# Bounded Regulation

How the Clean Power Plan Conforms to Statutory Limits on EPA's Authority





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## I. Introduction

The Clean Power Plan is the first federal regulation aimed at reducing carbon dioxide  $(CO_2)$  emissions from existing power plants, the nation's largest source of greenhouse gas pollution.<sup>1</sup> Expected to reduce the power sector's annual  $CO_2$  output to 32% below 2005 levels by 2030,<sup>2</sup> the Plan is widely viewed as a significant, but eminently achievable, step to address the United States' contribution to global climate change.<sup>3</sup>

Critics of the Plan, however, argue that, in its pursuit of substantial emission reductions, the Environmental Protection Agency (EPA) "dramatically overstepped its authority" under the Clean Air Act<sup>4</sup> and invaded regulatory arenas intrastate electricity markets—that have traditionally been managed by the states.<sup>5</sup> They accuse the agency of attempting to "fundamentally restructure the nation's electricity industry" and position itself as "the nation's energy czar."<sup>6</sup>

It is certainly true that EPA's regulatory authority over existing power plants is not boundless. Indeed, Section 111 of the Clean Air Act places several important limits on the agency's discretion to craft emission guidelines for such facilities, such as forbidding the agency from imposing excessive costs, requiring it to consider how its guidelines might affect the nation's energy supply, and requiring it to base guidelines on reduction techniques that have been "adequately demonstrated."<sup>7</sup> But critics are wrong to suggest that the Clean Power Plan represents a "dramatic overstepping" of these statutory boundaries.<sup>8</sup> Instead, as this policy brief will discuss, the Plan explicitly acknowledges and respects each of Section 111's constraints on EPA's regulatory authority.

<sup>&</sup>lt;sup>1</sup> EPA, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64,662, 64,663 (Oct. 23, 2015); *see also* EPA, LEARN ABOUT CARBON POLLUTION FROM POWER PLANTS, https://www.epa.gov/cleanpowerplan/learn-about-carbon-pollution-power-plants (last visited Sept. 1, 2016) (noting that the electric power sector was the largest source of U.S. greenhouse gas emissions as of 2012).

<sup>&</sup>lt;sup>2</sup> 80 Fed. Reg. at 64,665.

<sup>&</sup>lt;sup>3</sup> See, e.g., President Barack Obama, Remarks by the President in Announcing the Clean Power Plan (Aug. 3, 2015), https://www.whitehouse. gov/the-press-office/2015/08/03/remarks-president-announcing-clean-power-plan (calling the Clean Power Plan "the single most important step America has ever taken in the fight against global climate change"); ENVTL. DEF. FUND, A NEW NATIONAL CLEAN POWER PLAN, https://www.edf.org/climate/a-new-federal-clean-power-plan (last visited Sept. 1, 2016) (referring to Plan as the "most significant step in U.S. history toward reducing the pollution that causes climate change"); M.J. BRADLEY & ASSOCIATES, EPA'S CLEAN POWER PLAN: SUM-MARY OF IPM MODELING RESULTS WITH ITC/PTC EXTENSION 3 (June 1, 2016) (finding that Plan's "targets are achievable under a range of scenarios and assumptions"); Brief of Amici Curiae Former State Envtl. & Energy Officials in Supp. of Resp'ts 1, West Virginia v. EPA, No. 15-1363, Doc. No. 1606746 (D.C. Cir. Apr. 1, 2016) (explaining that Plan's "targets are quite modest given strong positive trends in the power sector").

<sup>&</sup>lt;sup>4</sup> George Russell, Business, States Open Legal Fire on EPA's Clean Power Plan Rule, FOXNEWS.COM (Oct. 26, 2015), http://www.foxnews.com/ politics/2015/10/26/business-states-open-legal-fire-on-epas-clean-power-plan-rule.html (quoting executive director of the National Federation of Independent Business's Small Business Legal Center).

<sup>&</sup>lt;sup>5</sup> See Opening Br. of Pet'rs on Core Legal Issues 36–41, West Virginia v. EPA, No. 15-1363, Doc. No. 1610010 (D.C. Cir. Apr. 22, 2016).

<sup>&</sup>lt;sup>6</sup> William S. Scherman, EPA Has Designed Its Clean Power Plan to Evade Court Review, FORBES (Aug. 3, 2015), http://www.forbes.com/sites/ beltway/2015/08/03/epa-has-designed-its-clean-power-plan-to-evade-court-review.

<sup>&</sup>lt;sup>7</sup> See infra pp. 3-4.

<sup>&</sup>lt;sup>8</sup> Alan Neuhauser, *EPA to Issue Carbon Rules by Summer*, U.S. NEWS & WORLD REP. (Jan. 7, 2015), http://www.usnews.com/news/ articles/2015/01/07/epa-to-complete-clean-power-plan-carbon-rules-by-summer (quoting CEO of the Pennsylvania Coal Alliance).

# II. Regulating Existing Stationary Sources of Pollution Under Section 111(d)

Section 111 requires EPA to establish "standards of performance" for stationary source categories that "contribute[] significantly to . . . air pollution which may reasonably be anticipated to endanger public health or welfare."<sup>9</sup> Frequently, EPA promulgates such standards only for new sources, under Section 111(b). However, when the pollutant in question is neither a so-called "criteria" pollutant, like particulate matter, nor a "hazardous" pollutant, like mercury, standards must also be established for existing sources, under Section 111(d).<sup>10</sup> Greenhouse gases like  $CO_2$  fall into the narrow category of non-criteria, non-toxic pollutants subject to Section 111(d) regulation.

While Section 111 standards for new sources are established directly by EPA, existing-source standards are established by states, subject to minimum guidelines and oversight from EPA. More specifically, Section 111(d) instructs the agency to "establish a procedure . . . under which each State shall submit to the [EPA] Administrator a plan which . . . establishes standards of performance for any existing source."<sup>11</sup> These state-established standards must reflect "the degree of emission limitation achievable through the application of the best system of emission reduction which . . . *the* [EPA] Administrator determines has been adequately demonstrated."<sup>12</sup> In other words, even though EPA is not, in the first instance, charged with implementing existing-source standards, it is responsible for determining their minimum stringency.<sup>13</sup>

Accordingly, EPA begins the process of standard-setting under Section 111(d) by issuing "emission guidelines" for states, which identify: (1) what the agency considers the best system of emission reduction for the given pollutant and source category, (2) the level of emission reduction achievable using that system, and (3) the time necessary to achieve that reduction.<sup>14</sup> Each state then has the opportunity to design an individual plan to impose standards consistent with EPA's guidelines.<sup>15</sup> Importantly, a state is not required to adopt the particular system of reduction identified by EPA in its guidelines, so long as the state's own approach will achieve an equivalent or superior level of abatement.<sup>16</sup> If a state declines to submit a plan or submits an inadequate plan, EPA must design and imposes federal standards for the existing sources in that state.<sup>17</sup>

<sup>&</sup>lt;sup>9</sup> 42 U.S.C. § 7411(b)(1)(A).

<sup>&</sup>lt;sup>10</sup> *Id.* § 7411(d)(1); 80 Fed. Reg. at 64,701 (explaining that Section 111(d) applies to "certain existing sources of air pollutants that were not otherwise regulated as criteria pollutants or hazardous air pollutants").

<sup>&</sup>lt;sup>11</sup> 42 U.S.C. § 7411(d)(1).

<sup>&</sup>lt;sup>12</sup> *Id.* § 7411(a)(1) (emphasis added).

<sup>&</sup>lt;sup>13</sup> As discussed below, if a state declines to implement its own standards, or proposes unsatisfactory standards, EPA must impose federal standards. 42 U.S.C. § 7411(d)(2).

<sup>&</sup>lt;sup>14</sup> 40 C.F.R. § 60.22(b)(5).

<sup>&</sup>lt;sup>15</sup> *Id.* § 60.23.

<sup>&</sup>lt;sup>16</sup> *Id.* § 60.24(c).

<sup>&</sup>lt;sup>17</sup> *Id.* § 60.27(c); *see also* 42 U.S.C. § 7411(d)(2).

# III. Constraints on EPA's Section 111(d) Authority

The text of Section 111 contains eight significant constraints on EPA's authority to craft emission guidelines. Most are found in the definition of "standard of performance" in Section 111(a), which reads as follows:

The term "standard of performance" means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.<sup>18</sup>

Additional requirements can be found in the text of Section 111(d) itself, which reads, in relevant part:

The Administrator shall prescribe regulations which shall establish a procedure . . . under which each State shall submit to the Administrator a plan which . . . establishes standards of performance for any existing source . . . . Regulations of the Administrator under this paragraph shall 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.<sup>19</sup>

Breaking these two passages into their component parts reveals the following criteria for any emission guidelines issued by EPA:

- 1. EPA must identify the "best system of emission reduction" and calculate the "degree of emission limitation achievable through the application" of that system. Thus, the agency cannot arbitrarily declare that existing sources in the relevant category must reduce their emissions by a particular amount. Instead, it must survey available *systems* for reducing emissions and calculate the level of reduction achievable using what it considers the *best* of those systems.
- 2. In identifying the best system, EPA must consider the amount of emission reductions it will yield. It goes without saying that a system of emission reduction is unlikely to be "best" if it does a poor job reducing emissions. Thus, when comparing available systems, EPA must consider their relative abilities to decrease the amount of pollution generated by regulated sources.<sup>20</sup>

<sup>&</sup>lt;sup>18</sup> 42 U.S.C. § 7411(a).

<sup>&</sup>lt;sup>19</sup> *Id.* § 7411(d)(1).

<sup>&</sup>lt;sup>20</sup> See Sierra Club v. Costle, 657 F.2d 298, 326 (D.C. Cir. 1981) ("[W]e can think of no sensible interpretation of the statutory words "best . . . system" which would not incorporate the amount of air pollution as a relevant factor to be weighed when determining the optimal standard for controlling . . . emissions.").

- 3. In identifying the best system, EPA must consider the system's cost. A system is not necessarily "best" simply because it can achieve the deepest emission reductions. EPA must also take into account the costs of achieving those reductions and cannot adopt standards that can only be achieved at "excessive," "exorbitant," or "unreasonable" expense.<sup>21</sup> That said, courts have consistently granted EPA "a great degree of discretion" when assessing the reasonableness of a system's costs.<sup>22</sup>
- 4. In identifying the best system, EPA must consider "nonair quality health and environmental impacts." For example, the use of a "scrubber" to remove sulfur dioxide emissions from a power plant's smokestack produces coal ash, which can, if improperly stored, contaminate groundwater.<sup>23</sup> EPA must consider this type of indirect environmental effect—whether positive or negative—when weighing systems of emission reduction. Ultimately, EPA has explained, "a system cannot be 'best' if it does more harm than good due to cross-media environmental impacts."<sup>24</sup>
- 5. In identifying the best system, EPA must consider "energy requirements." This factor could encompass the system's impacts on the regulated sources' *own* energy needs (e.g., because additional power is needed to operate the system identified by EPA), as well as its impacts on the energy needs of a region or the nation as a whole (e.g., because application of the system affects the power sector's output of electricity or the refining sector's output of gasoline).<sup>25</sup> Thus, a system cannot be "best" if it imperils access to reliable energy sources.
- 6. EPA must find that its preferred method of emission reduction has been "adequately demonstrated." Under D.C. Circuit case law, EPA cannot identify a "purely theoretical or experimental means of preventing or controlling air pollution" as the best system of emission reduction.<sup>26</sup> This does not mean, however, that the system must be "in actual routine use somewhere."<sup>27</sup> Instead, the agency can make reasonable projections based on existing technology.<sup>28</sup>
- 7. EPA's guidelines must be translatable into "standards of performance" for individual sources. Ultimately, the standards promulgated by states in response to EPA's guidelines (or by EPA itself in states that decline to develop standards) must be applicable to—and enforceable against—"any existing source" of pollution in the relevant category. The standards, in other words, must take the form of independent compliance obligations for individual sources. The fact that each source is subject to its own standard, however, does not mean that the source must meet its standard solely through actions taken within the walls of its own facility.<sup>29</sup>

<sup>&</sup>lt;sup>21</sup> 80 Fed. Reg. at 64,720 (quoting several court decisions on the treatment of costs under Section 111).

<sup>&</sup>lt;sup>22</sup> Lignite Energy Council v. EPA, 198 F.3d 930, 933 (D.C. Cir. 1999); see also 80 Fed. Reg. at 64,720–21 (discussing additional decisions on EPA's discretion to weigh cost against other Section 111 factors).

<sup>&</sup>lt;sup>23</sup> See generally Charles Duhigg, Cleansing the Air at the Expense of Waterways, N.Y. TIMES (Oct. 12, 2009), http://www.nytimes.com/2009/10/13/us/13water.html.

<sup>&</sup>lt;sup>24</sup> 80 Fed. Reg. at 64,721.

<sup>&</sup>lt;sup>25</sup> See id. (explaining that "EPA may consider energy requirements on both a source-specific basis and a sector-wide, region-wide, or nationwide basis").

<sup>&</sup>lt;sup>26</sup> Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 391 (D.C. Cir. 1973) (quoting H. Rep. No. 91-1146, 91st Cong., 2d Sess. 10 (1970)).

<sup>&</sup>lt;sup>27</sup> *Id.* (quoting S. Rep. No. 9-1196, 91st Cong., 2d Sess. 16 (1970)).

<sup>&</sup>lt;sup>28</sup> *Id.; see also* 80 Fed. Reg. at 64,720 (discussing other cases that address the "adequately demonstrated" factor).

<sup>&</sup>lt;sup>29</sup> 80 Fed. Reg. at 64,779 (explaining that Section 111(d)(1) and (a)(1) "require by their terms that 'any existing source' must have a 'standard of performance,' but nothing in these provisions requires a particular amount—or, for that matter, any amount—of emission reductions from each and every existing source").

8. EPA's guidelines must give states flexibility to account for the "remaining useful life" of their existing sources. The application of certain systems of emission reduction might make less economic sense for facilities on the verge of retirement. In particular, requiring sources that are nearing the end of their useful lives to install pollution-control equipment might be needlessly costly.<sup>30</sup> EPA's emission guidelines must allow states some means of taking variations in sources' remaining useful lives into consideration when setting standards.

# IV. The Clean Power Plan's Observance of Section 111(d)'s Constraints

In issuing the Clean Power Plan, EPA acknowledged and abided by each of the constraints discussed above.

# 1. EPA identified a "best system of emission reduction" and calculated the "degree of emission reduction achievable" using that system.

According to the Clean Power Plan, the "best system of emission reduction" for  $CO_2$  emissions from existing power plants is the combination of emission rate improvements and limitations on overall emissions that affected plants can accomplish through the following three pollution control measures, or "building blocks":

- 1. Improving heat rate at coal-fired steam plants;
- Substituting generation from lower-emitting existing natural gas combined cycle plants ("gas plants") for generation from higher-emitting steam plants, which are primarily coal-fired; and
- 3. Substituting generation from new zero-emitting renewable generating capacity for generation from fossil fuel-fired plants, which are primarily coal- and gas-fired.<sup>31</sup>

EPA determined that these reduction techniques are available to all power plants affected by the Clean Power Plan, "either through direct investment or operational shifts or through emissions trading."<sup>32</sup>

EPA chose these building blocks after surveying "the types of strategies that states and owner and operators of [power plants] are already employing" to reduce  $CO_2$  from the electric sector, including both technological solutions and "the full range of

### Requirements for Section 111(d) Emission Guidelines

Best system of emission reduction?
 Magnitude of reductions?
 Reasonable cost?
 Nonair effects?
 Impacts on energy requirements?
 Adequately demonstrated?
 Translatable into standards of performance for sources?
 Flexibility to consider remaining useful life?

<sup>31</sup> 80 Fed. Reg. at 64,667.

<sup>&</sup>lt;sup>30</sup> *Id.* at 64,872; *see also* EPA, LEGAL MEMORANDUM ACCOMPANYING CLEAN POWER PLAN FOR CERTAIN ISSUES 30-36 (2015) (discussing legislative and regulatory history of the "remaining useful life" provision in section 111(d)).

<sup>&</sup>lt;sup>32</sup> Id.

operational practices, limitations, constraints and opportunities that bear upon [power plants'] emission performance."<sup>33</sup> In identifying the "best" of the available strategies, EPA considered not only the statutory factors discussed below—like cost and energy requirements—but also the global nature of  $CO_2$  pollution (which renders the location of emissions unimportant) and the interconnected nature of the electric grid (which allows one plant to substitute generation for another).<sup>34</sup>

EPA then used its building blocks to calculate nationally uniform emission performance rates—expressed in pounds of  $CO_2$  per megawatt hour—for two categories of plant: steam plants and gas plants.<sup>35</sup> The agency also calculated state-specific performance rates based on each state's mix of the two plant types.<sup>36</sup> Finally, EPA translated each state's rate-based target into an alternative mass-based target (i.e., an annual limit on *aggregate* emissions from regulated sources rather than a limit on their average *rate* of emissions).<sup>37</sup>

States have broad flexibility in designing plans to comply with these guidelines and are not required to implement the "best system" as determined by EPA. They simply must ensure that regulated plants "individually, in aggregate, or in combination with other measures taken by the state" achieve the equivalent of the performance rates calculated by EPA.<sup>38</sup>

#### 2. EPA took into account the magnitude of expected emission reductions.

In choosing among available systems of emission reduction, EPA explicitly took into account the volume of emission reduction that each option could be expected to achieve.<sup>39</sup> The agency noted that, outside of its chosen building blocks, it had found no "other measures available under section 111 that are less costly and would achieve emission reductions that are commensurate with the scope of the problem [of global climate change] and [power plants'] contribution to it."<sup>40</sup>

#### 3. EPA took into account costs.

EPA determined the stringency of each building block (e.g., the percentage by which it assumed coal-fired steam plants could improve their heat rate) "based on what is achievable at reasonable cost rather than the maximum achievable amount."<sup>41</sup> It projected that emission reductions could be achieved under building block 1 at an average cost of \$23 per ton, under building block 2 at \$24 per ton, and under building block 3 at \$37 per ton.<sup>42</sup> The agency further estimated that, implemented together, the three building blocks would achieve CO<sub>2</sub> reductions at an average cost of \$30 per ton.<sup>43</sup>

<sup>&</sup>lt;sup>33</sup> Id.

<sup>&</sup>lt;sup>34</sup> *Id.* at 64,717.

<sup>&</sup>lt;sup>35</sup> *Id.* at 64,667. EPA first applied the blocks at a regional level and then set the national rates based on the region where the blocks yielded the least stringent result. *Id.* at 64,744 & n.418.

<sup>&</sup>lt;sup>36</sup> *Id.* at 64,667.

<sup>&</sup>lt;sup>37</sup> Id.

<sup>&</sup>lt;sup>38</sup> Id.

<sup>&</sup>lt;sup>39</sup> *Id.* at 64,745 (describing, for building block 1, EPA's analysis of the "technical feasibility, costs, and *magnitude of CO*<sub>2</sub> *emission reductions* achievable through heat rate improvements at coal-fired steam EGUs" (emphasis added)); *id.* at 64,746 (same for building block 2); *id.* at 64,747 (same for building block 3).

<sup>&</sup>lt;sup>40</sup> *Id.* at 64,751.

<sup>&</sup>lt;sup>41</sup> *Id.* at 64,748.

<sup>&</sup>lt;sup>42</sup> *Id.* at 64,749.

<sup>&</sup>lt;sup>43</sup> Id.

EPA assessed the reasonableness of these costs in four ways:

- It compared the building blocks' costs to the costs of controls that power plants had implemented to reduce other air pollutants, such as sulfur dioxide and nitrogen oxides.<sup>44</sup>
- It compared the building blocks' costs to assumptions about the cost of future CO<sub>2</sub> regulations that utilities had used for planning purposes in their Integrated Resource Plans.<sup>45</sup>
- It compared the building blocks' costs to the costs of other means of achieving substantial cuts in power plants' carbon emissions, such as retrofitting plants with carbon capture and storage technology or implementing natural gas co-firing at steam plants.<sup>46</sup>
- It observed that building blocks' costs, both individually and combined, were well below the central estimate of the Social Cost of Carbon, which estimates the monetary value of an avoided ton of carbon emissions in a given year.<sup>47</sup>

Ultimately, EPA concluded that the costs of its "best system of emission reduction" were reasonable when assessed against any of these benchmarks.<sup>48</sup>

#### 4. EPA took into account nonair quality health and environmental impacts.

EPA saw "no reason to expect an adverse non-air environmental . . . impact from deployment of the combination of the three building blocks."<sup>49</sup> Instead, the agency projected that implementation of the building blocks would result in *beneficial* cross-media impacts, in the form of reduced water usage and solid waste production.<sup>50</sup>

#### 5. EPA took into account energy requirements.

EPA took the nation's energy requirements into account by designing guidelines that could be satisfied "without reducing overall electricity generation."<sup>51</sup> To ensure that the Clean Power Plan "reflect[ed] the paramount importance of ensuring electric system reliability,"<sup>52</sup> the agency engaged in "extensive consultation" with the Federal Energy Regulatory Commission, the Department of Energy, and other relevant authorities, <sup>53</sup> and also prepared a detailed technical support document describing the "resource adequacy and reliability impacts" of the rule.<sup>54</sup> Finally, EPA included in the Clean Power Plan a "reliability safety valve" that allows individual sources to temporarily violate emission standards set for

<sup>&</sup>lt;sup>44</sup> *Id.* at 64,750.

<sup>&</sup>lt;sup>45</sup> Id.

<sup>&</sup>lt;sup>46</sup> *Id.* at 64,751.

<sup>&</sup>lt;sup>47</sup> Id.

<sup>&</sup>lt;sup>48</sup> *Id.* at 64,750-51.

<sup>&</sup>lt;sup>49</sup> *Id.* at 64,751.

<sup>&</sup>lt;sup>50</sup> *Id.* 

<sup>&</sup>lt;sup>51</sup> *Id.* at 64,778.

<sup>&</sup>lt;sup>52</sup> *Id.* at 64,671.
<sup>53</sup> *Id.*

<sup>&</sup>lt;sup>54</sup> EPA, TECHNICAL SUPPORT DOCUMENT: RESOURCE ADEQUACY AND RELIABILITY ANALYSIS (2015), https://www.epa.gov/sites/ production/files/2015-11/documents/tsd-cpp-adequacy-reliability.pdf.

them under states' plans where complying with the standards would conflict with "the maintenance of electric system reliability in the face of an extraordinary and unanticipated event that presents substantial reliability concerns."<sup>55</sup>

#### 6. EPA found that its "best system" was adequately demonstrated.

For building block 1, EPA found that "taking action to improve heat rates is a common and well-established practice within the [electric utility] industry."<sup>56</sup>

For building block 2, EPA noted that "the utility power sector has recognized that generation shifts are a means of controlling air pollutants" since the Clean Air Act was passed in 1970.<sup>57</sup> Furthermore, "[s]ince at least 2000, fossil fuelfired generation has been shifting from coal- and oil-fired [plants] to [gas plants], both as a result of construction of additional [gas plants], and also as a result of dispatch of pre-existing [gas plants] at higher capacity factors."<sup>58</sup> This led to an 83% increase in gas generation between 2005 and 2012, a *higher* growth rate than EPA expects to occur under the Clean Power Plan between 2015 and 2022.<sup>59</sup> In addition to discussing industry trends, EPA noted that past Clean Air Act programs have relied on generation shifting as a means of emission reduction.<sup>60</sup>

Finally, for building block 3, EPA noted that renewable generation "has been relied on since the 1970s to provide energy security by replacing some fossil fuel-fired generation."<sup>61</sup> As with gas-fired generation, the agency found that recent industry trends have led to "rapid growth" in renewable generation that is "projected to continue as costs of [renewable] generation fall relative to the costs of other generation technologies."<sup>62</sup> Finally, EPA noted that "[b] oth Congress and the EPA have previously established frameworks under which [renewable] generation could be used as a means of achieving emission reductions from the utility power sector."<sup>63</sup>

# 7. EPA ensured that its guidelines are translatable into standards of performance that can be applied to "any existing source."

The Clean Power Plan presents states with a variety of options for imposing standards of performance on individual existing sources. Most obviously, "states may establish emission standards for their affected [plants] that mirror the uniform emission performance rates for the two subcategories of sources" identified by EPA.<sup>64</sup> But a state may also "pursue alternative approaches that adopt emission standards that . . . meet either the [blended] rate-based goal promulgated for the state or the alternative mass-based goal promulgated for the state."<sup>65</sup> For example, the standard of performance in a state adopting a mass-based trading program could simply be that each source must obtain an allowance for each ton of

<sup>&</sup>lt;sup>55</sup> 80 Fed. Reg. at 64,671.

<sup>&</sup>lt;sup>56</sup> *Id.* at 64,745.

<sup>&</sup>lt;sup>57</sup> *Id.* at 64,746.

<sup>&</sup>lt;sup>58</sup> *Id.* at 64,795.

<sup>&</sup>lt;sup>59</sup> *Id.* at 64,800.

<sup>&</sup>lt;sup>60</sup> Id. at 64,746 (noting that generation shifts "have been recognized as a means of reducing emissions under trading programs established by the EPA to implement the [Clean Air] Act's provisions"). Prior EPA programs that relied on generation shifting are discussed in Richard L. Revesz, Denise A. Grab & Jack Lienke, *Familiar Territory: A Survey of Legal Precedents for the Clean Power Plan*, 46 ENVTL. L. REP. 10190, 10193 (2016).

<sup>&</sup>lt;sup>61</sup> 80 Fed. Reg. at 64,747.

<sup>&</sup>lt;sup>62</sup> Id.

<sup>&</sup>lt;sup>63</sup> Id.

<sup>&</sup>lt;sup>64</sup> *Id.* at 64,667.

<sup>&</sup>lt;sup>65</sup> *Id.* at 64,667-68.

carbon it emits over the course of a year. So long as the total pool of allowances available in the state was equal to the mass-based goal set by EPA, this would satisfy the guidelines.<sup>66</sup>

#### 8. EPA gave states sufficient flexibility to account for their sources' remaining useful lives.

EPA found that states have ample discretion to account for their sources' remaining useful lives, because the emission guidelines "do[] not specify presumptive performance rates" that any particular generator must "achieve in the absence of trading."<sup>67</sup> Instead its guidelines "provide collective performance rates for two classes of [generating units] and give states the alternative of developing plans to achieve a state emission goal for the collective group of all affected [units] in a state."<sup>68</sup> By buying emission allowances (in a mass-based trading system) or emission rate credits (in a rate-based trading system), a source approaching the end of its useful life could "avoid excessive up-front capital expenditures that might be unreasonable for a facility with a short remaining useful life."<sup>69</sup> In addition or as an alternative to allowing sources the flexibility of trading, a state could specifically design laxer standards for older sources, so long as it ensured that its overall emission reductions would be consistent with EPA's guidelines.<sup>70</sup>

## V. Conclusion

The Clean Power Plan rigorously observes the many constraints on EPA's discretion to craft emission guidelines under Section 111(d). It is not the reckless power grab that opponents describe, but a straightforward application of EPA's longstanding Clean Air Act authority to regulate dangerous emissions from stationary sources of pollution.

<sup>&</sup>lt;sup>66</sup> In litigation over the Clean Power Plan, opponents have argued that standards of performance cannot involve individual sources curtailing generation because that would be a standard of "non-performance." Opening Br. of Pet'rs on Core Legal Issues 51, West Virginia v. EPA, No. 15-1363, Doc. No. 1610010 (D.C. Cir. Apr. 22, 2016). However, as EPA has pointed out, "the word 'performance' [in Section 111] refers to *emissions* performance, not *production* performance." Respondent EPA's Final Br. 65, West Virginia v. EPA, No. 15-1363, Doc. No. 1609995 (D.C. Cir. Apr. 22, 2016).

<sup>&</sup>lt;sup>67</sup> Id. at 64,870.

<sup>&</sup>lt;sup>68</sup> Id.

<sup>&</sup>lt;sup>69</sup> *Id.* at 64,871.

<sup>&</sup>lt;sup>70</sup> Id.



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