutants (such as

mercury) from power plants under a section 112.[11] Not only does such an interpretation defy common sense, it is based on a reading of only part of the 1990 amendments to section 111(d). The flawed nature of this incomplete reading is further demonstrated by the fact that it effectively would nullify section 111(d), given that section 112 regulates emissions of hazardous pollutants from over one hundred source categories. Even the language these critics rely on, when read in proper context, supports EPA's authority to promulgate the Clean Power Rule. *See Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 471 (2001) (concluding Clean Air Act provision unambiguous in light of statutory and historical context); *see also*, *e.g.*, *Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ.*, 550 U.S. 81, 89-100 (2007) (considering legislative history and purpose of statute to discern legislative intent).

A. A Proper Interpretation of the Statute Requires Giving Effect to Both of the 1990 Amendments to Section 111(d).

When Congress amended the Clean Air Act in 1990, it enacted two differently worded amendments to section 111(d)—including one that clearly authorizes the regulation proposed here. Both amendments appear in the Statutes at Large, but the U.S. Code language erroneously does not reflect the fact that two amendments were enacted into law. EPA's proposal to regulate CO_2 from existing power plants is lawful under the 1990 amendments, as enacted.

Understanding the two amendments requires a brief background on section 111(d)'s place in the Clean Air Act's comprehensive scheme. Section 111(d) is one of the Act's three primary avenues to regulate existing stationary sources. The two other avenues—the NAAQS of section 108 and 110; and the hazardous-air-pollutants program of section 112—address emissions of certain listed pollutants. Section 111(d), by contrast, more broadly authorizes EPA to establish standards for any emissions from existing sources that endanger public health or welfare but that are not regulated under the other two programs.[12] Thus, these provisions collectively "establish[] a comprehensive program for controlling and improving the

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[11] *See*, *e.g.*, Pet. for Review at 1, 23, 28, *West Virginia et al. v. EPA*, No. 14-1146 (D.C. Cir. Aug. 1, 2014); *see also* Br. for Amici West Virginia *et al.* at 4-15, *In Re: Murray Energy Corp.*, No. 14-1112 (D.C. Cir. June 25, 2014); *see also*, *e.g.*, William J. Haun, *The Clean Air Act as an Obstacle to the Environmental Protection Agency's Anticipated Attempt to Regulate Greenhouse Gas Emissions from Existing Power Plants*, The Federalist Soc'y (Mar. 2013); Brian H. Potts, *The President's Climate Plan for Power Plants Won't Significantly Lower Emissions*, 31 Yale J. Reg. Online 1, 9 (Aug. 22, 2013).

[12] Section 111(b) mandates standards for new and modified sources, and section 111(d) mandates standards for existing sources if those standards "would apply if [the existing sources] were a new source." 42 U.S.C. §§ 7411(b), (d).

nation's air quality." *See Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012) (internal quotation omitted).

Before the 1990 amendments, section 111(d)(1) required that state plans address "any air pollutant which is not included on a list published under Section 7408(a)," *i.e.*, NAAQS, "or 7412(b)(1)(A) of this title," a cross-reference to the previous version of section 112's hazardous-air-pollutants program. *See* 42 U.S.C. § 7411(d) (West 1977). Section 111(d) thus functioned to mandate the regulation of air pollutants from existing stationary sources that were not otherwise covered by the NAAQS or the hazardous-pollutants program. In 1990, after EPA's delays in listing (and thereby regulating) hazardous air pollutants "proved to be disappointing," *Sierra Club v. EPA*, 353 F.3d 976, 979–80 (D.C. Cir. 2004), Congress extensively amended section 112 to change its regulatory approach. Rather than relying on EPA's listing of hazardous air pollutants to trigger their regulation under section 112—something EPA had rarely done—Congress instead listed 189 hazardous air pollutants itself and directed EPA to list categories of major sources and area sources for each of these pollutants and then to establish emission standards for each source category. 42 U.S.C. §§ 7412(b)(1), (c)(1), (d)(1).[13]

Congress amended section 111(d)'s preexisting reference to section 112 to conform it to these structural changes. However, different conforming language from the House and Senate bills amending section 111(d) was included in the final legislation without being reconciled in conference. Both amendments were signed into law by the President and appear in the Statutes at Large, but only the House amendment appears in the U.S. Code.

The Senate amendment simply replaces the former cross-reference to § 7412(b)(1)(A), which was eliminated by the 1990 amendments, with a new cross-reference to that section's replacement, § 7412(b): it thus requires section 111(d) standards 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 108(a) or section 112(b)." Pub. L. No. 101-549, § 302(a), 104 Stat. 2399, 2574 (1990). Thus, the Senate amendment preserves section 111(d)'s longstanding role as a source of regulation for pollutants (such as CO_2) that are not otherwise regulated under the NAAQS or the hazardous-air-pollutants program.

The House amendment replaces the section 112 cross-reference with different language: it requires section 111(d) standards 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 108(a) or emitted from a source category which is regulated under

[13] EPA retained the authority to list additional pollutants for regulation under section 112, either on its own or in response to a petition to modify the list. *See* 42 U.S.C. §§ 7412(b)(2), (3).

section 112 of this title." Pub. L. No. 101-549, § 108(g), 104 Stat. 2399, 2467 (1990). As explained below, that language, like the Senate amendment, can be read to preserve section 111(d)'s application to non-NAAQS and non-hazardous air pollutants such as CO_2. *See infra* Section II.C. But even if the House amendment were interpreted in the way opponents have urged, that language would not control. Because both amendments were enacted into law, it is necessary to consider the effect of the Senate amendment, which, as EPA recognized in the Proposed Rule, would indisputably authorize the Rule. *See* 79 Fed. Reg. at 34,844; *see also Citizens to Save Spencer County v. EPA*, 600 F.2d 844, 872 (D.C. Cir. 1979) (where Congress "drew upon two bills originating in different Houses and containing provisions that, when combined, were inconsistent in respects never reconciled in conference . . . it was the greater wisdom for [EPA] to devise a middle course . . . to give maximum possible effect to both").

It is well-established that the text of the Statutes at Large (which contains both amendments enacted by Congress and signed by the President) governs when it is inconsistent with the U.S. Code. *United States Nat'l Bank of Or. v. Indep. Ins. Agents of Am.*, 508 U.S. 439, 448 (1993) ("[D]espite its omission from the Code [a provision] remains on the books if the Statutes at Large so dictates.").[14] The fact that the Office of Law Revision Counsel simply was unable to execute the Senate amendment because the House amendment, which appeared earlier in the legislation, had already resulted in striking the same text,[15] does not change the longstanding principle of law that the Statutes of Large, not the U.S. Code, controls when the text of the two differs.

Additionally, there is no basis to treat one amendment as more substantive than another. As explained above, the substantive changes Congress made in 1990 were to section 112, not to section 111(d). The amendments at issue here alter section 111(d)'s cross-reference to section 112 in response to the structural changes to section 112. And both amendments appeared under similar catch-all headings in the House Conference Report, adopted by the House and Senate (H.R. Conf. Rep. 101-952, at 50, 122 (1990)): "Conforming Amendments" (Senate) and "Miscellaneous Guidance" (House). See Pub. L. No. 101-549, §§ 108, 302(a), 104 Stat. 2399, 2467, 2574 (1990). And the legislative history indicates that Congress intended the Senate's amendment to section 111(d) to be in the final bill. After the House amended the Senate's bill and deleted the Senate's seven "Conforming

[14] *See also United States v. Welden*, 377 U.S. 95, 98 n.4 (1964), and sources cited (unless codification enacted into positive law, where language of Statutes at Large and U.S. Code are inconsistent, "recourse must be had to the original statutes themselves" and discrepancy in U.S. Code "should be given no weight").

[15] The House Amendment appears one hundred and seven pages before the Senate amendment in the 1990 legislation. *See* Pub. L. No. 101-549, §§ 108, 302(a), 104 Stat. 2399, 2467, 2574 (1990).

Amendments" (including the revision to section 111(d)), the Conference Committee added the Senate's conforming amendments back in to the final bill. *Compare* S. 1630, 101st Cong. (as passed by House, May 23, 1990) *with* Pub. L. No. 101-549, § 302(a), 104 Stat. 2399, 2574 (1990).

Thus, both the House amendment and Senate amendment are law and both authorize the Clean Power Rule EPA has proposed here.

B. Public Policy, EPA's Longstanding Practice, and Other Provisions of the Act Support an Interpretation of Section 111(d) That Authorizes the Clean Power Rule.

An interpretation that would prohibit regulation of CO_2 from power plants and other existing stationary sources under section 111(d) would have far-reaching consequences that cannot be reconciled with the Clean Air Act's broad protective purposes. Sources that emit hazardous air pollutants, and that thus could be regulated under section 112, also emit a broad range of other pollutants, including CO_2. The implication of a reading that precludes 111(d) regulation of any pollutant (here, CO_2) that may be emitted from a 112(c)-listed source category but is not actually regulated under section 112 demonstrates the fallacy of such an interpretation: EPA would have to *either* choose to use section 112 to address dangers associated with power plant hazardous air pollutants (such as harm caused by eating mercury-contaminated fish) *or* to use section 111(d) to address the "serious and well recognized" climate-change harms caused by CO_2 emissions from power plants. *See Massachusetts*, 549 U.S. at 521; 79 Fed. Reg. at 34,833. But under such an interpretation it could not choose to do both.[16]

It makes no sense that Congress would have directed EPA to make such a choice in a statute designed to protect public health and welfare. The Act's principal purpose to "protect and enhance the quality of the Nation's air resources," 42 U.S.C. § 7401(b)(1), would hardly be served if EPA were limited to regulating only one set of dangerous pollutants, but not another, from the most serious polluters in the country. In particular, such an interpretation would exclude the largest sources of CO_2 from regulation under section 111(d) by virtue of the fact that those sources—such as power plants, petroleum refineries, and cement plants—are already regulated under section 112 due to their emission of hazardous air pollutants. This new gap in regulation would undermine an obvious function of section 111(d) that the Supreme Court recognized in *AEP v. Connecticut*: namely, to "provide[] a means

[16] Such an interpretation could have adverse public health and environmental impacts apart from hampering efforts to curb CO_2 from the largest sources of that pollutant because EPA has used section 111(d) to regulate other harmful pollutants, such as sulfuric acid mist and fluoride compounds, that are emitted from sources regulated under section 112. *See infra*, note 23.

to seek limits on emissions of carbon dioxide from domestic power plants." 131 S. Ct. at 2537-38.

Nothing in the legislative history of the 1990 amendments suggests that Congress intended such a radical result when it replaced section 111(d)'s cross-reference to the hazardous-air-pollutant program. In both the House and the Senate, these minor changes to section 111(d) were made without any debate or discussion, strongly suggesting that the purpose of both amendments was to preserve section 111(d)'s role to fill the gap where emissions are unregulated under the other programs. Indeed, in compiling the legislative history of the 1990 amendments, the Congressional Research Service transcribed the Clean Air Act, as amended, by including both the House and Senate versions of the amendments to section 111(d) with the notation that the amendments are "duplicative" and simply use "different language [to] change the reference to section 112." *A Legislative History of the Clean Air Act Amendments of 1990*, vol. 1 at 46 & n.1 (1993). Silence in legislative history accompanying a subtle legislative change indicates that Congress did not intend to alter the preexisting scheme significantly. *See United States v. Neville*, 82 F.3d 1101, 1105 (D.C. Cir. 1996).[17] As the Supreme Court has stated, Congress "does not . . . hide elephants in mouseholes." *Whitman*, 531 U.S. at 468. Thus, EPA's interpretation of section 111(d) properly rejects the "anomalous effect" of the reading proffered by the Proposed Rule's opponents, which would force EPA to select only one set of harmful pollutants to regulate based "simply on the fortuity that [these pollutants] share [] a source." *Desert Citizens Against Pollution v. EPA*, 699 F.3d 524, 527-28 (D.C. Cir. 2012) (rejecting petitioners' "linguistically possible" view of statute and upholding EPA's interpretation).

Reading section 111(d) to permit regulation of CO_2 from power plants, where CO_2 emissions from power plants are not regulated under section 112, also is consistent with EPA's longstanding regulation (both before and after the 1990 amendments) of source categories under section 111(d) and section 112.[18] EPA's practice is supported by the plain language of other provisions of section 112 as amended in 1990, which further evidences Congress' understanding that different

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[17] *See also Dir. of Revenue of Mo. v. CoBank ACB*, 531 U.S. 316, 323 (2001) (declining to conclude conforming amendment substantively altered states' taxing power "because there is no indication Congress intended to change the taxation of banks for cooperatives with the 1985 amendments").

[18] *See, e.g.*, 61 Fed. Reg. 9,905 (Mar. 12, 1996) & 40 C.F.R. pt. 63, subpt. AAAA (regulating landfills under section 111(d) for methane and non-methane organic compounds and under section 112 for vinyl chloride, ethyl benzene, toluene, and benzene); 42 Fed. Reg. 12,022 (Mar. 1, 1977) & 40 C.F.R. pt. 63, subpt. BB (regulating fluorides from phosphate fertilizer plants under section 111(d) and regulating hydrogen fluoride and other pollutants under section 112).

emissions from the same source categories could be regulated under both sections 111 and 112.[19] For example, Congress directed EPA to keep its lists of source categories "consistent" between sections 111 and 112. 42 U.S.C. § 7412(c)(1); *see also id.* § 7412(d)(7) ("No emission standard or other requirement promulgated under this section shall be interpreted . . . to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 7411").

Congress' intent to avoid duplicative regulation is maintained fully by precluding the use of section 111(d) to regulate emissions from existing sources if those same emissions are being regulated under section 112. Congress simply did not intend to sacrifice comprehensive public health protections by forgoing regulation of harmful but *non-hazardous* air pollutants from source categories that happen to also emit a *hazardous* air pollutant.

C. The House Amendment Does Not Strip EPA's Authority to Regulate CO_2 Emissions Under Section 111(d).

The House amendment is subject to multiple interpretations and therefore even viewed in isolation would not preclude regulation of CO_2 from power plants. In light of the statutory context, it may be viewed as a shorthand way of preserving section 111(d)'s traditional role as a source of authority to regulate emissions not covered by the NAAQS or the hazardous-air-pollutant programs.

For sources subject to regulation under section 111(b), the House amendment requires performance standards:

> 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) or emitted from a source category which is regulated under section 7412 [*i.e.*, the hazardous-air-pollutants program].

The phrase "which is regulated under section 7412" could be read as modifying both "any air pollutant" and "source category," thus referring to those emissions that are actually subject to section 112 emissions standards because (a) the *pollutant* is "regulated under section 7412"—*i.e.* listed as a hazardous air pollutant, *and* (b) the

[19] The D.C. Circuit in *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008), did not reach the question whether, if a source is listed under section 112, EPA lacks authority to regulate that source under section 111(d). Instead, because the court determined that EPA's delisting of power plants from section 112 was improper, and "under EPA's own interpretation" it could not use section 111(d) to regulate mercury (a section 112-listed hazardous air pollutant) from this section 112-listed source category, the court concluded that the section 111(d) rule was invalid. *Id.* at 583.

source category for that pollutant is "regulated under section 112—*i.e.* listed as a source category subject to section 112 regulation. Read this way, the House amendment is a shorthand way of cross-referencing section 112 to clarify that section 111(d) only precludes regulation of a pollutant from a specific source category (*e.g.*, mercury from power plants) if those emissions are actually regulated under section 112.[20]

Consistent with the purpose of the Act and 1990 amendments overall, this interpretation of the House amendment would preserve section 111(d)'s role in the Act's comprehensive scheme by authorizing standards for emissions not otherwise regulated under the Act, and there would be no bar to EPA's promulgation of CO_2 standards under section 111(d). Indeed, any reading of section 111(d) that is consistent with its gap-filling role in the Act's comprehensive scheme must authorize EPA to regulate CO_2 emissions from existing power plants because those emissions are not otherwise regulated under the Act.

In sum, because CO_2 emissions from existing power plants are not regulated as criteria pollutants or hazardous air pollutants, and because EPA has moved forward with regulation of power plant CO_2 emissions under section 111(b), EPA has authority to promulgate the Proposed Rule.

III. Under Section 111(d), EPA Must Determine the Best System of Emission Reduction and Apply That System to Establish Substantive Emission Limits.

In the Proposed Rule, EPA exercised its authority under section 111(d) of the Clean Air Act to determine the "best system of emission reduction . . . adequately demonstrated," and to apply that system to determine the required level of emission reductions, or "emission guidelines," for each state, which is expressed as a state goal. Some opponents of EPA's Proposed Rule mistakenly argue that EPA's role under section 111(d) is limited to merely establishing a procedure for states to follow in submitting state plans and that EPA does not have authority to issue substantive emission limitations in emission guidelines.[21] Others argue that in selecting BSER, EPA is limited to technological measures that may be undertaken at the affected source and may not include measures such as those EPA identified

[20] So read, the House amendment would even authorize section 111(d) standards for listed hazardous air pollutants, so long as they are emitted from *sources* that are not regulated under section 112 for those pollutants.

[21] *See, e.g., Perspective of 18 States on Greenhouse Gas Emission Performance Standards for Existing Sources under § 111(d) of the Clean Air Act*, submitted to EPA under cover letter dated Sept. 11, 2013 by the State of Nebraska Office of the Attorney General.

in building blocks 2, 3, and 4.[22] As a legal matter, such arguments are contrary to the language, structure and legislative history of the Clean Air Act, as well as EPA's longstanding and reasonable interpretation of its authority under the Act.

A. EPA Must Establish Substantive Emission Limitations in Emission Guidelines for States.

Section 111(d) establishes a framework that gives EPA and the states distinct but complementary roles to regulate air pollution from existing sources where new sources of that pollution are subject to new source performance standards under section 111(b). Section 111(d) requires EPA to prescribe regulations that establish a section 110-like procedure under which each state shall submit to EPA a plan establishing, implementing and enforcing "standards of performance" for such sources. 42 U.S.C. § 7411(d)(1). "Standard of performance" is defined under the Act as "a standard for emissions of air pollutants that 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 non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." 42 U.S.C. § 7411(a)(1).

The Act therefore plainly calls for EPA to first determine the adequately demonstrated BSER and then apply that system to determine the corresponding achievable degree of emission limitation. EPA's implementing regulations refer to this as the "emission guideline." 40 C.F.R. 60.22(b)(5). "In compliance with those guidelines and subject to federal oversight, the States then issue performance standards for stationary sources within their jurisdiction." *AEP*, 131 S. Ct. at 2537-38 (citing 42 U.S.C. § 7411(d)).

EPA must also evaluate the content of state plans under section 111(d) and "prescribe a plan for a state in cases where the state fails to submit a satisfactory plan." 42 U.S.C. § 7411(d)(2). To fulfill its statutory responsibilities, EPA must establish substantive emission limitations. Otherwise, EPA would lack a benchmark against which to evaluate the adequacy of state plans under section 111(d)(2), as the statute requires it to do.

Indeed, the very language upon which opponents rely, requiring EPA to establish a "procedure similar to that provided by section 7410," undermines their argument. EPA uses its scientific expertise to establish substantive standards under section 110 (national ambient air quality standards or NAAQS), which the states then develop plans to implement. Thus, like the section 110 state implementation plan (SIP) framework and procedure, section 111(d) directs EPA to

[22] 79 Fed. Reg. at 34,888.

work hand-in-hand with the states to ensure that each state – through its plan – achieves the reductions that EPA has determined are achievable through the application of the BSER that has been adequately demonstrated. This cooperative federalism allows EPA to establish the amount of reductions required, while giving the states flexibility to determine how to achieve those reductions (or more).

EPA's longstanding interpretation of its authority, as set forth in its implementing regulations, further affirms that it is, at a minimum, *allowed* to establish substantive guidelines. *See Chevron*, 467 U.S. at 842-43 (agency's interpretation will be upheld if based on permissible statutory construction). In its initial rulemaking proposal to establish general procedures under section 111(d), EPA explained that it would publish guideline documents setting minimum emission guidelines that reflect the best available demonstrated systems of emission control. 39 Fed. Reg. 36,102 (Oct. 7, 1974). EPA reiterated in the preamble to its final implementing regulations that the agency has the statutory authority to set minimum emission guidelines for state emission standards included in state plans. 40 Fed. Reg. 53,340, 53,342 (Nov. 17, 1975). Responding to industry comments questioning EPA's authority to prescribe more than procedural requirements for state plan adoption and submittal, EPA correctly reasoned that its interpretation was necessary to implement section 111(d) effectively. If EPA had no authority to set minimum substantive guidelines, the states would be able to set "extremely lenient standards" for air pollutants subject to regulation only under section 111(d) – which would leave "a gaping loophole in a statutory scheme otherwise designed to force meaningful action." *Id.* at 53,343. EPA has followed this approach in emission guidelines it has promulgated pursuant to section 111(d), repeatedly establishing substantive requirements in its final emission guidelines for each state to include in its respective plan.[23]

It is EPA, not the states, that quantifies the level of emission reduction required in state plans.[24] A contrary interpretation would undermine section 111(d)'s role in the Act's comprehensive scheme (to authorize control of otherwise

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[23] *See, e.g.*, 40 C.F.R. § 60.30d (establishing emission guideline for sulfuric acid production units at 0.25 grams sulfuric acid mist per kilogram of sulfuric acid produced); "Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills, Final Rule," 61 Fed. Reg. 9905, 9907 (Mar. 12, 1996); "Primary Aluminum Plants; Availability of Final Guideline Document," 45 Fed. Reg. 26,294 (Apr. 17, 1980); "Phosphate Fertilizer Plants; Final Guideline Document Availability," 42 Fed. Reg. 12,022 (Mar. 1, 1977); "Kraft Pulp Mills, Notice of Availability of Final Guideline Document," 44 Fed. Reg. 29,828 (May 22, 1979).

[24] In the Proposed Rule, EPA specifically is not reopening the implementing regulations. 79 Fed. Reg. at 34,897 n.266 & 34,898 n. 268; Legal Mem. at 30 n.26. The time for challenging EPA's interpretation of its own regulations has long since passed.

unregulated harmful emissions from existing sources) and would also effectively nullify section 111(d)'s provisions concerning EPA's role in determining the BSER and in approving state plans.[25] Thus, section 111(d) plainly requires EPA to establish substantive standards to guide the states in devising their plans and to provide an objective measure against which EPA may judge the standard(s) included in each state plan.

B. EPA Has Authority Under Section 111(d) to Use a Sector-Based Approach to Determine the BSER on a State-Wide Basis.

EPA has determined the applicable BSER for its Proposed Rule by looking at systems of emissions reduction that have been adequately demonstrated on a state-wide basis, as, for example, where states have already adopted a renewable portfolio standard, or where their utilities have already acted to shift their portfolios away from fossil fuel-fired generation towards low- or zero-CO_2 emitting generation, or where fossil fuel-fired power plants have improved their efficiency. EPA then used this BSER to determine each state's unique regulatory "emission guideline" – that is, the emission-reduction target that each state must achieve. EPA has set forth adequate and sound legal bases for its approach in the preamble and its Legal Memorandum;[26] our comments here are intended only to supplement these bases, and to lend additional support for EPA's action.

The purpose of section 111 is clear: Congress enacted the statute to reduce emissions from new and existing stationary sources that "may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare." 42 U.S.C. § 1857c-6(b)(1) (1970 & Supp. IV, 1974); *National Asphalt Pavement Ass'n v. Train*, 539 F.2d 775, 783 (D.C. Cir. 1976). EPA has interpreted the language of section 111(d) to advance that purpose. As EPA has pointed out, the statute does not specifically define the word "system." Therefore, the assumption is that "the ordinary meaning of that language accurately expresses

[25] *Cf. Big Rivers Elec. Corp. v. EPA*, 523 F.2d 16, 22 (6th Cir. 1975) (EPA acted within its authority in rejecting alternate control strategies in lieu of emission limitations that Kentucky sought to include in its SIP and explaining that under section 110's "dual scheme, the freedom of the States to choose the manner of achieving this goal [of reducing air pollution] was made subject to the absolute requirement that every state plan include emission limitations as an ingredient").

[26] At the very least, EPA's interpretation warrants deference under *Chevron*, 467 U.S. at 842-43. The inquiry under step two is not whether EPA's interpretation of the term "system" is specifically authorized, or even "appropriate"; it is simply whether EPA's view that its sector-wide approach is appropriate in this context is *reasonable*. For all of the reasons set forth here, and those that EPA itself has well-articulated, EPA's view is reasonable.

the legislative purpose," *Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 252-53 (2004) (quotations and citations omitted), and that meaning is quite broad: At the time Congress created the new source performance standards program in 1970, "system" was defined as "a complex unity formed of many often diverse parts subject to a common plan or serving a common purpose." Webster's Third New Int'l Dictionary of the English Language Unabridged 2322 (1968). This definition is sufficiently broad to embrace not just systems employed at the physical source to limit emissions, but also systems that are not on the plant site but similarly result in emission reductions from the same sources (here, fossil fuel-fired power plants). That Congress did not narrow the definition of the word "system" both supports broadly defining the word and signals a delegation of authority to EPA to rely on its own expertise to fill in any gap, within those bounds. *Chevron,* 467 U.S. at 843-44.[27]

Congress's repeated use of the term "system" in Title IV of the Act in the context of referring to the acid rain cap-and-trade program is further evidence that EPA's sector-based approach in the Proposed Rule is lawful. *See, e.g.*, 42 U.S.C. §§ 7651(b) (describing purpose of Title IV as reducing acid-rain causing emissions from fossil-fueled power plants and recognizing "emission allocation and transfer system" as a method of compliance), 7651b(b) (providing for "Allowance transfer system") & (d) (providing for "Allowance tracking system"); and 7651c(h)(1)(C) (referring to unit that is subject to emissions limitation requirement that is part of a "utility system").

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[27] Courts have interpreted any such silence or "gap" in guidance to be an express delegation of authority to EPA to "elucidate a specific provision of the statute by regulation." *Id.* As noted by the *Chevron* Court (specifically addressing Congress's failure to provide more detailed guidance in executing section 111's mandate), Congress might choose to do this for any number of reasons:

> Perhaps that body consciously desired the Administrator to strike the balance at this level, thinking that those with great expertise and charged with responsibility for administering the provision would be in a better position to do so; perhaps it simply did not consider the question at this level; and perhaps Congress was unable to forge a coalition on either side of the question, and those on each side decided to take their chances with the scheme devised by the agency. For judicial purposes, it matters not which of these things occurred.

Id. at 865. Regardless of why it did so, it is apparent that Congress intended for EPA to rely on its technical expertise and its understanding of competing interests and policy objectives in determining the BSER.

EPA's broad approach is further authorized by section 111(d)'s specific reference to state implementation plans under section 110 as a model.[28] Under section 110, EPA uses its expertise in safeguarding public health and welfare to set NAAQS for designated criteria pollutants that states must attain through implementation of emission limits set forth in their SIPs. EPA does not set source-specific emission limitations; that is left to the states. Following that lead, the Proposed Rule sets statewide emission goals that represent the BSER for each state, and leaves it to the states to determine how to allocate individual emission limitations to meet those goals. By specifically referencing section 110 and providing no further guidance, it can be inferred that Congress intended to encourage this statewide goal-setting and compliance paradigm.

Certainly nothing in the statute can be read to constrain the BSER only to solutions physically manifest at the source. Any source-specific considerations are to be taken into account by the states, who, pursuant to section 111(d)(1)(A) and (1)(B) respectively, can "take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies."[29]

EPA's approach here is not precluded by the D.C. Circuit's ruling in *ASARCO, Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978), which held that EPA could not use an emissions averaging, or "bubble," concept to allow modified stationary sources to avoid complying with performance standards under section 111(b). *ASARCO* pre-dated the Supreme Court's *Chevron* decision, which requires that courts defer to an agency's reasonable interpretation of ambiguous language. In addition, the *ASARCO* court's concern that EPA's interpretation enabled sources to *avoid* the obligation to comply with section 111's performance standards, in turn undercutting the environmental benefits of the program, is not applicable here, where EPA's interpretation of BSER is facilitating sources' *compliance* with section 111 performance standards.

Nor does the statutory language constrain the BSER to technology-based systems. Notably, the 1997 amendments specifically required EPA to determine a "best *technological* system of emissions reduction" for new sources.[30] This

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[28] Specifically, the statute directs the Administrator to "prescribe regulations which shall establish a procedure similar to that provided by [Clean Air Act section 110] under which each State shall submit to the Administrator a plan … ." 42 U.S.C. § 7411(d)(1).

[29] As explained below, the Proposed Rule permissibly enables states to consider the "remaining useful life" of power plants by allowing them to achieve CO_2 emission reductions in ways other than actions taken at the plant site. *See* Section V.E, *infra*.

[30] Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 109(c)(1)(A), 91 Stat. 685, 699-700 (emphasis added).

"technological" standard never applied to existing sources, which were subject instead to performance standards that reflected the "best system of continuous emission reduction."[31] And, in 1990, Congress reverted to the original formulation of BSER, removing the "technological" qualifier to broaden the scope of tools that might be used to achieve greater emission reductions for both new and existing sources. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 403(a), 104 Stat. 2399, 2631.

The properly broad reading of "best system of emissions reduction" in section 111(d) also does not require EPA to "rewrite clear statutory terms" or otherwise "alter" statutory requirements in any way. *Cf. Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2445-46 (2014). Instead, EPA has given meaning to the statute's text by considering the "best" means to reduce emissions, recognizing that Congress intended EPA to achieve results, not to ignore the means by which states and utilities have already begun to do so. *Cf. Massachusetts*, 542 U.S. at 532 (Congress chose sufficiently broad language in the Act "to confer the flexibility necessary to forestall . . . obsolescence."). Further, EPA's construction does not "bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization." *Id.* at 2444. Indeed, it is ultimately states, rather than EPA, that have the authority and discretion to determine the emission reduction measures actually adopted. As EPA specifically recognizes in the Proposed Rule, under section 111(d), states are free to adopt measures other than those the EPA has determined comprise the BSER.[32] This framework ensures that it is states, and not EPA, that ultimately exercise regulatory authority over existing power plants through state plans.

Of course, EPA's authority to interpret the broad term "system" in section 111 is not unbounded. Not only must EPA work within the word's ordinary meaning, but the qualifiers "best" and "adequately demonstrated" place important limits on EPA's authority. A body of case law compiled over the past forty years sets forth criteria EPA must use in determining whether a system is "best" and "adequately demonstrated." So, for instance, although the language in section 111 does not explicitly limit the type of system that EPA may consider, the system selected by EPA must be technically feasible and of reasonable cost.[33]

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[31] The Conference Report emphasized that this was a deliberate choice on the part of the committee, explaining that the 1977 amendments "mak[e] clear that standards adopted for existing sources under section 111(d) of the act are to be based on available means of emission control (*not necessarily technological*)." H.R. Rep. No. 95-564, at 129 (1977) (Conf. Rep.) (emphasis added).

[32] *See* 79 Fed. Reg. at 34,879, 34,897.

[33] *See, e.g.*, *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427,433-34 (D.C. Cir. 1973); *see also* cases cited in 79 Fed. Reg. at 34,879 n. 194-198. As EPA notes, although this case law

EPA's proposed sector-wide approach to determining BSER is not only authorized, but also compelled by what is already happening on the ground. It reflects existing state and regional programs that have successfully demonstrated that electric power sector-based approaches are practical and effective means of cost-effectively reducing CO_2 emissions. These approaches include reducing electricity demand through demand-side energy efficiency measures, shifting generation away from higher emitting sources to lower or zero-emitting sources (including through renewable portfolio standards), and cap-and-trade programs such as those implemented under California's Global Warming Solutions Act (AB 32) and the nine-state Regional Greenhouse Gas Initiative. These mechanisms have evolved in response to the integrated nature of the power grid and the fact that this grid is fed by a diversity of fuel sources. Indeed, the Utility Air Regulatory Group has previously endorsed use of a cap-and-trade program under section 111(d) as BSER.[34]

In short, the interconnectedness and diversity of the electric grid provide unique opportunities to obtain cost-effective emissions reductions while meeting consumer demand and reliability needs, and give regulators significant flexibility in determining how best to meet their specific emission-reduction targets. Nothing in the statute prohibits EPA from using its discretion to harness these attributes, and, in fact, the agency is required to consider demonstrated systems that reduce emissions, as it has done here.

IV. The BSER Selected by EPA Is "Adequately Demonstrated."

A. The BSER Must Not Be Unreasonably Costly and Must Be Projected As Feasible in the Regulated Future.

The two alternative BSER formulations proposed by EPA in its Proposed Rule,[35] have been "adequately demonstrated." As the Court of Appeals for the D.C. Circuit has held, an "adequately demonstrated" system is that which "has been shown to be reasonably reliable, reasonably efficient, and...can reasonably be expected to serve the interests of pollution control without becoming exorbitantly

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concerns the meaning of the definition of "standard of performance" in the context of section 111(b), it is equally relevant to the same term used in section 111(d).

[34] *See* Br. of Pet'r Utility Air Regulatory Group (UARG) in *New Jersey v. EPA* (D.C. Cir. No. 05-1097) (Jan. 12, 2007). In that case, not only did UARG argue that nationwide cap-and-trade programs constituted BSER, they contended that states should be *required* to adopt such programs to satisfy their legal obligations under section 111(d).

[35] 79 Fed. Reg. at 34,858-85 & 34,889-90,

costly in an economic or environmental way." *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d at 433.[36] In other words, the approaches identified as the BSER must be feasible and not unreasonably costly. *Id.*

The feasibility standard to determine whether the BSER is "adequately demonstrated" is appropriately broad in light of the significant flexibility Congress granted to EPA to identify the "best system" of emission reduction.[37] Obviously, a system that is "achievable because it has been achieved," *NRDC v. EPA*, 655 F.2d 318, 331 (D.C. Cir. 1981) (citing cases), is feasible. In addition, as the case law emphasizes, EPA has the discretion to adopt BSER approaches that "may fairly be projected for the regulated future, rather than the state of the art at present." *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973).[38]

The statute's direction for EPA to "take into account the cost of achieving such [emission] reduction," 42 U.S.C. § 7411(a)(1), is similarly general, leaving significant discretion to the agency. *See Portland Cement Ass'n v. Train*, 513 F.2d 506, 508 (D.C. Cir. 1975). Furthermore, an assessment of benefits may also be instructive in determining the reasonableness of the costs. See *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009) (upholding EPA's interpretation of "best technology available" under Clean Water Act that included consideration of technology's cost). EPA's BSER and alternate BSER formulations easily meet these requirements. EPA's reliance on well-established and cost-effective systems of emission reduction for each of the building blocks places its actions comfortably within the Clean Air Act's legal requirements. And, the implementation of numerous measures, including those in the building blocks, have demonstrated that reduced utilization of fossil-fueled power plants reduces emissions in a cost-effective manner.

B. EPA's Finding That the BSER Has Been "Adequately Demonstrated" Is Supported by Both System Level Modeling and an Analysis of the System Components.

In the preamble, EPA has proposed "the combination of the four building blocks as the BSER." 79 Fed. Reg. at 34,852. These building blocks, functioning individually and in tandem, are the basis for the achievable state goals specified by

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[36] *See also Portland Cement Ass'n v. EPA*, 513 F.2d 506, 508 (D.C. Cir. 1975) (cost should not be "excessive" or "unreasonable").

[37] 42 U.S.C. § 7411(a)(1).

[38] *See also Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d at 433-34 (An achievable standard can be one that, "while not at a level that is purely theoretical or experimental, need not necessarily be routinely achieved within the industry prior to its adoption.").

EPA.[39] EPA has shown both that the BSER is "achievable because it has been achieved" by demonstrating how all of the BSER's elements have been adequately demonstrated in states, and that its reduction goals are realizable and not unreasonably costly by providing thorough modeling accompanying the Proposed Rule. Thus, EPA has demonstrated that BSER feasibility and cost requirements have been met at the state level and at the sector level through its modeling of what may "fairly be projected."

EPA's analysis is supported by a robust and growing literature supporting the strategies identified in the building blocks of the BSER (which are the same strategies that enable the alternative BSER of reduced utilization). The power industry itself has identified supply-side heat rate improvements as a commercially proven, cost-effective first step to reduce power plant CO_2 emissions. In addition, the last twenty years of electricity generation show that increased dispatch of natural gas combined cycle (NGCC) plants and further deployment of renewable energy generation is technologically feasible, having been thoroughly demonstrated in the United States and in Europe, and that they do not pose unreasonable additional costs. In fact, increased NGCC dispatch and renewable energy utilization are both commercially available approaches to controlling carbon emissions and thus easily meet the statutory requirement for their inclusion with the BSER. The states have decades of experience with demand-side energy efficiency, which is recognized as an energy resource in the ISO New England Forward Capacity Market, and the role of efficiency is increasingly being recognized in flattening of the growth in demand for energy. This section of the comments discusses the experiences of states to supplement other analyses supporting the BSER's adequate demonstration through system level modeling.[40]

1. Building Block 1, Supply Side Heat Rate Improvements, Is Adequately Demonstrated.

Building block 1 consists of improving the average heat rate of coal-fired steam power plants by 6 percent, *see* 79 Fed. Reg. at 34,851, a goal that is feasible and cost-effective. The existing coal-fired power generation fleet consists of "over fifteen hundred separate units ranging in size from just a few megawatts (MW) to

[39] Similarly, because EPA's alternative BSER formulation, which is comprised of building block 1 and reduced generation of specified amounts at affected power plants based on building blocks 2, 3, and 4, is also based on the four building blocks, it therefore is also adequately demonstrated.

[40] *See, e.g.*, Analysis Group, *EPA's Clean Power Plan: States' Tools for Reducing Costs and Increasing Benefits to Consumers* (July 2014), *available at:* http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Analysis_Group_EPA_Clean_Power_Plan_Report.pdf.

thirteen hundred (1,300) MW," that together constitute "over 300 gigawatts (GW) of installed electric generating capacity and are responsible for generating more electricity than any other fuel type in the United States: between thirty-seven and fifty percent of the total kilowatt-hours (kWh) produced annually during the last decade."[41] According to the Electric Power Research Institute (EPRI), "[h]eat rate improvement is [ ] the first obvious step to reduce [ ] CO_2 and all other emissions," and is "commercially proven," and "the most cost-effective and immediately available control process for lowering CO_2."[42] That is so because, "[a] percentage improvement in heat rate is nearly equivalent to an equal percentage improvement in the emissions rate in terms of the change in CO_2 emissions."[43]

a. Power plant efficiency improvements are feasible.

Improvements in technology (*e.g.*, steam turbine upgrades and boiler retrofits), process (*e.g.*, worker training, creating a dedicated efficiency engineer position), operations (*e.g.*, improving steam temperature controls), and maintenance (*e.g.*, restoring turbine seals) to improve power plant efficiency are well understood.[44] Combustion, steam cycle, and operation and maintenance improvements, as well as other heat rate improvements, are well documented to achieve increases in plant efficiency and lower CO_2 emissions.[45] Compiling a data set of 97 percent of U.S. coal-fired units over twenty-five years of operation, a recent economic analysis independently confirms that EPA's technical estimate of a

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[41] Nat'l Energy Tech. Lab. (NETL), *Options for Improving the Efficiency of Existing Coal Fired Power Plants*, at 8 (Apr. 2014), *available at* http://netl.doe.gov/File%20Library/Research/Energy%20Analysis/Publications/Efficiency-Upgrade-Final-Report.pdf (hereinafter NETL Report).

[42] EPRI, *Range and Applicability of Heat Rate Improvements, Technical Update*, at 1-1 (Apr. 2014), *available at* http://www.eenews.net/assets/2014/08/14/document_gw_01.pdf (hereinafter EPRI Report).

[43] Richard J. Campbell, Cong. Res. Serv., R43343, *Increasing the Efficiency of Existing Coal-Fired Power Plants*, 9 (Dec. 2013), *available at* http://fas.org/sgp/crs/misc/R43343.pdf.

[44] *See generally id.*; NETL, *Opportunities to Improve the Efficiency of Existing Coal-Fired Power Plants, Workshop Report*, at Ex. 6 at 10-11 (July 2009) (workshop participants included representatives from government, industry, and technical consultancies).

[45] *See, e.g.*, NETL Report, *supra* note 41, at 8; Sargent & Lundy, LLC, *Coal-Fired Power Plant Heat Rate Reductions*, SL-009597 (Jan. 22, 2009), *available at* http://www.epa.gov/airmarkets/resource/docs/coalfired.pdf.

potential average heat rate improvement of 6 percent in the U.S. coal-fired power plant fleet is accurate.[46]

b. Power plant efficiency improvements are cost effective.

Power plant efficiency improvements are a highly cost effective means of reducing CO_2 emissions. The heat content of coal is in the range of 8,000 to 12,000 British Thermal Units (Btus) per pound, and the current price of coal is about $1.50 to $2.00 per million Btu, or about $30.00 per ton.[47] A typical coal plant consumes about 6,000 tons of coal per day.[48] "Fuel is by far the largest expense item" for coal-fired power plants, "representing about 55-75% of total plant expenses."[49] As EPRI has observed, reducing a power plant's heat rate can, therefore, significantly lower fuel consumption and costs.[50] The Proposed Rule reflects that understanding, finding that heat rate improvements "pay for themselves at least in part through reductions in fuel costs." 70 Fed. Reg. at 34,856. EPA estimated that CO_2 emissions reductions of between 4 and 6 percent from overall heat rate improvements could be achieved initially for net costs in the range of $6 to $12 per metric ton of CO_2. *Id.*

EPRI has identified a number of efficiency improvements with a negative cost per ton of CO_2 reduced that are cost-effective in light of projected plant fuel savings, and many other cost-effective carbon emissions reduction opportunities as well.[51] The vintage and type of coal-fired power plant, among other factors, influence the relative payback periods for different heat rate improvement options; some may have shorter payback periods and therefore may be more cost effective than others.[52] Overall, heat rate improvements and other supply side efficiency measures

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[46] *See* Joshua Linn, et al., *Regulating Greenhouse Gases from Coal-Fired Power Plants Under the Clean Air Act*, 1 J. of the Ass'n of Envtl. & Res. Econ. 97, 99 (2014) (after controlling for variability in boiler size, design, and vintage, and air pollution controls installed, "fleet wide emissions rate reductions of up to 6% may be technically feasible by improving performance up to a 90th percentile emissions-rate benchmark.").

[47] *See* EPRI Report, *supra* note 42, at 1-1.

[48] *Id.*

[49] *Id.*

[50] *Id.*

[51] *Id.* at 4-4, 4-5, & Fig. 4-1.

[52] *See generally* NETL Report, *supra* note 41 (presenting comparative technical and financial analysis for four efficiency modifications (coal pulverzier, steam surface condenser, steam turbine, and solar feedwater heater) for two hypothetical generic base case plants built in 1968 and 1995).

have been proven to be a cost effective method of reducing CO_2 emissions from power plants.

2. Building Block 2, Reducing CO_2 Emissions by Increasing the Capacity Factor of NGCC, Is Adequately Demonstrated.

a. Building block 2 is feasible and cost-effective.

Building block 2 provides for "[d]isplacing coal-fired steam and oil/gas-fired steam generation in each state by increasing generation from existing NGCC capacity in that state toward a 70 percent target utilization rate." 79 Fed. Reg. at 34,851. This has the effect of "[r]educing emissions from the most carbon-intensive affected [power plants] in the amount that results from substituting generation at those [plants] with generation from less carbon-intensive affected [power plants] (including NGCC units under construction)." *Id.* at 34,836. The agency has estimated that the average utilization rate of US NGCC capacity is 46 percent. *Id.* at 34,857. It is well supported that an increase of 24 percent is technically feasible. The cost to achieve this capacity factor increase through NGCC re-dispatch is not unreasonable, working out to approximately $30 per metric ton according to EPA's estimate. *Id.*

Recent scholarship adequately demonstrates states' ability to increase the use of natural gas generation to achieve EPA's target 70 percent capacity factor.[53] One study, published after the release of the Proposed Rule, and utilizing its 2012 electric generation data set from NGCC plants, examined the anticipated generation increase from those sources at a 70 percent capacity factor.[54] That study found that the resulting increase in generation would meet or exceed that predicted

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[53] Stan Kaplan, *Displacing Coal with Generation from Existing Natural Gas-Fired Power Plants*, Cong. Res. Serv., at 12-14 (Jan. 2010) (reviewing the feasibility and issues involved in displacing coal-fired generation with electricity from existing natural gas plants with a strong infrastructure focus), *available at* http://fpc.state.gov/documents/organization/135929.pdf; Logan et al., Joint Inst. for Strategic Energy Analysis, *Natural Gas and the Transformation of the U.S. Energy Sector: Electricity* (Nov. 2012) (analyzing feasibility of increased power generation from natural gas with emphasis on water, regulatory, and technical barriers), *available at* http://www.nrel.gov/docs/fy13osti/55538.pdf.

[54] Rachel Gelman, *Carbon Mitigation from Fuel-Switching in the U.S. Power Sector: State, Regional and National Potentials*, 27 The Elec. J. 63 (Sept. 2014) (identifying the carbon mitigation potential of the 2012 NGCC fleet operating at 70 percent capacity at approximately 250 million metric tons of CO_2), *available at* http://www.sciencedirect.com/science/article/pii/S1040619014001699.

by EPA,[55] even when omitting NGCC units that had commenced construction before January 8, 2014 but were not yet in operation in 2012.

States and power plants have confirmed the feasibility of significantly increasing the capacity factor of NGCC through including operating and emission limits into source permits, including operating limits in the Title V permits, and by broadening the integrated resource planning (IRP) process to reprioritize dispatch.[56] While natural gas pipeline and storage infrastructure are expected to be able to accommodate a significant increase in power generation from natural gas on a nationwide basis,[57] some regional and state-specific constraints will nonetheless persist.[58]

EPA expects only a modest impact on retail prices resulting from its building block 2 targets, stating that "impacts on retail electricity prices are modest and fall within the range of price variability seen historically in response to changes in factors such as weather and fuel supply." 79 Fed. Reg. at 34,885. The modest impact on electricity prices due to re-dispatch is easy to understand. At low natural gas prices, as are forecast for the foreseeable future,[59] fuel costs account for roughly 85

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[55] *See* 79 Fed. Reg. at 34,863.

[56] Kate Konschnik & Ari Peskoe, *Power Over Pollution: Exploring State Plan Enforcement Approaches to EPA's GHG Power Plant Rule*, 27 The Elec. J. 50, 56-57 (Sept. 2014) (discussing state options for shifting utilization to lower-emitting NGCCs), *available at* http://www.sciencedirect.com/science/article/pii/S1040619014001481#.

[57] Kaplan, *supra* note 53, at 22-23 ("It seems unlikely that on a national, aggregate scale, pipeline capacity would be a constraint on coal displacement by existing NGCC plants. The natural gas consumption required for the maximum potential coal displacement by existing NGCC plants [an 85 percent capacity factor] equate to about 15 BCF per day of natural gas, or about 7 percent of existing pipeline capacity); Richard J. Campbell, *EPA's Proposed Greenhouse Gas Regulations: Implications for the Electric Power Sector*, Cong. Res. Serv., at 12-14 (June 2014), *available at* http://nationalaglawcenter.org/wp-content/uploads//assets/crs/R43621.pdf.

[58] *See, e.g.*, U.S. Dep't of Energy, *Letter from Quadrennial Energy Review Task Force Secretariat & Energy Policy & Systems Analysis Staff to Members of the Public*, *Infrastructure Constraints in New England* (Apr. 15, 2014), *available at* http://energy.gov/sites/prod/files/2014/04/f15/20140415_Infrastructure_Constraints_in_New%20England.pdf.

[59] Energy Info. Admin. (EIA), *Annual Energy Outlook 2014 with Projections to 2040* IF-38, at tbl. IF6-1 (2014) (noting that the outlook for natural gas have been consistently lowered and that in 2012 adjusted dollars the natural gas prices were projected at $5.91 mBtu in 2025 and $8.60 mmBtu in 2040 for the scenario with accelerated coal retirements.), *available at* http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf.

percent of the total operating cost of an NGCC plant.[60] Furthermore, the increased utilization of existing NGCC facilities avoids significant capital expenses and, in effect, reduces the overall cost of producing electricity. Lastly, upstream transportation and storage costs appear to be contained as the Federal Energy Regulatory Commission (FERC) is positioned to facilitate the modest additional infrastructure needs to accommodate heightened capacity factors.[61] Likewise, no unreasonable costs arising from reliability concerns are likely to be present.[62]

b. EPA should consider adding new NGCC and additional co-firing of natural gas at existing coal plants to building block 2.

The States recommend that EPA consider revising building block 2 to incorporate the potential for re-dispatch from existing coal power plants to new NGCC plants likely to be constructed between now and 2030 and the potential for many existing coal-fired plants to co-fire less carbon intensive fuels or convert to firing natural gas. This would better reflect demonstrated and available practices to reduce emissions and result in greater equity across states. This would also ensure that the effectiveness of EPA's proposal is not diluted by the construction of new NGCC plants.

As currently proposed, building block 2 requires little to no reductions from states that have limited or no existing natural gas capacity, despite the fact that new NGCC and co-firing of natural gas in heavily coal-dependent states would result in significant reductions in state CO_2 emission rates. This has resulted in a disparity in state goals between states. At the same time, because the current proposal might allow a state to count new NGCC capacity towards compliance with its state goal, omitting such potential in the goal computation methodology could set less stringent state goals than some states could cost-effectively and reasonably achieve. The States recommend that EPA generally provide for consistency between

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[60] Mark Bolinger, Lawrence Berkeley Nat'l Lab., *Revisiting the Long-Term Hedge Value of Wind Power in an Era of Low Natural Gas Prices*, at 2 (2013) (citing EIA, *Updated Capital Cost Estimates for Electricity Generation Plants* (2010)), *available at* http://emp.lbl.gov/publications/revisiting-long-term-hedge-value-wind-power-era-low-natural-gas-prices.

[61] Campbell, *supra* note 57, at 12-14.

[62] North Amer. Elec. Reliability Corp., *2013 Special Reliability Assessment: Accommodating an Increasing Dependence on Natural Gas for Electric Power*, at 87-93 (2013), *available at* http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_PhaseII_FINAL.pdf.

target-setting and reasonably-foreseeable compliance options so as to maintain the integrity and effectiveness of the program.

3. Building Block 3, Increasing Renewable Electric Generating Capacity Through State-Level Renewable Generation Targets, Is Adequately Demonstrated.

Building block 3 includes nuclear energy goals and an increase in "renewable electric generating capacity over time." 79 Fed. Reg. at 34,851. Building block 3 has the effect of "[r]educing emissions from affected [power plants] in the amount that results from substituting generation at those [power plants] with expanded low- or zero-carbon generation." *Id.* at 34,836. The EPA calculates its net cost estimate for this generation, including moderate deployment of new renewable generation and continued use of existing nuclear generation, to be $10 to $40 per metric ton. *Id.* at 34,858.[63]

a. Building block 3 is feasible.

As demonstrated by the many successful RPS and other renewable energy programs established by numerous states across the country, increased zero-emission energy development is feasible. EPA proposes different ways to determine renewable energy's contribution to state goals. More than half of the states have RPSs in place and have collectively deployed approximately 46,000 MW of new renewable energy capacity through year-end 2012.[64] For states that do not yet have an RPS program, EPA's proposed approach of building on existing RPS targets and looking at the feasibility of a given level of renewable energy on a regional basis is well supported.[65] EPA's alternative approach to quantifying renewable generation through a state-by-state assessment of technical and market potential[66] is also well

[63] The States recommend that EPA remove consideration of at-risk nuclear from both the calculation of state goals under building block 3 and from the available measures to demonstrate compliance with state goals. Whether a nuclear plant continues to operate or retires depends on numerous factors beyond the control of state programs or policies, such as licensing decisions made by the Nuclear Regulatory Commission based on safety and other considerations.

[64] Jenny Heeter et al., Nat'l Renewable Energy Lab. (NREL), *A Survey of State-Level Cost and Benefit Estimates of Renewable Portfolio Standards* (2014).

[65] Chelsea Schelly & Jessica Price, *Utilizing GIS to Examine the Relationship Between State Renewable Portfolio Standards and the Adoption of Renewable Energy Technologies*, 3 Int. J. Geo-Inf. 1, 11, 15 (2014), *available at* http://www.mdpi.com/2220-9964/3/1/1/htm.

[66] *See* EPA Office of Air & Radiation, Docket ID No. EPA-HQ-OAR-2013-0602, *Alternative RE Approach Technical Support Document* (June 2014).

supported.[67] Other methodologies for determining potential renewable generation on a state-by-state basis, such as that proposed by the Union of Concerned Scientists, have confirmed that increased renewable generation is feasible and cost effective at even higher rates of adoption than projected by EPA.[68] Heavily coal-reliant utilities, such as Southern Company and its subsidiaries, have also begun incorporating increased renewable energy into their generation mix, further demonstrating the feasibility of renewable energy and the role that power plant owners can play in reducing the carbon content of their generation.[69]

The growth of renewable energy at the rate determined by EPA under its proposed approach is adequately demonstrated. EPA reasonably relies most heavily on those states that have performed careful studies of their renewable energy potential.[70] And, because renewable energy generation capacity generally is similar in a given region, EPA reasonably extrapolates from existing state programs.[71] Further, the fact that a state does not have an RPS policy does not mean it has not or cannot achieve significant growth in the generation of zero-emission renewable energy. One study found that some states without an RPS have been able to increase their percentage of in-state renewable energy production by 6.1 percent– even more than some states with ambitious RPS standards.[72] States with RPSs have, on average, set a goal to obtain 20 percent of their 2020 generation from

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[67] NREL, *ReEDS Modeling of the President's 2020 RE Generation Goal* (May 2014), *available at* http://www.nrel.gov/docs/fy14osti/62077.pdf.

[68] Union of Concerned Scientists, *Strengthening the Clean Power Plan* (2014), *available at* http://www.ucsusa.org/our-work/global-warming/reduce-emissions/role-of-renewable-energy-in-epa-clean-power-plan.

[69] Southern Company, Renewables, *available at* http://www.southerncompany.com/what-doing/energy-innovation/smart-energy/smart-power/renewables.cshtml.

[70] *See* 79 Fed. Reg. at 34,866; *see also* Cliff Chen et al., Lawrence Berkeley Nat'l Lab., *Weighing the Costs and Benefits of State Renewables Portfolio Standards: A Comparative Analysis of State-Level Policy Impact Projections*, 5-7 (2007) (providing list of 28 state-developed cost-benefit studies and analyzing their results.).

[71] Anthony Lopez et al., NREL, *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis* (2012).

[72] Schelly & Price, *supra* note 65, at 11-12. For example, Florida employs modest levels of renewable energy generation even though it does not have an RPS. EIA, *Florida State Profile and Energy Estimates*, http://www.eia.gov/state/?sid=FL (last visited Sept. 9, 2014); *see also* Konschnik & Peskoe, *supra* note 56, at 9 (noting that Florida has provided agencies with statutory authority to establish demand-side renewable generation, as well as approval authority that can guide renewable energy development).

renewable resources.[73] Studies reveal many readily-accessible renewable energy resources that can be developed at reasonable cost.[74] This is further supported by the ability of some states to achieve their renewable energy targets ahead of the RPS compliance period. In fact, Texas met its 2025 goal of 10,000 MWs in 2009. General compliance with RPS targets has also been consistently high at well above 90 percent.[75]

EPA's proposed approach of averaging a region's RPS goals to establish a target renewable energy level also is valid. Individual states within a geographic region generally share similar levels of renewable energy technical potential, among other characteristics that may make grouping appropriate.[76] Finally, the lack of a RPS program does not mean that a state has no or less renewable energy potential than its neighbors.[77]

EPA's alternative approach of a state-by-state assessment of renewable energy relying on technical and market potential can also serve as a robust means of demonstrating the feasibility of increased renewable generation. Previous experience in renewable energy development shows that future development, even in excess of a state's RPS requirements, would be achievable.[78]

b. Building block 3 is cost effective.

Previous renewable energy generation has been cost effectively deployed. A NREL and Lawrence Berkeley National Laboratory review of the costs and benefits of increased renewable energy deployment (as anticipated under RPS compliance) found that the estimated incremental cost from 2010-2012 (the cost above and

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[73] 79 Fed. Reg. at 34,858.

[74] David Hurlbut et al., NREL, *Beyond Renewable Portfolio Standards: An Assessment of Regional Supply and Demand Conditions Affecting the Future of Renewable Energy in the West* (2013), *available at* http://www.nrel.gov/docs/fy13osti/57830-1.pdf.

[75] Miriam Fischlein & Timothy M. Smith, *Revisiting Renewable Portfolio Standard Effectiveness: Policy Design and Outcome Specification Matter*, 46 Pol'y Sci. 277, 292 (2013), *available at* http://link.springer.com/article/10.1007%2Fs11077-013-9175-0#page-1.

[76] Oguzhan Dincer et al., *Are State Renewable Portfolio Standards Contagious?*, 73 Am. J. Econ. & Soc. 336 (2014).

[77] Michael Vasseur, *Convergence and Divergence in Renewable Energy Policy Among US States from 1998 to 2011*, 92 Social Forces 1637 (2014) (finding that a state's adoption of RPS bears little relation to renewable energy potential).

[78] *See generally* Hurlbut, *supra* note 74.

beyond what would have been incurred without an RPS) was on average approximately 1 percent of retail electricity rates and well below the cost caps that most state legislatures have adopted as part of their RPS.[79] In the study's analysis of states with restructured markets, incremental costs ranged from 0.1 percent to 3 percent of retail rates. Regulated states have fared similarly, experiencing incremental costs no higher than 3.5 percent of average retail rates, and in one case, savings of 0.2 percent.[80] This data derives from 29 states, most with policies in effect for more than five years.

Additional renewable energy generation is also predicted to be cost-effective to develop. NREL found that if utility-scale solar and wind are deployed in prime areas to meet RPS mandates, the renewables, including transmission costs, could be cost competitive with new NGCC power plants in 2025.[81] Although NREL's study was limited to the Western Electricity Coordinating Council, it identified a range of scenarios where renewables would cost the same or less than NGCC by 2025. EIA estimates that even before then, by 2019,[82] the cost for wind would be less than all forms of coal-fired power.[83] Notably, even large utilities long known for their significant coal plant portfolios, such as Duke Energy, have invested heavily in renewable energy.[84]

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[79] Heeter, *supra* note 64, at v (when calculated as a weighted-average the average incremental compliance costs were 0.9% or 1.2% as a simple average).

[80] *Id.* at v-vi (excludes California, which two different methodologies calculated as either achieving a net savings equal to 3.6% of retail rates or a net cost of 6.5%).

[81] Hurlbut, *supra* note 74, at xv (including power from Wyoming, Nevada, Arizona, New Mexico, Montana, and Idaho).

[82] *See* EIA, *Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2014* (Apr. 2014), *available at* http://www.eia.gov/forecasts/aeo/pdf/electricity_generation.pdf. For its 2014 report, EIA uses 2019 under the assumption that power generation projects frequently take at least five years to deploy from conception.

[83] *Id.* at 1, n.1. & 6, tbl. 1 (finding that the U.S. average of the levelized cost of wind, at $80.3 per MWh would be superior to all forms of coal from conventional coal to integrated gasification combined cycle (IGCC) with carbon capture and sequestration (CCS) which is estimated to possess a levelized cost from $95.6 to $147.4 per MWh).

[84] Duke Energy Renewables, *available at* http://www.duke-energy.com/commercial-renewables/.

c. Target generation for renewable energy, whether calculated by surveying and averaging RPS programs or analyzing technical and economic potential, should recognize the crucial long-term value of establishing a robust zero-carbon emission energy system.

The States recognize that renewable energy development is a critical component of long-term reduction of carbon emissions and acknowledge the strategic benefits of earlier shifts to these low-carbon forms of generation. As identified by EPA and many commentators, there are numerous valid methodologies for calculating feasible and cost-effective renewable energy deployment goals. EPA should set those goals in accordance with BSER's role as a forward-looking and technology-forcing requirement.[85] Thus, the States prefer an approach to the renewable energy building block that results in a target that aggressively captures the technical feasibility and market potential of renewable energy. Based on such an approach, the States also believe that there is a demonstrated basis for strengthening state-specific targets for some states.[86] The factors identified in EPA's recent Notice of Data Availability,[87] also merit careful consideration by EPA.

4. Building Block 4, Demand Side Energy Efficiency, Is Adequately Demonstrated.

Building block 4 sets goals for electricity generation savings measures to reduce demand for electricity. Demand side energy efficiency has long been recognized as a least-cost means of reducing demand for generation and thereby reducing greenhouse gas emissions.[88] Demand side energy efficiency programs currently are administered by many states, electric utilities, and third-party

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[85] EPA Legal Mem. at 39.

[86] *See, e.g.*, Union of Concerned Scientists, *supra* note 68.

[87] 79 Fed. Reg. 64,543, 64,551 (Oct. 30, 2014).

[88] 79 Fed. Reg. 34,871; Tim Woolf et al., *Unleashing Energy Efficiency: The Best Way to Comply with EPA's Clean Power Plan*, 30 Pub. Util. Fortnightly 32 (Oct. 2014), *available at* http://synapse-energy.com/sites/default/files/Unleashing%20Energy%20Efficiency%2014-093.pdf.

administrators,[89] And energy efficiency resource standards are in place in over twenty states.[90]

After reviewing historical data on state efficiency programs and analyzing the requirements of state energy efficiency policies, EPA identified twelve leading states that have achieved, or put in place requirements that will achieve, annual incremental savings rates of at least 1.5 percent of the electricity demand (retail sales) that would otherwise have occurred—that is, avoided energy use, or reduced demand attributable to energy efficiency.[91] Based on that analysis of efficiency potential, EPA set as its target a 1.5 percent incremental savings rate per year that can be achieved by all states, at a reasonable cost, over an adequate period of time.[92] EPA then set specific rates for each state. States currently achieving a 1.5 percent annual energy savings rate are assigned that rate in 2017, and all future years; states not yet achieving that rate are assigned their 2012 annual incremental rate, and that rate is increased by 0.2 percentage points per year until it reaches 1.5 percent, where it remains.[93]

EPA's target rate is achievable, and even conservative. Massachusetts' energy efficiency programs, for example, reduced retail sales of electricity in the Commonwealth by *2 percent* in 2012[94]; that number is expected to reach *2.6 percent* in 2015,[95] resulting in a cumulative annual CO_2 emission reduction of three million metric tons in 2015 from electric energy efficiency programs implemented from 2005 through 2015.[96] Massachusetts' electric efficiency programs, along with those in

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[89] 79 Fed. Reg. 34,849.

[90] *Id.* at 34,850.

[91] *Id.* at 34,872.

[92] *Id.*

[93] Karen L. Palmer, Resources for the Future, *Energy Efficiency in 111(d): Understanding Building Block 4* (June 16, 2014), *available at* http://common-resources.org/2014/energy-efficiency-in-111d-understanding-building-block-4/.

[94] Mass. Dep't of Envtl. Prot., *Commonwealth of Massachusetts Global Warming Solutions Act 5-Year Progress Report*, at 32 (Nov. 21, 2013), *available at* http://www.mass.gov/eea/docs/eea/gwsa/ma-gwsa-5yr-progress-report-1-6-14.pdf.

[95] Mass. Dep't of Pub. Util., *Electric Three-Year Energy Efficiency Plans,* D.P.U. 12-100 through D.P.U. 12-111, at 17 (2013), *available at* http://www.mass.gov/eea/docs/dpu/electric/2013-2015-3-yr-plan-order.pdf.

[96] Mass. Dep't of Envtl. Prot., *supra* note 94, at 3.

other New England states, have been so successful that the Independent System Operator-New England (ISO-NE) (New England's Regional Transmission Organization) has begun to take the programs into account for purposes of its long term load forecasting. For the period 2014 through 2023, ISO-NE is projecting that, with state energy efficiency investments fully included, load growth will remain flat at about 130,000 GWh.[97] By contrast, without including state energy efficiency programs in the projection, load growth is forecasted to increase to over 151,000 GWh by 2023.[98]

For decades, California has enforced an expanding network of efficiency standards, which has helped minimize the energy needed to power appliances and buildings.[99] Energy savings are projected at nearly 70,000 GWh in 2013 alone.[100] The California Energy Commission estimates that these efficiency standards have generated $74 billion in savings for California consumers over the last several decades.[101] Energy efficiency is the first resource California looks to as it considers its energy needs, and is the first resource considered in procurement proceedings under California's loading order.[102] Because California has decoupled utility profits from energy sales, its investor-owned utilities have strong incentives to pursue these savings.[103] Academic analysts have concluded that hundreds of thousands of jobs can be created by California's expanding energy efficiency programs.[104]

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[97] ISO-NE, *2014 Regional System Plan*, at 47 (Nov. 6, 2014), *available at* http://www.iso-ne.com/system-planning/system-plans-studies/rsp.

[98] *Id.* at 38.

[99] *See generally* Cal. Energy Comm'n, *Tracking Progress: Energy Efficiency* (2013), *available at* http://www.energy.ca.gov/renewables/tracking_progress/documents/energy_efficiency.pdf.

[100] *Id.*

[101] *See id.*

[102] *See generally* Cal. Energy Comm'n, *Implementing California's Loading Order for Electricity Resources* (2004), *available at* http://www.energy.ca.gov/2005publications/CEC-400-2005-043/CEC-400-2005-043.PDF.

[103] *See* Am. Council for an Energy-Efficient Econ.*, State Energy Efficiency Database: California* (2013), *available at* http://aceee.org/sector/state-policy/california.

[104] David Roland-Holst, *Energy Efficiency, Innovation, and Job Creation in California*, at 35 (2008), *available at* http://are.berkeley.edu/~dwrh/CERES_Web/Docs/UCB%20Energy%20Innovation%20and%20Job%20Creation%2010-20-08.pdf.

In the Northwest, the Northwest Planning and Conservation Council gives the states of Idaho, Montana, Oregon, and Washington guidance on implementing energy efficiency measures and the Bonneville Power Administration provides funds to consumer-owned utilities to implement energy efficiency measures.

In the Northeast, the market-based Regional Greenhouse Gas Initiative (RGGI) has driven increased investment in energy efficiency; because the RGGI states invest a portion of their RGGI auction proceeds in end use energy efficiency, demand for fossil fuel-fired power further decreases—a powerful co-benefit that also reduces CO_2 emissions. Energy efficiency programs funded through reinvestment of the $700 million generated by RGGI auctions through 2012 is projected to offset the need for approximately 8.5 million MWh of electricity generation, thereby avoiding the release of approximately 8 million short tons of CO_2 into the atmosphere.[105]

EPA's estimate of efficiency potential is not based on, and did not take into account, additional energy savings that will be achieved by private businesses delivering energy efficiency services, building codes, or combined heat and power.[106] For that reason, the target energy efficiency savings rate is conservative. As well, EPA's target assumes that there will be no improvement by those states that currently are not achieving the 1.5 percent savings rate during the period between 2012 and 2017, which also demonstrates that EPA's estimate is conservative.[107]

Because the 1.5 percent target is, based on states' experience, achievable and adequately demonstrated, we do not support EPA's alternatively proposed 1 percent annual incremental rate.

Energy efficiency also is widely recognized as the least cost energy resource. A study released earlier this year examined the costs of utility-sector energy efficiency programs in twenty states over a recent four-year period (2009-12).[108]

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[105] RGGI, *Regional Investment of RGGI CO_2 Allowance Proceeds, 2012*, at 3-4 (Feb. 2014), *available at* http://rggi.org/docs/Documents/2012-Investment-Report.pdf.

[106] *See Comments of Advanced Energy Economy on Proposed Rule*, at 43-44 (Nov. 5, 2014) ("Accounting for the contributions of the well-established [performance-based contract] market by incorporating [performance-based contracts] as viable tools for state emission reduction under the Clean Power Plan would result in an additional cumulative savings of 104 to 190 million MWh by 2030."), *available at* http://info.aee.net/hs-fs/hub/211732/file-2034410148-pdf/EPA/Testimony/AEE-Clean-Power-Plan-Comments-Nov-2014.pdf.

[107] *Id.* at 44-45.

[108] Am. Council for an Energy Efficient Econ., *The Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs*, at 39-40 (Mar. 2014).

That study found that energy efficiency cost an average of 2.8 cents per kWh, with a range of 1.6 to 4.8 cents per kWh. By comparison, conventional resources cost two to three times as much per kWh. The study further concluded that the data show that energy efficiency has remained the lowest cost resource over the past decade even as the amount of energy efficiency being captured has increases significantly. Demand side efficiency is therefore not only cost-effective, it can achieve cost savings for end users.

C. The Building Blocks, Individually and as a System, Have Been Adequately Demonstrated.

The experience of the states adequately demonstrates that all four building block approaches can work together as a system to achieve significant CO_2 emissions reductions. As identified above, states have accomplished significant reductions through heat rate improvements, and reduced utilization of the most-polluting plants through increased natural gas utilization, renewable energy deployment and energy efficiency.

New Mexico demonstrates the ability of a state with significant reliance on coal power plants to make steady progress in reducing greenhouse gas emissions and position itself for robust compliance with EPA's interim and final goals. In recent years New Mexico has drawn more than two-thirds of its electricity from coal power plants.[109] Despite this, New Mexico has identified robust heat rate improvements available at its coal plants, begun drawing more natural gas, and established strong renewable energy and energy efficiency policies with significant track records of success. New Mexico's past experience drawing upon a combination of the various building blocks demonstrates their ability to provide meaningful and effective greenhouse gas reductions both individually and as an interrelated system of emission reduction policies. Many of the undersigned States have had similar success implementing multiple, diverse emissions-reducing policies simultaneously, further underscoring that the combination of EPA's four building blocks is adequately demonstrated.[110]

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[109] Southwest Energy Efficiency Project, *New Mexico Energy Fact Sheet* (Feb. 2014), *available at* http://www.swenergy.org/publications/factsheets/NM-Factsheet.pdf.

[110] Western Res. Advocates, *Key Western States Are Well-Positioned to Meet EPA's Carbon Pollution Standards* (2014), *available at* http://www.westernresourceadvocates.org/energy/pdf/CarbonStandardsFactSheet.pdf.

D. The Proposed Rule Increases the Importance of Also Tackling Emissions from Natural Gas Production and Distribution.

Shifting a substantial portion of higher-emitting coal- and oil-fired generation to lower- or zero-CO_2 emitting generation, including NGCC, is a key goal of the Proposed Rule. According to EPA, the four-block approach will result in a 12 to 14 percent gas production increase, and construction of 20 to 22 GW of new NGCC capacity by 2020. 79 Fed. Reg. at 34,933. EPA notes, however, that based on its projections, the four-block approach "results in 32-35 GW less NGCC capacity in 2030 relative to the base case (due to increased use of renewable energy sources and decreased demand from implementation of demand side energy efficiency measures)." *Id*.

While the States support transitional increased use of natural gas rather than coal and oil as an interim step toward decarbonizing the national power sector, it is vitally important that, as this Proposed Rule moves forward, EPA takes concrete action to regulate methane emissions from the oil and gas sector. The need for this action is underscored by EPA's analysis that the shift in generation from higher-emitting steam EGUs to lower-emitting NGCC units results in an increase in natural gas production and price. *Id.* at 34,932-33.

Over a 100-year timeframe, methane is 34 times more powerful at trapping heat in the atmosphere than CO_2; over a 20-year timeframe it is 86 times more potent.[111] Scientific research regarding the climate benefits of natural gas over other fossil fuels is ongoing, and the analysis is dependent on a variety of factors, such as the type of gas, for instance, conventional versus shale gas; methods of extraction and production; and volume of fugitive emissions (leakage) in production, transmission and distribution systems.[112] We urge EPA to be cautious with respect to assumptions that power plant fuel switching to natural gas or shifting dispatch from coal- and oil-fired units to NGCC plants necessarily will result in substantially lower greenhouse gas emissions.

Recent studies suggest that, when methane leaks from gas production, transmission, and distribution are taken into account, the climate benefit of natural

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[111] Gunnar Myhre et al., *Anthropogenic and Natural Radiative Forcing* at 714, tbl. 8.7 (Daniel Jacob et al. eds., 2013).

[112] *See generally* Australian Council of Learned Acad., *Engineering Energy: Unconventional Gas Production, A Study of Shale Gas in Australia*, at 144, tbl. 10.5 (May 2013), *available at* http://acola.org.au/PDF/SAF06FINAL/Final%20Report%20Engineering%20Energy%20June%202013.pdf.

gas as a substitute for coal- and oil-fired power is diminished significantly, at least for some period.[113] A recent meta-study analyzing 20 years of earlier bottom-up (source-level) studies with top-down (atmospheric) studies found that although robust climate benefits result from NGCC's displacement of coal-powered generation, efforts to accurately assess, and thereby control, methane leakage from natural gas production, transportation, and power generation are inadequate.[114] The study found that some types of bottom-up measurements consistently underestimate actual measured values while top-down studies based on atmospheric concentrations suggest that leakage rates are significantly higher that current EPA estimates.[115] The revolutionary development of shale gas and tight oil reservoirs through horizontal drilling and hydraulic fracturing may upend other estimates, and novel applications of remote sensing technology estimate that current inventories of fugitive emissions for producing regions where these technologies are used may be significantly underestimated.[116] While techniques for

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[113] *See, e.g.*, Ramon A. Alvarez et al., *Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure*, 109 Proc. Nat'l Acad. Sci. U.S.A. 6435, 6437 (Apr. 24, 2012) ("new natural gas power plants produce net climate benefits relative to efficient, new coal plants using low-gassy coal on all time frames as long as leakage in the natural gas system is less than 3.2% from well through delivery at a power plant. . . . given limited current evidence, it is likely that leakage at individual natural gas well sites is high enough, when combined with leakage from downstream operations, to make the total leakage exceed the 3.2% threshold beyond which gas becomes worse for the climate than coal for at least some period of time"), *available at* http://www.pnas.org/content/109/17/6435; *see also* Bob Howarth, *A Bridge to Nowhere: Methane Emissions and the Greenhouse Gas Footprint of Natural Gas*, 2 Energy Sci. & Eng'g 47, 56 (May 2014), *available at* http://onlinelibrary.wiley.com/doi/10.1002/ese3.35/full; Stefan Schwietz et al., *Natural Gas Emission Rates Constrained by Global Atmospheric Methane and Ethane*, 48 Envtl. Sci. & Tech. 7714 (June 2014), *available at* http://www.ourenergypolicy.org/wp-content/uploads/2014/06/natgas.pdf; Stefan Schwietz et al., *Global Bottom-Up Fossil Fuel Fugitive Methane and Ethane Emissions Inventory for Atmospheric Modeling*, 2 ACS Sustainable Chemistry & Eng'g 1992 (June 2014), *available at* http://pubs.acs.org/doi/pdf/10.1021/sc500163h.

[114] Brandt et al., *Methane Leaks from North American Natural Gas Systems*, 343 Sci. 733 (2014), *available at* http://www.sciencemag.org/content/343/6172/733.full.

[115] *Id*. at 734-35.

[116] Oliver Schneising et al., *Remote Sensing of Fugitive Methane Emissions from Oil and Gas Production in North American Tight Geologic Formations*, Earth's Future (Oct. 2014), *available at* http://onlinelibrary.wiley.com/doi/10.1002/2014EF000265/full.

determining fugitive emissions will continue to be refined and estimates improved, the science is clear that fugitive emissions are significant.[117]

EPA should harmonize its climate change regulatory goals when it proposes revisions to its oil and natural gas well rules in late 2014 and correct current deficiencies in monitoring, assessing, and regulating methane emissions from oil and gas operations.[118] To ensure the greatest greenhouse gas emission reduction benefit is achieved, EPA must regulate oil and gas sector production, transmission, and distribution system methane leaks at the same time it advances the Proposed Rule. As a number of studies have shown, abatement of methane emissions in the oil and gas sector is among the least-cost global methane emissions reduction strategies available.[119] Finally, EPA should consider the significant risk that incentivizing substantial long term investment in gas infrastructure would displace renewables development, the wide-scale deployment of which is likely necessary to enable the U.S. to achieve an 80 percent reduction of greenhouse gases from 2005 levels by 2050.[120]

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[117] Kevin Wecht et al., *Mapping of North American Methane Emissions with High Spatial Resolution by Inversion of SCIAMACHY Satellite Data*, 119 J. Geophys. Res. Atmos. 7741, 7751 (2014) (finding no discrepancy between measured methane emission for oil and gas relative to EPA inventories although noting that this may reflect some compensation between overestimate of emissions from storage/distribution and underestimate from production), *available at* http://onlinelibrary.wiley.com/doi/10.1002/2014JD021551/full.

[118] U.S. EPA, Office of Inspector Gen., *Improvements Needed in EPA Efforts to Address Methane Emissions From Natural Gas Distribution Pipelines* (2014), *available at* http://epa.gov/oig/reports/2014/20140725-14-P-0324.pdf; *see also* New York Attorney General et al., *Comments on EPA Methane White Papers* (June 16, 2014), *available at* http://www.eesi.org/files/States-final-methane-white-paper-comments.pdf.

[119] *See, e.g.*, Project Catalyst, *Abatement Opportunities for Non-CO_2 Climate Forcers, Black Carbon, Methane, Nitrous Oxide, and F-Gas Emissions Reductions to Complement CO_2 Reductions and Enable National Environmental and Societal Objectives*, at 64 & Ex. 27 (May 2011) (methane abatement cost curve), *available at* http://www.project-catalyst.info/images/publications/final%20report%20non-co2%20climate%20forcers.pdf.

[120] *See* McKinsey & Co., *Shale Gas and Tight Oil: Framing the Opportunities and Risks*, at 34 (2012) ("Low-cost gas also has the potential to displace zero-carbon renewables, increase demand for energy overall, and catalyze the return to the United States of energy-intensive industries. Taking these effects into account, we estimate the net impact as ranging from a slight reduction to a slight increase in overall US greenhouse-gas emissions, depending on the level of fugitive methane emissions.").

V. EPA Has Properly Provided States with Flexibility in Developing State Plans Under Section 111(d).

EPA proposes to interpret section 111 as allowing state plans to include measures that reduce CO_2 emissions from affected sources, including emissions trading. 79 Fed. Reg. at 34,903, 34,927. The States support EPA's proposal as consistent with the flexibility inherent in section 111(d), as well as with prior section 111(d) rulemakings.

A. Section 110 Provides Guidance for Section 111(d) Plans.

Section 111(d) of the CAA requires states to prepare plans to regulate pollution from existing sources using a procedure "similar to" that of section 110. 42 U.S.C. § 7411. This means that "EPA issues emissions guidelines" and then, subject to federal oversight, states determine how to comply with those guidelines. *See AEP*, 564 U.S. at 10–11 (2011). Because section 111(d) specifically refers to section 110, section 110 provides context for both the content of state plans and the federal enforceability of those plans.

Under section 110, states must prepare state implementation plans to flesh out how they will attain the primary and secondary NAAQS established by EPA. 42 U.S.C. § 7410. The case law interpreting section 110 shows that states retain broad discretion to determine the substantive content of their plans, and to include "enforceable commitments" as part of those plans. Section 110 requires a balanced cooperative federalism approach in which "states have 'primary responsibility for ensuring that the ambient air meets the [standards] for the identified pollutants.'" *Ala. Envtl. Council v. EPA*, 711 F.3d 1277, 1280 (11th Cir. 2013) (quoting *Ky. Res. Council, Inc. v. EPA*, 467 F.3d 986, 988 (6th Cir. 2006)). The EPA plays a major role in establishing standards for the target pollution, while the states take primacy in the implementation of plans designed to meet those standards.

Courts generally reject attempts by the EPA to control the content of state plans under section 110. *See, e.g.*, *Union Electric Co. v. EPA*, 427 U.S. 246, 268–69 (1976) (rejecting an attempt by the EPA to reform the contents of a section 110 plan that the Agency viewed as too stringent because "Congress plainly left with the States . . . the power to determine which sources would be burdened by regulation and to what extent."); *Train v. Natural Resources Defense Council*, 421 U.S. 60, 79 (1975) ("[S]o long as the ultimate effect of a State's choice of emissions limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emissions limitations it deems best suited to its particular situation."); *Virginia v. EPA*, 108 F.3d 1397, 1409–10 (D.C. Cir. 1997) (reevaluating the EPA's authority following the 1990 amendments to the CAA and concluding that notwithstanding the amendments, "Congress did not give EPA authority to choose the control measures or mix of measures states would put in their implementation plans").

To ensure that a given rule accomplishes its emission reductions goals, state plans must include "attainment demonstrations" that illustrate their ability to "mitigate adequately" the target emissions. EPA may reject plans that are too vague or potentially unenforceable. *See Virginia v. EPA*, 108 F.3d at 1410; *Galveston-Houston Ass'n for Smog Prevention v. EPA*, 289 Fed. Appx. 745, (5th Cir. 2008) (unpublished decision).

Thus, while state plans must include "something more than a mere promise to take appropriate but unidentified measures in the future," EPA need only "ensure that a submitted plan contains adequate provisions to achieve attainment by the applicable attainment date." *Envtl. Def. v. EPA*, 369 F.3d 193, 210–11 (2d Cir. 2004) (quoting *Nat'l Resources Def. Council v. EPA*, 22 F.3d 1125, 1134 (D.C. Cir. 1994)). States need only demonstrate that their plans are reasonably tailored to achieve emissions reductions targets and ensure accountability in the event they fail to meet those targets; under this structure, a state may choose to apply standards of performance only to its covered power plants, to power plants plus other sources, or to other factors that reduce emissions from the target power plants.[121]

B. Section 111(d) Allows Flexible Approaches to Regulating Pollutants.

Section 111(d) is a highly flexible section of the Act that can accommodate various approaches to emissions reductions, depending on the type of pollutant being regulated. For example, the rule regulating fluoride emissions from primary aluminum plants is highly specific and narrow because of the nature of the danger posed by fluoride emissions.[122] On the other hand, the rule regulating NO_x emissions from municipal waste combustors (MWCs) allows states to use emissions

[121] *See* EPA Office of Air & Radiation, Docket ID No. EPA-HQ-OAR-2013-0602, *Technical Support Document for Carbon Pollution Emission Guidelines for Existing Statutory Sources: Electric Utility Generating Units, State Plan Considerations* (June 2014) (providing examples of various rate- and mass-based plans that states may adopt to demonstrate compliance and discussing application of standards of performance to sources other than power plants).

[122] *See* 40 C.F.R. § 60.192*; Primary Aluminum: Guidelines for Control of Fluoride Emissions from Existing Primary Aluminum Plants*, Doc. No. EPA-450/2-78-049b, at 1-4, 1-25 tbl. 1-7 (Dec. 1979) (describing the localized, area-specific public welfare impacts of fluoride emissions from primary aluminum plants and predicting up to a 78 percent reduction in emissions under EPA's end-of-the-pipe plan).

averaging plans because the dangers posed by NO_x from MWCs can be effectively reduced under such plans.[123]

Thus, prior section 111(d) rulemakings demonstrate the provision's flexibility and EPA's ability to apply the statute in ways that recognize the specific circumstances before the agency, including the nature of the emissions at issue, the harms at stake, and the sources to be regulated. EPA's Proposed Rule properly considers these factors, as well as the economic and environmental gains that will result from a flexible, broad-based rule. *See* 79 Fed. Reg. at 34,833-34, 34,880-81 (discussing the diffuse, non-localized dangers of carbon pollution and the interconnected and diverse nature of the U.S. electricity sector).

C. Trading Is Permissible Under Section 111(d).

To address greenhouse gas emissions from existing power plants, the States support EPA's proposal to allow states to utilize trading programs. Cap-and-trade programs are well suited to reducing greenhouse gas emissions because such programs ensure compliance with emission limitations and such emissions do not pose the type of "hot spot" concerns that toxic pollutants such as mercury do. Moreover, a trading system could qualify as a system that requires continuous emission reduction, if it sets the cap appropriately below current emissions and mandates that all emissions from sources in the category are covered by sufficient allowances. *See* 42 U.S.C. §§ 7411(a); 7602(l).[124]

In two prior instances, EPA interpreted section 111(d) as permitting trading. In the first instance, the MWC program gave states the option of allowing credit trading among plants. *See* § 40 C.F.R. 60.33b(d)(2). EPA used average plant-wide emissions to effectively regulate NO_x emissions from MWCs. *Compare* 40 C.F.R. § 60.33b(d)(1) (2011) (regulation of MWCs based on average emissions) *with* 40 C.F.R. § 60.192 (2011) (regulation of fluorides from primary aluminum plants based on a specific emission rate between 0.1 and 2.0 pounds per ton of aluminum, depending on the type of plant). In the second instance, EPA created a market-based model rule for reduction of mercury emissions from coal-fired power plants.

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[123] *See* 40 C.F.R. § 60.33b(d)(2).

[124] EPA may consider scenarios in which emissions reductions attributable to renewables generation and increased end-use energy efficiency would be credited on the basis of CO_2 emissions avoided, with such credits to be used by covered facilities to achieve compliance with the emission guidelines. *See, e.g.*, Natural Res. Def. Council, *Closing the Power Plant Carbon Pollution Loophole: Smart Ways the Clean Air Act Can Clean Up America's Biggest Climate Polluters* (Mar. 2013). In considering these scenarios, EPA should evaluate and articulate any methodology to be used to determine credit eligibility sufficient to satisfy section 111(d)'s existing source emission limitation requirement.

Although that rule was vacated by the D.C. Circuit on other grounds,[125] EPA's justifications for a power plant trading program in that rule are equally valid here, especially given that CO_2 emissions from power plants do not pose the "hot spot" concerns associated with power plant emissions of mercury.

First, in determining that a cap-and-trade program could be considered the BSER, EPA concluded that it was the best system "in the relevant timeframe." 70 Fed. Reg. at 28,617. Similarly, the emissions reductions strategies EPA has identified for existing power plants to cut CO_2—including supply side energy efficiency, fuel switching, co-firing with cleaner fuels, shifting dispatch to lower emitting facilities, and demand side energy efficiency—are all available "in the relevant timeframe." Second, EPA allowed each state to choose whether to fulfill its section 111(d) obligations by participating in a cap-and-trade program or selecting some other means to stay within its statewide emissions budget. A similar approach works here for CO_2 emissions.

Third, EPA required new units to be subject to the cap-and-trade program and to hold sufficient allowances to cover their emissions. *See* 70 Fed. Reg. at 28,632. EPA let each state choose an allocation method and choose whether to set aside allowances to account for new units. *See id.* at 28,632; 69 Fed. Reg. at 12,406-409. Similarly, the Proposed Rule should be updated to allow states to have the option of including all power plants, including those that may come on-line after a state plan is approved, within a trading plan for CO_2 emissions. A state plan could specify its allocation method and specify how new units will be accommodated.

A cap-and-trade program, whether standing alone or as an element of a larger state or regional cap-and-trade program, will drive reductions at the source because cap-and-trade is designed to provide an economic incentive for sources to increase efficiency and deploy other means of reducing emissions and for end users to innovate, as well. For example, through RGGI, the Northeastern and mid-Atlantic states[126] who joined together to reduce greenhouse gas emissions from existing power plants in their states through a regional cap-and-trade system have succeeded in reducing CO_2 emissions from the power sector by more than 40 percent below 2005 levels, with further reductions projected. At the same time, these states

[125] *See New Jersey v. EPA*, 517 F.3d 574, 578 (D.C. Cir. 2008) (vacating the section 112 delisting rule that EPA relied upon to promulgate the Clean Air Mercury Rule (CAMR) under section 111(d)). References to the CAMR in this paper do not reflect any support or endorsement of EPA's attempt through CAMR to regulate hazardous air pollutants under section 111 rather than section 112. As discussed above, a cap-and-trade program involving greenhouse gas emissions does not raise the type of local air pollution concerns that were present with respect to CAMR.

[126] The States that currently participate in RGGI are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

have used the proceeds from allowance auctions to fund investments in energy efficiency, further reducing demand and generating large net economic benefits (hence the coining of the term "cap-and-invest"). For example, a recent independent analysis of RGGI's costs and benefits in the participating states found that the program produces a net benefit of $1.6B in the region (net present value), based on the first three-year compliance period.[127]

The States support EPA's proposal to allow states to use a cap-and-trade system under section 111(d).

D. EPA May Set Rate-Based Goals and Allow for Conversion to Mass-Based Goals.

In the Proposed Rule, the EPA expresses each state's emission guideline, or required level of emission performance, as an emission rate, namely pounds of CO_2 per net megawatt hour (lbs/MWh). As requested by stakeholders during the scoping process, the Proposed Rule expressly permits, but does not require, states to translate their "rate-based" goals to equivalent "mass-based" goals (for example, tons/year), 79 Fed. Reg. at 34,893-94, giving states flexibility to accommodate and account for a wide variety of emission reduction strategies.

The appropriateness of issuing state-specific emissions guidelines as rate-based goals is fairly standard and uncontroversial, as should be the option for states to translate "rate-based" goals to equivalent "mass-based" goals. We believe that section 111(d) condones use of either metric as the "standard of performance." Nothing in the statute's language restricts the agency to use of any one measure,[128]

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[127] *See* Analysis Group, *The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States* (2011), *available at* http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Report.pdf.

[128] To the contrary, the statute expressly authorizes emissions limitations expressed as either a rate or "quantity." *See* 42 U.S.C. § 7602(k) (defining "emission limitation" as a limit on the "quantity, rate or concentration of emissions of air pollutants on a continuous basis").

neither runs afoul of case law,[129] and the EPA has used both standards in the past.[130]

Moreover, giving states flexibility to convert rate-based goals to mass-based goals accommodates a wide variety of emission reduction strategies, allowing states to fulfill their role under section 111(d) to develop effective implementation plans.[131] For example, mass-based emissions are the currency of existing multi-state trading programs. Without that currency, it would be difficult for states to determine how to integrate their various standards of performance into a unified portfolio, for purposes of allotting emissions shares to states and to entities within those states. Use of a common currency will make it easier to expand the scope of any regional trading program, whether to include a new state participant or another sector of carbon-emitting sources. Even where a state does not participate in a regional trading program, use of a mass-based standard may allow it greater flexibility to incorporate demand-side efficiency measures and increased reliance on low- and zero-emitting sources into its plan. In other words, it creates opportunities for a state to diversify its portfolio of plan components, regardless of whether a particular component is itself federally enforceable. At bottom, states should be allowed to choose the currency that will best suit their needs, including those that enable coordination with neighboring states and participation in regional emissions control programs.

EPA requests comment on whether it should provide a "presumptive translation" from rate-based to mass-based goals, or whether the agency should instead provide "guidance" for states to follow in making the switch.[132] EPA also recently issued a Notice and accompanying technical support document containing information regarding two possible methodologies that states can use to translate

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[129] Courts have emphasized only that standards applied to sources must cover the sources' entire operations, *see Sierra Club v. EPA*, 551 F.3d 1019, 1027 (D.C. Cir. 2008) (holding that no phase of plant activity–e.g., startups, shut downs, and/or malfunctions–is exempt from compliance), and that any standard must be reliable and enforceable. *See Kennecott Copper Corp. v. Train*, 526 F.2d 1149, 1155 (9th Cir. 1975).

[130] Although emission control standards are more frequently expressed as an emissions rate, the 2005 CAMR is one example of a mass-based (tons per year) standard. *See* 70 Fed. Reg. at 28,606 (invalidated on other grounds).

[131] Use of mass-based targets also goes further to reduce "absolute" emissions and thus to accomplish the Clean Air Act's purpose. This is true both because it imposes a finite cap on total emissions, which a rate-based standard does not, and because compliance with a mass-based standard may be easier to measure and verify.

[132] 79 Fed. Reg. at 34,912.

emission rate-based goals to mass-based equivalent goals.[133] With respect to the translation issue (and disregarding the technical merits of the EPA's specific proposals, which we leave to the air agencies, among others, to evaluate), we see no legal issues with the range of translation options the EPA has proposed–from providing a "conversion table" of sorts, to allowing states to determine their own translations–so long as the result is subject to the agency's review and approval, and so long as that approval is contingent on a determination that the state's mass-based goal would achieve the equivalent in stringency, including compliance timing, to the state-specific rate-based goal set by the EPA.

E. EPA's Proposed Rule Provides States With Flexibility to Consider the "Remaining Useful Life" of Existing Power Plants.

EPA seeks comment on whether the flexibility the Proposed Rule would provide states in determining how to achieve their emission goals satisfies the statutory requirement that states be allowed to consider the "remaining useful life" of sources when developing their state plans. Section 111(d) provides in relevant part that EPA's guidelines must "permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies." 42 U.S.C. 7411(d)(1). Pursuant to EPA's longstanding implementing regulations, a less stringent emission standard may be appropriate where a state could cite "[u]nreasonable cost of control resulting from plant age, location, or basic process design." 40 C.F.R. § 60.24(f). As recognized by EPA's implementing regulations, allowing states to consider the remaining useful life of existing sources is intended to avoid a situation in which a source that is nearing retirement is compelled to implement expensive measures to reduce pollution.

Under EPA's interpretation in the Proposed Rule, "the flexibility provided in the state plan development process adequately allows for consideration of the remaining useful life of the affected facilities" so that "separate application" of this factor to individual sources is unnecessary. 79 Fed. Reg. at 34,925. We agree. Indeed, EPA's building blocks provide a mechanism for states to avoid requiring unreasonable pollution reduction measures. For example, a state could choose to require a power plant approaching the end of its useful life to achieve less than a 6 percent heat improvement rate by recouping the lost emission reductions through greater heat rate improvements at other plants in the state or through improved implementation of other building block measures, such as energy efficiency. By contrast, if EPA had proposed a rule that required every power plant to achieve a heat rate improvement of 6 percent, it may have been appropriate to allow a power

[133] 79 Fed. Reg. 67,406 (Nov. 13, 2014).

plant that could not achieve that heat rate improvement without exorbitant expense and was within a couple of years of retirement to meet a lower standard.

The D.C. Circuit Court of Appeals has signaled its approval of a similar type of approach to the concept of "remaining useful life" in the context of the statute's section on improving visibility in national parks and other scenic areas. *Center for Energy and Econ. Dev. v. EPA*, 398 F.3d 653 (D.C. Cir. 2005) (*CEED*). In the *CEED* litigation, the Court considered an EPA rule issued to implement section 169A of the Act, 42 U.S.C. § 7491. In that section, Congress directed EPA to issue regulations requiring that state implementation plans contain measures to demonstrate reasonable progress toward unimpaired visibility in national parks and other scenic areas, referred to as class I areas. *Id.*, § 7491(b). In particular, state plans must require sources that contribute to impaired visibility in class I areas to implement the best available retrofit technology (BART) to limit their emissions of visibility-impairing pollutants. Similar to section 111(d), Congress directed EPA to consider the "remaining useful life" of affected sources in determining reasonable progress and in applying the BART requirement. 42 U.S.C. § 7491(g)(1), (2). When EPA issued its Regional Haze Rule implementing the statute, it included an option by which states could demonstrate compliance with the reasonable progress and BART requirements by adopting a regional alternative consisting of "an emissions trading program or alternative measure" provided that such alternative would achieve better results than a source-specific application of BART. 40 C.F.R. §§ 51.308(e)(2), 51.309(a) (2003).

Several parties challenged the rule, arguing that it was unlawful in light of the court's decision in *American Corn Growers Ass'n v. EPA*, 291 F.3d 1 (D.C. Cir. 2002), which vacated EPA's method of determining BART. Although the court ultimately vacated the rule on grounds that it was inconsistent with *American Corn Growners Ass'n*, it first rejected petitioners' argument that EPA lacked authority to permit states to comply with the reasonable progress and BART requirements through a regional emissions trading program. The court reasoned that petitioners had "shown neither that Congress's language precluded non-BART alternatives where BART wasn't 'necessary to make reasonable progress,' nor that EPA's reading is otherwise unreasonable." *Id.* at 659-60; *see also UARG v. EPA*, 471 F.3d 1333, (D.C. Cir. 2006) (noting that the court "affirmed the use of [] 'better than BART' approaches in *CEED*).

The D.C. Circuit's decision in *CEED* thus supports EPA's position in this rulemaking that providing states with the flexibility to consider "remaining useful life" (and other statutory factors) for specific sources -- such as participating in a regional emissions trading program or otherwise shifting emissions reductions obligations – is permissible under the text of the statute and also a reasonable interpretation of that text.

F. EPA's Proposed Rule Does Not Usurp State Authority.

Carbon pollution, and its human toll, is an enormous problem that calls for a strong federal response—much like the problems of hazardous waste dumping, which gave rise to tragedies like Love Canal; water pollution, which captured the nation's attention in 1969 with the iconic Cuyahoga River fire; and air pollution, which choked cities with smog before the passage of the Clean Air Act. Opponents of federal environmental regulation often resort to claims that the regulation at issue constitutes federal government overreach, and indeed, such claims have been raised in response to the Proposed Rule—specifically, that it will usurp states' authority in the energy sector.

Such claims generally assert that the Proposed Rule would violate the Tenth Amendment and/or the Federal Power Act, and call into question whether EPA may (a) consider the emission reduction potential of energy efficiency or renewable energy programs adopted and implemented by states and/or utilities in determining state goals for the BSER; (b) give states the option to include energy efficiency or renewable energy policies in their implementation plans in a manner that renders those policies federally enforceable; and (c) develop a federal implementation plan to achieve a given state's goal without creating federal energy efficiency or renewable energy programs within a state.

Here, however, far from impinging on state authority, EPA has—as 111(d) requires—crafted a Proposed Rule that allows maximum flexibility for states to choose the actions that will achieve state emission reduction goals. As discussed below, we believe any concerns regarding "federalization" of state energy regulation are unfounded.

1. The Proposed Rule Raises No Federal Power Act or Tenth Amendment Concerns.

Some claim that EPA's inclusion of renewable energy and energy efficiency building blocks in the BSER undermines the balance of federal and state authority Congress established under the Federal Power Act (FPA). This claim, however, is groundless. First, the claim presupposes that by including these building blocks in the BSER, EPA is prescribing specific renewable energy and energy efficiency policies that must be adopted by states. But, in fact, states retain the flexibility to determine the elements of their implementation plans, which might or might not include these building blocks, and could vary the design of these building blocks in any number of ways. *See, e.g.*, 79 Fed. Reg. at 34,897-98.

Second, the claim wrongly assumes that the same jurisdictional limits that purportedly apply to FERC also apply to EPA. Any division between FERC and state jurisdiction relating to electricity markets has no logical application to the balance of EPA's and states' jurisdiction over the regulation of air pollutants.

Rather, in the Clean Air Act, Congress set forth a cooperative federalism model, which EPA's Clean Power Rule fully respects.

Finally, the claim ignores that even under the limits of jurisdiction imposed on FERC, the Commission has the authority to issue rules "for the express purpose of incentivizing construction of new generation facilities" and to incentivize the construction of transmission to support renewable energy. *See Conn. Dep't of Pub. Util. Control v. FERC*, 569 F.3d 477, 481-82 (D.C. Cir. 2009) (while FERC cannot directly regulate generating facilities or require the installation of new capacity, it can "directly establish prices for capacity – or much the same, prices for failing to acquire enough capacity – even for the express purpose of incentivizing construction of new generation facilities."); *see also Ill. Commerce Comm'n v. FERC*, 721 F.3d 764, 773 (7th Cir. 2013) (upholding FERC's approval of a regional transmission organization's tariff over objections that it would "coerce states to approve all [transmission projects intended to serve remote wind farms] proposed within its territory.")

Similarly, here, EPA's consideration of the potential for energy efficiency and renewable energy to contribute to state BSER goals that may *incentivize* states to adopt such policies does not offend the Tenth Amendment, nor the balance struck between areas of state and federal jurisdiction in the power sector. *Ill. Commerce Comm'n*, is instructive on this point. There, the court dismissed plaintiffs' Tenth Amendment argument as "frivolous," and found that a FERC action that "provides a carrot states won't be able to resist" is a "far cry" from "the federal government's conscripting a state government into federal service" by, for example, "ordering states to build transmission lines the federal government wants to use for its own purposes." *Id.*[134] Here, the same may be said of EPA's action—it may provide an irresistible carrot, but it cannot be said to constitute a stick, where states have discretion in using the energy efficiency and renewables building blocks in formulating their state plans. *See also Texas v. EPA*, 726 F.3d 180, 196-97 (D.C. Cir. 2013) (rejecting argument that EPA permitting regulations for greenhouse gases emitted by major stationary sources violated the Tenth Amendment); *Friends of the Earth v. Carey*, 552 F.2d 25 (2d Cir. 1977) (citing the Clean Air Act's cooperative

[134] Multiple scholars have argued that FERC can and should do more both to consider environmental factors and to facilitate integrated resource planning among states and regional transmission organizations. *See* Bateman & Tripp, *Toward Greener FERC Regulation of the Power Industry*, 38 Harv. Envtl. L. Rev. 275 (2014); Steven Weissman & Romany Webb, Center for Law, Energy and the Env't, Univ. of Cal., Berkeley, Sch. of Law, *Addressing Climate Change Without Legislation, How the Federal Energy Regulatory Commission Can Use Its Existing Legal Authority to Reduce Greenhouse Gas Emissions and Increase Clean Energy Use*, at Ch.5 (July 2014), *available at* https://www.law.berkeley.edu/files/CLEE/FERC_Report_FINAL.pdf.

federalism model in rejecting Tenth Amendment claim by city challenging state's adoption of implementation plan to control pollution from transportation sector).[135]

Indeed, as set forth in more detail below, EPA has long recognized and encouraged states' use of energy efficiency and renewable energy measures to comply with Clean Air Act NAAQS. Also, because generators must comply with a range of federal environmental requirements, many states often take federal environmental requirements into account for purposes of state energy decision making, and many states require consideration of environmental impacts associated with utilizing specific energy resources and demand-side options for purposes of long term planning. A majority of states have had renewable energy and energy efficiency programs in place for a number of years.[136] The assertion that state energy regulation exists in a vacuum apart from state and federal environmental regulation is simply inaccurate.

2. The Use of Energy Efficiency and Renewable Energy Measures to Comply with Clean Air Act Requirements Is Not New.

The concern expressed over states' inclusion of renewable energy or energy efficiency programs in their plans ignores several important facts. First, while states have the option of including such programs in their plans, they are not required to do so. Thus, for example, a state has the option of presenting a mass-based plan based on emissions limitations on a plant or plants (as in a statewide cap-and-trade program) without including, as federally enforceable elements of its plan, any renewable energy or energy efficiency programs that support the operation and attainment of the state plan. *See* 79 Fed. Reg. at 34,923.

Second, the option to include state renewable energy and energy efficiency programs as federally enforceable elements of a state plan submitted to the EPA is not new. Indeed, it has been ten years since EPA first issued guidance expressly permitting and even encouraging states to include emissions reductions from energy

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[135] Nor does the Clean Power Plan run afoul of the Supreme Court's decision in *New York v. United States*, 505 U.S. 144 (1992). There, the Court held that an aspect of federal legislation requiring states to either adopt federal regulation of low-level radioactive waste or "take title" to such waste (and thereby assume responsibility for any legal consequences) violated the Tenth Amendment. *Id.* at 175-77. The Court distinguished this "unique" provision from the cooperative federalism approach embodied in the Clean Air Act. *Id.* at 167-68, 177.

[136] Twenty-nine states have some form of renewable portfolio or renewable energy program and forty-one states offer some form of incentive for renewable energy. Weissman & Webb, *supra* note 134, at 29. In addition, twenty-seven states have adopted energy efficiency resource standards or goals requiring electric utilities to achieve specified electricity savings. *Id.* at 29-30.

efficiency and renewable energy in section 110 State Implementation Plans (the "2004 Guidance").[137] As with the Proposed Rule, EPA's 2004 Guidance gave states the flexibility to look to energy efficiency and renewable energy projects as a means to reduce emissions and identified types of energy efficiency and renewable energy projects and state policies and programs that could bring about those types of projects. Indeed, many of the state programs identified in EPA's 2004 Guidance– such as "renewable portfolio standards" and "energy efficient equipment purchasing requirements"[138]–are identical to those identified in the Proposed Rule.

And, as with the Proposed Rule, EPA's 2004 Guidance gives the states the option to present their energy efficiency and renewable energy measures in a way that does or does not make them federally enforceable.[139] In particular, the third option for enforcement in EPA's 2004 Guidance resembles the "state commitment" approach that EPA has requested comment on in the Proposed Rule.[140]

In 2012, EPA published a "Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State and Tribal Implementation Plans"[141] (hereafter "EPA's 2012 Roadmap") that updated its 2004 Guidance. The 2012 Roadmap recast the three enforceability options described in the 2004 Guidance into four "pathways." Notably, only one of the four "pathways" provides for federal enforceability of state energy efficiency or renewable energy policies or programs, but the three others do not. In addition, two of the pathways set no limit on the amount of SIP credit that may be given for such policies or programs.[142] Here again, the parallels with the Proposed Rule are evident. In short, the incorporation of state energy efficiency and renewable energy measures as a means to comply with a requirement for the reduction of emissions under the Clean

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[137] EPA Office of Air & Radiation, *Memorandum re Guidance on SIP Credits for Emission Reductions from Electric Sector Energy Efficiency and Renewable Energy Measures* (Aug. 5, 2004), *available at* http://www.epa.gov/ttn/oarpg/t1/memoranda/ereseerem_gd.pdf.

[138] *Id.* at ¶ 6.

[139] *Compare id* at ¶ 8(C) with 79 Fed. Reg. at 34,902.

[140] 2004 Guidance, *supra* note 137, at ¶ 8(C).

[141] EPA-456/D-12-001a (July 2012), *available at* http://epa.gov/airquality/eere/pdfs/EEREmanual.pdf.

[142] *Id.* at 27-32.

Air Act is not new. EPA has endorsed this approach for at least ten years and states and localities have embraced it.[143]

Third, that an EPA regulation may necessitate coordination between state environmental and energy regulators is not a new phenomenon. EPA and state officials have long recognized that climate policy has implications for both environmental and energy regulators, and therefore, EPA has devoted significant resources since at least 2004 to facilitating communication between these two groups of regulators. Indeed, since 2004, EPA has produced no fewer than sixty-nine (69) webcasts to help state staff "explore key issues surrounding state climate and clean energy efforts, and learn more about the implication of federal policies on state policies and programs."[144] In sum, such implications are relatively common and do not remotely offend the Tenth Amendment.

3. Federal Requirements Can and Do Influence State Energy Policy, as With EPA's Proposed Rule.

The Clean Power Rule would not "federalize" state regulation of utility markets, as some have suggested. Fundamentally, the concern expressed over EPA considering energy efficiency and renewable energy in setting state goals fails to differentiate between the federal government "influencing" state energy policy and the federal government "regulating" in areas reserved for the states. While it is true that states exercise authority to regulate generation and distribution for their state markets, they exercise that authority within a broader federally-regulated interstate market. State authority therefore already is constrained by the requirements of federal law, and the Proposed Rule would not alter the relationship between the federal and state government with respect to regulation of electricity generation.

For example, generators currently have to comply with federal and state environmental laws, including the Clean Air and Clean Water Acts, and states must devise plans to implement federal environmental laws with respect to a variety of criteria pollutant sources, including power plants.[145] Also, as emphasized by several recent federal court decisions, FERC has the sole authority to regulate the

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[143] *See id.* at App. K: State, Tribal and Local Examples and Opportunities, *available at* http://epa.gov/airquality/eere/pdfs/appendixK.pdf.

[144] *See* State Climate and Energy Webcasts (formerly known as State Technical Forum), *available at* http://www.epa.gov/stateandlocalclimate/web-podcasts/forum-by-date.html.

[145] *See generally* Certification of Massachusetts Compliance with Clean Air Act Sections 110(a)(1) and (2) State Implementation Plan Requirements for the 2010 Sulfur Dioxide National Ambient Air Quality Standard (June 6, 2014).

wholesale electricity market. *See Electric Power Supply Ass'n v. FERC* 753 F.3d.216, 219 (D.C. Cir. 2014).[146]

Economic dispatch decisions already reflect environmental regulatory mandates.[147] For example, while wholesale electricity markets dispatch generation based on cost (bids), they also accommodate current federal environmental laws.

Electricity markets also already integrate state and regional environmental requirements into their economic dispatch. Many states have implemented RPS standards and goals and FERC has incorporated market rules, such as Order 1000, to account appropriately for those state policy goals. California has implemented a cap-and-trade program that has been integrated into California's ISO's market dispatch. In recent testimony to Congress, FERC Chairman Cheryl LaFleur noted the success of integrating greenhouse gas reductions from power plants into dispatch decisions:

> In the past, these [regional electricity] markets have been able to successfully integrate state and regional environmental requirements, including greenhouse gas reductions, into their economic dispatch. For example, the organized wholesale electricity markets in the Northeast (ISO New England, New York Independent System Operator and PJM Interconnection, L.L.C. (PJM)) have been able to successfully accommodate the requirements of the Regional Greenhouse Gas Initiative (RGGI) into their market designs. Generators that must purchase emissions allowances under RGGI are able to include the cost of the allowances in their market bids, and those costs are

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[146]"Under the FPA the Commission is generally charged with regulating the transmission and sale of electric power in interstate commerce. The FPA "split[s] [jurisdiction over the sale and delivery of electricity] between the federal government and the states on the basis of the type of service being provided and the nature of the energy sale." *Niagara Mohawk Power Corp. v. FERC*, 452 F.3d 822, 824 (D.C. Cir. 2006). Section 201 of the FPA "empowers FERC to regulate 'the sale of electric energy *at wholesale* in interstate commerce.' 16 U.S.C. § 824(b)(1) (emphasis added)." *Electric Power Supply Ass'n*, 753 F.3d at 219.

[147] *See* U.S. Dept. of Energy, *The Value of Economic Dispatch: A Report to Congress Pursuant to Section 1234 of the Energy Policy Act of 2005*, at 4 (Nov. 7, 2005) ("Many factors influence economic dispatch in practice. These include contractual, regulatory, environmental, scheduling, unit commitment, and reliability practices and procedures. Because economic dispatch requires a balance among economic efficiency, reliability, and other factors, it is best thought of as a constrained cost-minimization process."), *available at* http://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/value.pdf.

> reflected in the economic dispatch. RTO dispatch rules have accommodated certain external factors, and some RTOs (including PJM and the Midcontinent Independent System Operator) have developed procedures to incorporate environmental requirements that limit the number of hours a generating unit may operate into their economic dispatch.[148]

States also currently consider federal environmental requirements when making decisions about electricity generation. For example, in determining the benefits of a long-term contract for offshore wind generation, the Massachusetts Department of Public Utilities considered both existing state requirements and the avoided costs of anticipated federal greenhouse gas regulation.[149]

Many other states utilize integrated resource planning (IRP), which often requires utilities, for purposes of long term planning to meet projected energy demand, to consider the costs for energy sources to comply with existing and potential future environmental regulations, demand side options, and/or environmental impacts associated with energy sources.[150] A number of states require energy providers to develop IRPs that specifically consider demand side supply and energy efficiency measures. For example, Oregon[151] requires utilities to

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[148] *See* Responses of Cheryl LaFluer to the United States House of Representatives Committee on Energy & Commerce Subcommittee on Energy & Power Preliminary Questions for the Federal Energy Regulatory Commission (July 29, 2014), *available at* http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Wstate-LaFleurC-20140729-SD001.pdf.

[149] Mass. Dep't of Pub. Util., Docket No. 10-54, at 171 (2010) ("As outlined above, the [Massachusetts Global Warming Solutions Act's] emissions reduction targets are very aggressive. The exact costs of achieving them are uncertain, but there is no question that the costs will be significant. Reductions of this magnitude will likely require significant investments across all sectors of society. The federal government is also expected to place nationwide limits on GHG emissions in the near- to mid-term future, with the EPA regulating them as a criteria pollutant under the Clean Air Act apart from whatever action Congress may take with respect to climate legislation. Such regulation would also impose compliance costs on Massachusetts electric distribution companies.").

[150] Integrated resource planning is a tool many states require utilities to use to analyze projected energy demand and resource availability and develop long term plans to meet energy requirements in light of "multiple objectives that may be imposed by legislation, Public Utility Commissions, environmental concerns, or customer concerns." David Lamont & John Gerhard, Regulatory Assistance Project, *The Treatment of Energy Efficiency in IRPs: A Review of Six State Practices*, at 3 (Jan 2013). The goal of integrated resource planning is to put in place energy resources that are best suited to meet those objectives.

[151] Or. Pub. Util. Comm'n Order No. 1989-507(1989).

evaluate all demand side resources on par with generating resources as part of planning, and PacifiCorp's (serving Oregon) IRP practices include projecting available demand side resources and their cost as part of IRP modeling.[152] Colorado's law defines "resource" to include supply side or demand side resources used to meet electric system requirements.[153] Arkansas,[154] California,[155] Connecticut,[156] Delaware,[157] Indiana,[158] Kentucky,[159] Nevada,[160] North Carolina,[161] Oklahoma,[162] and Virginia[163] all require consideration of demand side resources as part of utility integrated resource planning. The New Hampshire law specifically directs the New Hampshire Public Utilities Commission to consider environmental and public health impacts when evaluating the adequacy of utility IRPs and to prioritize utility demand side investment.[164] Where the Commission determines that energy resource options have equivalent financial costs, equivalent reliability,

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[152] *See* Lamont & Gerhard, *supra* note 150, at 6-8.

[153] 7 Colo. Code Regs. § 723-3-3602.

[154] Ark. Code Ann. § 23-18-106; Ark. PSC Docket No. 06-028-R (2007).

[155] Cal. Pub. Res. Code, § 25301(a); *see also* Cal. Energy Action Plan (2003), at 4 (establishing a "loading order" that prioritizes energy efficiency and renewable energy as resources), *available at* http://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF.

[156] 2012 Conn. Pub. Acts 11-80.

[157] Del. H.B. 6, Del. Elec. Util. Retail Customer Supply Act of 2006.

[158] 170 Ind. Admin. Code 4-7-1: Guidelines for Integrated Resource Planning by an Electric Utility.

[159] 807 Ky. Admin. Regs. 5:058.

[160] Nev. Rev. Stat. Ann. § 704-741 (West 2013); Nev. Admin. Code § 704.9215 (2014).

[161] NCUC Reg. Ch. 8, R8-60.

[162] Okla. Admin. Code § 165:35:37.

[163] VA Code Ann. § 56-598 (West 2008).

[164] New Hampshire utilities must include in their IRPs "an assessment of demand-side energy management programs, including conservation, efficiency improvement, and load management programs" and an "integration of demand-side and supply-side options." N.H. Rev. Stat. Ann. §§ 378:38; 378:39.

and equivalent environmental, economic and health-related impacts, the law directs the Commission to prioritize investment in demand side resources first, renewable resources, second, and all other energy resources last.[165]

The Proposed Rule allows states flexibility to design their plans to ensure resource adequacy and reliability. For example, because the proposal does not impose plant-specific requirements, a generating unit that is needed to ensure reliability could remain in service to meet peak load, but be dispatched less overall to meet the state's 111(d) targets.

4. Federal plans.

Others have raised concern that if one or more states fails to submit a plan, that in prescribing a plan for those states, EPA would impose a renewable portfolio standard and/or energy efficiency requirements. However, nothing in section 111 of the Clean Air Act or the Proposed Rule requires EPA to do so. *See* 42 U.S.C. § 7411(d)(2)(A). Moreover, the language in the Proposed Rule rebuts the notion of a federal takeover of state energy plans. Specifically, if EPA implements a federal implementation plan because a state has failed to meet its 111(d) obligations, EPA would implement the emission targets through regulation of power plants, not other entities. *Compare* 40 C.F.R. § 60.5790 ("If a state does not submit an approvable plan . . . EPA will implement and enforce a Federal plan . . . to ensure that each effected EGU within the state that commenced construction on or before January 8, 2014 reaches compliance") *with* 40 C.F.R. § 5740(a) (requiring state plans to include "emission standards for each affected entity," a term defined to include EGUs or other entities with compliance obligations). Thus, for example, EPA could choose to impose a cap on steam and natural gas power plants, with or without provisions for trading among the capped entities. Such a plan would not include renewable energy or energy efficiency measures, although it could incentivize power plants and/or states to adopt such measures to reduce the cost of compliance.

Respectfully submitted, Dated: December 1, 2014

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[165] *Id*. at 378:39.

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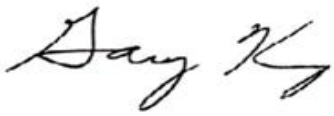

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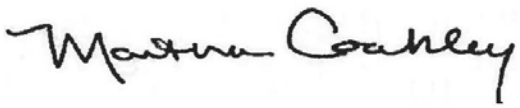

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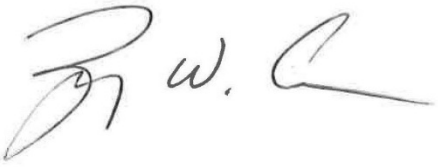

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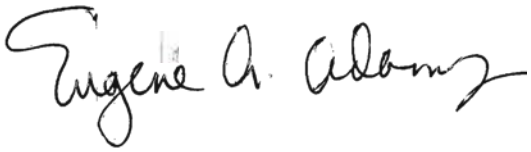

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