

# THE VALIDITY OF THE CLEAN POWER PLAN'S EMISSIONS TRADING PROVISIONS

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*In June 2013, President Obama issued a memorandum directing the Environmental Protection Agency (EPA) to use its authority under Sections 111(b) and 111(d) of the Clean Air Act to address carbon pollution from new and existing power plants. Over two years later, the EPA issued the final rule, known as the Clean Power Plan, and a proposed federal plan that will be implemented in states that do not submit their own plan under the Clean Power Plan. Both the Clean Power Plan and the EPA's proposed federal plan rely heavily on emissions trading programs to reduce carbon emissions in a cost-effective manner. Emissions trading programs set a cap on the total amount of a pollutant permitted and allow sources to buy and sell allowances based on how much of the pollutant each source is reducing or emitting. Opponents of the Clean Power Plan and its trading provisions are challenging the rule on the grounds that it is beyond the EPA's authority under the Act.*

*This Note suggests that these emissions trading provisions are valid for two related reasons: first, the EPA has successfully implemented emissions trading programs under Section 110 of the Act in the past that demonstrate the agency's longstanding history of using these programs; and second, emissions trading has been upheld by the Supreme Court as permissible under Section 110, and Section 111(d)—under which the Clean Power Plan was promulgated—contains two substantive references to Section 110. Taken together, the EPA's past use of emissions trading programs and the statutory references in Section 111 suggest that the trading provisions in the Clean Power Plan and the proposed federal plan are a permissible exercise of the EPA's authority.*

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INTRODUCTION

In October 2015, the Environmental Protection Agency (EPA) issued its Final Rule for the regulation of carbon dioxide (CO<sub>2</sub>) emissions from existing power plants<sup>1</sup>—widely known as the Clean Power Plan—under Section 111(d) of the Clean Air Act.<sup>2</sup> Many commentators believe that the Rule, which was followed by a landmark climate change agreement in Paris, is integral to meeting our nation’s international commitments to reduce greenhouse gas emissions.<sup>3</sup> The EPA promulgated the CPP partly as a result of the Supreme Court’s decision in *Massachusetts v. EPA*,<sup>4</sup> which held that greenhouse gases were

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<sup>1</sup> Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (Clean Power Plan), 80 Fed. Reg. 64,661 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60).

<sup>2</sup> I refer to the Clean Power Plan as “CPP” or “the Rule.” I refer to the Clean Air Act as “the CAA” or “the Act.”

<sup>3</sup> See, e.g., Coral Davenport, *Nations Approve Landmark Climate Accord in Paris*, N.Y. TIMES (Dec. 12, 2015), <http://www.nytimes.com/2015/12/13/world/europe/climate-change-accord-paris.html> (“[A] crucial moment in the path to the Paris accord came last year in the United States, when Mr. Obama enacted the nation’s first climate change policy—a set of stringent new [EPA] regulations [including the CPP] designed to slash greenhouse gas pollution from the nation’s coal-fired power plants.”).

<sup>4</sup> 549 U.S. 497 (2007).

“air pollutants” under the Act<sup>5</sup> and thus could be regulated by the EPA. In addition to playing a crucial role in fulfilling the United States’ global commitments to address climate change,<sup>6</sup> the CPP is also expected to produce significant public health benefits: The EPA estimates that the reduction in carbon emissions will create “climate and health benefits worth an estimated \$55 billion to \$93 billion per year in 2030,” which includes “avoiding 2,700 to 6,600 premature deaths and 140,000 to 150,000 asthma attacks in children.”<sup>7</sup> These benefits significantly outweigh the Rule’s costs, which the EPA estimates will be between \$7.3 and \$8.8 billion per year in 2030.<sup>8</sup>

The CPP’s central approach is to provide states with flexibility to devise and implement their own programs to curtail carbon emissions from power plants.<sup>9</sup> One important component of the CPP is that it encourages, but does not require, states to create emissions trading markets or join currently existing markets, such as the ones already active in California and among several northeastern states.<sup>10</sup> Emissions trading, also known as a “marketable permit scheme,”<sup>11</sup> refers to a system in which sources of pollutants, such as power plants, can

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<sup>5</sup> Clean Air Act, 42 U.S.C. §§ 7401–7671q (2012).

<sup>6</sup> For more information on how the Clean Power Plan, and the stay implemented by the Supreme Court, could affect the Paris Climate Accord, see Coral Davenport, *Supreme Court’s Blow to Emissions Efforts May Imperil Paris Climate Accord*, N.Y. TIMES (Feb. 10, 2016), <http://www.nytimes.com/2016/02/11/us/politics/carbon-emissions-paris-climate-accord.html>, which notes that the Court’s decision to stay the CPP “could weaken or even imperil the international global warming accord reached with great ceremony in Paris.”

<sup>7</sup> *Benefits of a Cleaner, More Efficient Power Sector*, U.S. ENVTL. PROT. AGENCY, 2, <https://www.epa.gov/sites/production/files/2015-08/documents/fs-cpp-benefits.pdf> (last updated July 14, 2016).

<sup>8</sup> *Id.*

<sup>9</sup> *See Overview of the Clean Power Plan: Cutting Carbon Pollution from Power Plants*, U.S. ENVTL. PROTECTION AGENCY 6, <https://www.epa.gov/sites/production/files/2015-08/documents/fs-cpp-overview.pdf> (last updated June 27, 2016) (“In developing its plan, each state will have the flexibility to select the measures it prefers in order to achieve the CO<sub>2</sub> emission performance rates for its affected plants . . .”).

<sup>10</sup> *See id.* (explaining that the CPP “gives states the option to work with other states on multi-state approaches, including emissions trading” to reduce carbon emissions). Existing regional and state greenhouse gas trading programs, such as the Regional Greenhouse Gas Initiative (RGGI) and California’s state program, are examples of emissions trading schemes implemented outside the scope of the EPA regulations. *See Program Overview*, REGIONAL GREENHOUSE GAS INITIATIVE, <http://www.rggi.org/design/overview> (last visited Aug. 7, 2016) (providing information on the nine-state regional emissions trading program to limit greenhouse gas emissions that began in 2008); *see also Cap-and-Trade Program*, CAL. ENVTL. PROTECTION AGENCY, <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm> (last updated June 30, 2016) (providing information on California’s cap-and-trade program to reduce greenhouse gas emissions that was implemented by the state’s Air Resources Board in 2012).

<sup>11</sup> *See* Richard L. Revesz, *Toward a More Rational Environmental Policy*, 39 HARV. ENVTL. L. REV. 93, 94 (2015) (explaining that “flexible market-based instruments, such as marketable permit schemes, are one important mechanism for achieving cost minimization

earn, buy, and sell transferable “emissions reduction credits” or “allowances” for certain types of pollutants.<sup>12</sup> These market-based systems are considered to be a highly cost-effective way of reaching a given level of pollution reduction because the plants that can reduce pollution most cheaply will choose to reduce more of their emissions and sell the excess credits.<sup>13</sup> On the other hand, plants will choose to purchase credits when it is cheaper for a certain plant to buy emissions credits than to install more emissions control equipment.<sup>14</sup>

If a state chooses not to implement its own program for meeting the CPP’s requirements to reduce carbon emissions, known under the Act as a “state implementation plan” (SIP), the Rule provides that the EPA will step in and promulgate a program for that state.<sup>15</sup> The details of this emissions trading program are contained in the EPA’s proposed rule as the “federal implementation plan” (FIP), required under the Act.<sup>16</sup> The default program that the EPA will implement in states that decline to create their own is essentially a market-based emissions trading program.

While opponents—who range from coal industry representatives and workers to legal scholars such as Laurence Tribe—argue that the CPP and its emissions trading program are novel and impermissible means of reorganizing the nation’s energy grid,<sup>17</sup> other scholars, politicians, and environmental organizations believe that the EPA has authority to implement emissions trading programs under Section

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[in regulatory programs], by providing economic incentives to take advantage of the cheapest cost-abatement opportunities”).

<sup>12</sup> See T.H. TIETENBERG, *EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY* 16 (1985) (providing an overview of how emissions trading programs function).

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014 (Proposed Federal Plan Requirements), 80 Fed. Reg. 64,966 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 62, 78).

<sup>16</sup> *Id.*

<sup>17</sup> See, e.g., Laurence H. Tribe, *The Clean Power Plan Is Unconstitutional*, WALL ST. J. (Dec. 22, 2014, 7:06 PM), <http://www.wsj.com/articles/laurence-tribe-the-epas-clean-power-plan-is-unconstitutional-1419293203> (arguing that “the EPA is acting as though it has the legislative authority . . . to re-engineer the nation’s electric generating system and power grid”). In addition to writing in his scholarly capacity as a Harvard Law professor, Tribe was also retained by Peabody Energy to represent it in challenging the CPP. See Richard L. Revesz, *An Obama Friend Turns Foe on Coal*, N.Y. TIMES (Mar. 26, 2015), <http://www.nytimes.com/2015/03/26/opinion/an-obama-friend-turns-foe-on-coal.html> (noting that Tribe was “retained as an independent expert by Peabody Energy, the world’s largest private-sector coal company, and is representing it in a lawsuit that seeks to invalidate the plan”).

111(d).<sup>18</sup> Moreover, numerous economists and climate change scholars have suggested that a market-based system is a highly cost-effective way to reduce carbon emissions.<sup>19</sup> As a rebuttal to critics' claims that the emissions trading provisions in the CPP and the proposed federal plan are outside the scope of the EPA's authority, this Note analyzes other market-based programs to show that the EPA has in fact successfully implemented trading schemes to reduce pollutants in related contexts under the Act. Ultimately, this Note addresses two separate legal questions and argues that the EPA has authority both to allow optional emissions trading as part of the state implementation plans, and also to implement an emissions trading program as part of the federal implementation plan. This Note suggests that the EPA's authority to establish an emissions trading program rests on two separate, but related, grounds. First, the EPA has successfully and legally implemented emissions trading programs under Section 110 of the Act in the past, demonstrating both the success of emissions trading and the agency's history of utilizing these programs. Second, emissions trading has been upheld by the Supreme Court as permissible under Section 110, and Section 111(d)—under which the CPP was promulgated—references Section 110.<sup>20</sup> Taken together, the EPA's prior use

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<sup>18</sup> See, e.g., Brief for Current Members of Congress and Bipartisan Former Members of Congress as Amici Curiae Supporting Respondents at 8, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Mar. 31, 2016) (arguing that “Section 7411(d) continues to authorize EPA to regulate those air pollutants that pose a substantial threat to the public health and welfare, and the [Clean Power Plan] is an exercise of that authority”); RICHARD L. REVESZ, DENISE A. GRAB & JACK LIENKE, INST. FOR POLICY INTEGRITY, *BOUNDED REGULATION: HOW THE CLEAN POWER PLAN CONFORMS TO STATUTORY LIMITS ON EPA’S AUTHORITY* at 9 (2016) (discussing the CPP’s emission trading system and asserting that “[t]he Clean Power Plan rigorously observes the many constraints on EPA’s discretion to craft emission guidelines under Section 111(d)”); Robert R. Nordhaus & Ilan W. Gutherz, *Regulation of CO<sub>2</sub> Emissions from Existing Power Plants Under §111(d) of the Clean Air Act: Program Design and Statutory Authority*, 44 ENVTL. L. REP. 10,366, 10,385 (2014) (arguing that the EPA can permissibly use emissions trading under Section 111(d)).

<sup>19</sup> See TIETENBERG, *supra* note 12, at 16 (“By exploiting the flexibility inherent in emissions trading to lower their own costs, within the boundaries established by the control authority, individual sources lower the total costs incurred by all sources collectively.”); Revesz, *supra* note 11, at 106 (“[A] core characteristic of marketable permit schemes is that they minimize the aggregate cost of meeting a regulatory target.”). See generally Michael A. Livermore & Richard L. Revesz, *Interest Groups and Environmental Policy: Inconsistent Positions and Missed Opportunities*, 45 ENVTL. L. REV. 1, 10 (2015) (noting that “[i]n the 1960s and early 1970s, economists and the EPA regulators proposed the use of marketable permit schemes as a tool for reducing pollution at the least cost”).

<sup>20</sup> Section 111(d) requires the EPA Administrator to “prescribe regulations which shall establish a procedure *similar to that provided by section [110]* of this title under which each State shall submit to the Administrator a plan which establishes standards of performance for any existing source for any air pollutant.” 42 U.S.C. § 7411(d)(1) (2012) (emphasis added). Another reference to Section 110 is found in Section 111(d)(2), which provides that the EPA Administrator has the “same authority to prescribe a plan for a State in cases

of emissions trading programs and the statutory references to Section 110 contained in Section 111 suggest that the CPP's trading provisions are a permissible exercise of the EPA's authority.<sup>21</sup> While other CAA literature and the EPA have already recognized this statutory reference as a source of authority for the CPP's trading provisions,<sup>22</sup> this Note seeks to fill a gap in the literature by analyzing both the CPP and proposed federal plan *and* the EPA's past trading programs in tandem with the statutory references.

This Note proceeds as follows. Part I provides an overview of the CPP's trading provisions and the relevant sections of the Act, explains the EPA's statutory authority to regulate greenhouse gas emissions, and briefly describes the ongoing litigation over the CPP. Part I also describes the views opposing the CPP and its emissions trading provisions. Part II analyzes other emissions trading programs implemented by the EPA and suggests (1) that these programs have been relatively successful at reducing emissions of various pollutants, and (2) that the EPA's prior programs are legally justified under CAA Section 110 and are supported by case law. Part III examines the statutory cross-references in Section 111(d) of the Act<sup>23</sup>—under which the CPP was promulgated—to Section 110 of the Act,<sup>24</sup> under which most of the EPA's past trading programs were implemented. Part III argues that the statutory language of Section 111(d) authorizes the EPA to allow trading programs in state plans and to implement an emissions trading program under the federal plan because of the references to Section 110, under which other emissions trading programs have been upheld. Finally, this Note suggests that even if Section 111 is silent or ambiguous as to the EPA's authority to implement the emissions trading provisions, the agency's interpretation should stand based on the *Chevron* deference a reviewing court must give to the agency<sup>25</sup> and

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where the State fails to submit a satisfactory plan as he [or she] would have *under section [110(c)] of this title*" and to "enforce the provisions of such plan in cases where the State fails to enforce them as he [or she] would have . . . with respect to an implementation plan." *Id.* § 7411(d)(2)(A)–(B) (emphasis added).

<sup>21</sup> The Clean Power Plan is being challenged on various grounds, including the invalidity of the emissions trading provisions. Rather than attempting to address the numerous arguments for and against the CPP, this Note focuses on one discrete, important issue: the CPP's emissions trading provisions. Because the emissions trading scheme alone will not likely be determinative of a decision on the merits regarding the CPP, this Note focuses on suggesting the general validity of the CPP's emissions trading, rather than calling for specific action by a reviewing court.

<sup>22</sup> See *infra* note 145 and accompanying text.

<sup>23</sup> 42 U.S.C. § 7411(d).

<sup>24</sup> *Id.* § 7410(a)(2)(D).

<sup>25</sup> See *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 842 (1984) (discussing the analysis courts should apply when reviewing an agency's construction of a

other Supreme Court precedent in contexts analogous to emissions trading.

## I

### CONTEXTUALIZING THE CLEAN POWER PLAN AND EMISSIONS TRADING

The Clean Power Plan is a result of the EPA's efforts to curb carbon emissions and, more broadly, reduce the negative effects of climate change.<sup>26</sup> Section I.A outlines the relevant statutory provisions of the Act. Section I.B offers details on the CPP's emissions trading provisions for both state implementation plans under the CPP and the proposed federal plan. Section I.C gives a brief summary of the ongoing CPP litigation. Finally, Section I.D summarizes the opposition to the CPP generally and the arguments against the EPA's authority to implement and allow emissions trading.

#### A. *Statutory Text of Clean Air Act Sections 110 and 111*

The Act gives the EPA authority to regulate certain air pollutants from various sources, but the statute is premised on a system of what some refer to as "cooperative federalism,"<sup>27</sup> which provides states with the primary responsibility of overseeing compliance with the standards set by the EPA.<sup>28</sup> CAA Section 109(a) requires the EPA to set national air quality standards for certain air pollutants.<sup>29</sup> Rather than giving the EPA the primary role of effectuating these standards, Section 110 directs the EPA to promulgate regulations requiring *states* to "adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of such [air quality] standard in each . . . State."<sup>30</sup> Although states are expected to

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statute it administers); *see also infra* Section III.C (discussing the *Chevron* deference analysis in the context of the Clean Power Plan).

<sup>26</sup> *See, e.g.*, Clean Power Plan, 80 Fed. Reg. 64,661, 64,677 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) ("This final rule is an important step in an essential series of long-term actions that are achieving and must continue to achieve the [greenhouse gas] emission reductions needed to address the serious threat of climate change . . .").

<sup>27</sup> *See* Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act's Cooperative Federalism Framework Is Useful for Addressing Global Warming*, 50 ARIZ. L. REV. 799, 817 (2008) ("The Clean Air Act was the first modern federal environmental statute to employ a 'cooperative federalism framework,' assigning responsibilities for air pollution control to both federal and state authorities. That basic framework has remained unchanged since initial passage of the Act in 1970.").

<sup>28</sup> *See id.* (noting that "[t]he primary federal roles are setting national air quality standards . . . and new stationary source standards [while] [t]he primary state role is deciding how to achieve the federal air quality standards").

<sup>29</sup> 42 U.S.C. § 7409(a)(1)(A).

<sup>30</sup> *Id.* § 7410(a)(1).

implement their own plans, Section 110 requires the EPA to step in and promulgate a “federal implementation plan” under certain circumstances, including when the Administrator:

finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria . . . or disapproves a State implementation plan submission in whole or in part, unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal implementation plan.<sup>31</sup>

The details of Section 110 become relevant for the present discussion only when we view them in conjunction with Section 111(d), which governs existing sources of pollution such as the power plants the CPP regulates. Section 111(d) is used to regulate air pollutants for which national ambient air quality standards have not been set.<sup>32</sup> Section 111(d)(1) provides that “[t]he Administrator shall prescribe regulations which shall establish a procedure similar to that provided by [Section 110] of this title under which each State shall submit to the Administrator a plan which establishes standards of performance for any existing source for any air pollutant.”<sup>33</sup> Section 111(d) then goes on to replicate the structure of federal implementation plans under Section 110 as well, providing that:

The Administrator shall have the same authority—

to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under [Section 110(c)] of this title in the case of failure to submit an implementation plan, and

to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections [113] and [114] of this title with respect to an implementation plan.<sup>34</sup>

These two significant references to Section 110 contained in Section 111 are evidence that the EPA’s authority under Section 111 runs parallel to that under Section 110. Part III argues that this reference confers on the EPA the authority to establish the same types of regulations—including emissions trading programs—governing SIPs and the FIP as the EPA has established under Section 110.

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<sup>31</sup> *Id.* § 7410(c)(1)(A)–(B).

<sup>32</sup> *See id.* § 7411(d) (directing the Administrator to require states to submit a plan to regulate “any air pollutant for which air quality criteria have not been issued”).

<sup>33</sup> *Id.* § 7411(d)(1). The statute reads “section 7410,” as Section 110 of the Act is codified at 42 U.S.C. § 7410.

<sup>34</sup> *Id.* § 7411(d)(2)(A)–(B).

## B. Overview of the Emissions Trading Provisions in the CPP

Emissions trading refers to “the ability of regulated emitters to trade among themselves such that they collectively meet a target set by a regulator.”<sup>35</sup> Here, the EPA is regulating carbon emissions from fossil-fueled power plants, which are mostly coal and natural gas plants. The EPA has developed two possible routes by which carbon emissions trading can occur under the CPP: First, the EPA has allowed and strongly encouraged the states to include emissions trading as an optional part of their individually developed state implementation plans.<sup>36</sup> Second, the EPA has proposed a rule for the federal implementation plan centered on emissions trading.<sup>37</sup> While emissions trading under the SIPs is optional because states can choose to forego trading and reduce carbon emissions through other means, the emissions trading in the proposed FIP is the default program that the EPA will implement in each state that fails to establish an adequate SIP by the deadline.<sup>38</sup>

### 1. Emissions Trading in State Implementation Plans

In the CPP, the EPA set both “rate-based” and “mass-based” CO<sub>2</sub> performance rates, or emission limits, for each state.<sup>39</sup> Essentially, the CO<sub>2</sub> performance rate tells states the total amount of carbon that all power plants in that state are permitted to emit, and states have two ways to achieve that rate. Each state can either require its power plants to directly reduce their emissions or the state can take other measures to meet the rate- or mass-based carbon emissions goal.<sup>40</sup> While the former simply involves direct cuts to the plants’ carbon emissions—likely through installing new, cleaner technology at

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<sup>35</sup> Nathan Richardson, *Trading Unmoored: The Uncertain Legal Foundation for Emissions Trading Under § 111 of the Clean Air Act*, 120 PENN ST. L. REV. 181, 185 (2015).

<sup>36</sup> See Clean Power Plan, 80 Fed. Reg. 64,661, 64,723 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) (explaining that “[e]ach state has flexibility in how it assigns the emission limitations to its affected [power plants] . . . but one of the state’s choices is to convert the CO<sub>2</sub> emission performance rates into standards of performance—which may incorporate emissions trading—for each of its affected [power plants]” (emphasis added)).

<sup>37</sup> See Proposed Federal Plan Requirements, 80 Fed. Reg. 64,966 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 62, 78).

<sup>38</sup> See *id.* at 64,968 (“[I]f a state does not submit an approvable plan under section 111(d) of the [Act], the EPA will develop, implement, and enforce a federal plan to reduce CO<sub>2</sub> from the fossil fuel-fired power plants in that state.”).

<sup>39</sup> See Clean Power Plan, 80 Fed. Reg. at 64,668 (noting that “each state and eligible tribe electing to submit a plan will need to choose whether its plan will result in the achievement of the CO<sub>2</sub> emission performance rates, statewide rate-based goals, or statewide mass-based goals by the affected [power plants]”).

<sup>40</sup> *The Role of States: States Decide How to Meet Their Goal*, U.S. ENVTL. PROTECTION AGENCY 3, <https://www.epa.gov/sites/production/files/2015-08/documents/fs-cpp-states-decide.pdf> (last updated July 14, 2016).

individual plants—the latter option can be achieved through what the EPA describes as a “‘state measures’ plan.”<sup>41</sup>

According to the EPA, the state measures plans will “include[ ] a mixture of measures . . . such as renewable energy standards and programs to improve residential energy efficiency that are not included as federally enforceable components of the plan.”<sup>42</sup> The CPP also provides that “states can work in concert, *using mechanisms like emissions trading*, to lower the overall carbon intensity of electricity generation.”<sup>43</sup> One way for power plants to meet the emission limits at a reasonable cost is by “purchasing rate-based emission credits or mass-based emission allowances from other affected [power plants], since the effect of the purchase would be the same as achieving the other listed actions through direct means.”<sup>44</sup>

Thus, the power plants that can reduce their emissions at the least cost will do so to receive emission credits or allowances, which they can then sell to other plants that would require costlier measures to reduce emissions. Another route by which sources can reduce their emissions and earn emission credits is through installing renewable energy, or “zero-emission,” generators.<sup>45</sup> Under this flexible framework, the carbon emission limits are still met, but in a more cost-effective way than if the EPA required all individual plants to reduce their emissions to the same level. Because the emissions trading program in the CPP is optional for the states, the first legal question is not whether the EPA can *force* states to participate in an emissions trading market, but whether the EPA may *allow* states to do so under Section 111(d).<sup>46</sup>

## 2. Emissions Trading in the Federal Implementation Plan

While emissions trading is optional for the states when deciding whether to include it in their SIPs, emissions trading under the EPA’s proposed federal implementation plan works differently. Although

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<sup>41</sup> Clean Power Plan, 80 Fed. Reg. at 64,709.

<sup>42</sup> *The Role of States: States Decide How to Meet Their Goal*, *supra* note 40, at 3.

<sup>43</sup> *Id.* at 1 (emphasis added).

<sup>44</sup> Clean Power Plan, 80 Fed. Reg. at 64,724.

<sup>45</sup> See U.S. ENVTL. PROT. AGENCY, RENEWABLE ENERGY IN THE CLEAN POWER PLAN 2 (2015), <https://www.epa.gov/sites/production/files/2015-11/documents/fs-cpp-renewable-energy.pdf> (“Renewable energy installed in 2013 or after that produces power in 2022 can provide credits to help existing sources meet their emission standards [and sources] . . . may be issued Emission Rate Credits” that they may transfer or sell, and “existing sources may use them for compliance”). While adding these renewable energy sources does not directly reduce emissions from fossil fuel power plants, it reduces demand for energy supplied by fossil fuel power plants, which in turn reduces their emissions.

<sup>46</sup> See *infra* Part III (arguing that the EPA has authority under Section 111(d) to allow states to use market-based emissions trading programs).

states can avoid having the federal plan instituted in their borders by providing an adequate SIP by the deadline, the FIP is mandatory in the sense that once a state fails to implement a SIP, the state and the EPA have no choice but for the EPA to promulgate the FIP in that state.<sup>47</sup> The FIP rule, which has yet to be finalized, was proposed simultaneously with the EPA's promulgation of the final CPP rule.<sup>48</sup>

The FIP rule notes that “if a state does not submit an approvable plan under section 111(d) of the [Act], the EPA will develop, implement, and enforce a federal plan to reduce CO<sub>2</sub> from the fossil fuel-fired power plants in that state.”<sup>49</sup> The EPA suggests that this system, whereby states are the “preferred implementers of CAA programs,” is “wholly consistent with the ‘cooperative federalism’ structure of the [Act] and many of our nation’s other environmental laws.”<sup>50</sup> The structure of the proposed FIP rule is almost identical to the CPP provisions discussed above, and the proposed federal plan provides both mass-based and rate-based trading options and mass-based<sup>51</sup> and rate-based<sup>52</sup> model trading rules for potential use by the states.<sup>53</sup> The final federal plan will likely choose either a mass-based or rate-based trading program, but the CPP allows states to implement either under

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<sup>47</sup> See *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1594 (2014) (“If EPA determines that a State has failed to submit an adequate SIP, either in whole or in part, the [CAA] requires the Agency to promulgate a . . . FIP, within two years of EPA’s determination, ‘unless the State corrects the deficiency’ before a FIP is issued.” (quoting 42 U.S.C. § 7410(c)(1) (2012))); see also *Proposed Federal Plan and Proposed Model Rules*, U.S. ENVTL. PROTECTION AGENCY 2, <https://www.epa.gov/sites/production/files/2015-10/documents/fs-cpp-proposed-federal-plan.pdf> (last updated Oct. 8, 2015) (“Federal plans will be finalized only for those states with affected [power plants] that EPA determines have failed to submit an approvable 111(d) state plan by the relevant deadlines set in the emission guidelines.”).

<sup>48</sup> See *Proposed Federal Plan and Proposed Model Rules*, *supra* note 47, at 2 (“EPA intends to finalize both the rate-based and mass-based model trading rules in summer 2016.”). For simplicity, I will refer to this proposed rule as “the FIP” or “the federal plan.”

<sup>49</sup> Proposed Federal Plan Requirements, 80 Fed. Reg. 64,966, 64,968 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 62, 78).

<sup>50</sup> *Id.*

<sup>51</sup> See *id.* at 65,011 (explaining that a mass-based trading program “establishes an ‘aggregate emissions limit’ that specifies the maximum amount of emissions authorized from [power plants] . . . and creates allowances that authorize a specific quantity of emissions. The total number of allowances created are equal to, and constitute, the emissions budget or the aggregated emissions limit”).

<sup>52</sup> See *id.* at 64,989 (providing that power plants “subject to this federal plan will demonstrate compliance by achieving a stack emission rate less than or equal to the rate-based emission standard or by applying [Emission Reduction Credits], acquired by the [plant through the trading program], to its measured stack emissions rate”).

<sup>53</sup> See *id.* at 64,968 (explaining that the plan “offer[s] states model trading rules that the states can follow”).

their own plans.<sup>54</sup> The EPA plans to “set up and administer a program to track trading programs” in which all the states may choose to participate.<sup>55</sup> The FIP rule would allow power plants “in any state covered by a federal plan [to] trade . . . with affected [power plants] in any other state covered by a federal plan or a state plan meeting the conditions for linkage to the federal plan.”<sup>56</sup> In short, the FIP rule would require power plants in states that do not submit a SIP to either directly reduce their carbon emissions to comply with the limits, or to participate in the emissions trading program. Thus, the second legal question is whether the EPA may *require* power plants to meet their emission limits by either joining an emissions trading program or individually reducing their carbon emissions.<sup>57</sup>

### C. Ongoing Litigation on the Clean Power Plan

The CPP is viewed by many as the cornerstone of President Obama’s environmental policy initiatives.<sup>58</sup> Like any groundbreaking environmental policy, the CPP has been highly controversial among industry groups and many state governments that view these regulations as overreach by the federal government.<sup>59</sup> CPP opponents began filing challenges in the United States Court of Appeals for the District of Columbia Circuit before the EPA had even finalized the Rule. On February 9, 2016, the Supreme Court of the United States took the rare step of granting a stay pending review in the D.C. Circuit and review, or denial of certiorari, by the Supreme Court.<sup>60</sup> Although a

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<sup>54</sup> See *id.* at 64,968 (“The EPA currently intends to finalize a single approach (*i.e.*, either the mass-based or rate-based approach) for every state in which it promulgates a federal plan, given the benefits of a broad trading program . . .”).

<sup>55</sup> *Id.* at 64,976.

<sup>56</sup> *Id.*

<sup>57</sup> See *infra* Part III (arguing that Section 111(d) gives the EPA authority to implement a FIP requiring power plants to achieve individual emission limits or participate in an emissions trading program).

<sup>58</sup> See generally Lyle Denniston, *Carbon Pollution Controls Put on Hold*, SCOTUSBLOG (Feb. 9, 2016, 6:45 PM), <http://www.scotusblog.com/2016/02/carbon-pollution-controls-put-on-hold> (“The Clean Power Plan, as the government has called it, was one of the major initiatives by the Obama administration as part of a larger policy of reducing the kind of air pollution that contributes to global warming and to severe changes in climate.”).

<sup>59</sup> See, e.g., Tribe, *supra* note 17 (arguing that the Clean Power Plan is an unconstitutional extension of executive authority under the Tenth Amendment).

<sup>60</sup> See Order in Pending Case, *West Virginia v. EPA*, No. 15A773, 2016 WL 502947, at \*1 (U.S. Feb. 9, 2016) (granting the application for a stay of the Clean Power Plan “pending disposition of the applicants’ petitions for review in the United States Court of Appeals for the District of Columbia Circuit and disposition of the applicants’ petition for a writ of certiorari”); see also, e.g., Adam Liptak & Coral Davenport, *Supreme Court Deals Blow to Obama’s Efforts to Regulate Coal Emissions*, N.Y. TIMES (Feb. 9, 2016), <http://www.nytimes.com/2016/02/10/us/politics/supreme-court-blocks-obama-epa-coal-emissions->

three-judge panel from the D.C. Circuit was set to hear oral argument in the case on June 2, 2016,<sup>61</sup> on May 16, 2016, the D.C. Circuit issued an order postponing oral argument to be held September 27, 2016 before the en banc court.<sup>62</sup>

Supreme Court Justice Antonin Scalia died unexpectedly on February 13, 2016.<sup>63</sup> Because Justice Scalia was one of the five conservative Justices who supported the stay, his death and replacement could mean a greater likelihood of the Rule being upheld if and when the Court eventually hears the case.<sup>64</sup> While a vote to stay a regulation is not determinative of a decision on the merits, the Court's willingness to take such an unusual step suggests that the CPP may face a skeptical reception before at least some members of the Court. The vacancy also means the D.C. Circuit's ultimate decision is especially important because if the Supreme Court divides 4-4 on the merits of the CPP, the lower court's decision will likely be affirmed without comment.<sup>65</sup> As many commentators have pointed out, the emissions trading provisions in particular are crucial to the Clean Power Plan's success—without these provisions, the CPP would be significantly less cost-effective.<sup>66</sup>

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regulations.html (noting that “[t]he 5-to-4 vote, with the court’s four liberal members dissenting, was unprecedented [because] the Supreme Court had never before granted a request to halt a regulation before review by a federal appeals court”).

<sup>61</sup> See Order, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Jan. 21, 2016) (denying stay and scheduling oral argument for June 2, 2016).

<sup>62</sup> See Order, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. May 16, 2016) (rescheduling oral argument for September 27, 2016).

<sup>63</sup> Jess Bravin, *Supreme Court Justice Antonin Scalia Dies at 79*, WALL ST. J. (Feb. 14, 2016, 5:41 PM), <http://www.wsj.com/articles/supreme-court-justice-antonin-scalia-dead-at-79-1455404229>.

<sup>64</sup> See Robinson Meyer, *Will a Reconfigured Supreme Court Help Obama's Clean-Power Plan Survive?*, ATLANTIC (Feb. 14, 2016), <http://www.theatlantic.com/politics/archive/2016/02/antonin-scalia-clean-power-plan-obama-climate-change/462807>

(explaining how Justice Scalia's death and the change in the Court's political makeup could alter the outcome of the Court's decision on the CPP).

<sup>65</sup> See, e.g., Adam Liptak, *Scalia's Absence Is Likely to Alter Court's Major Decisions This Term*, N.Y. TIMES (Feb. 14, 2016), <http://www.nytimes.com/2016/02/15/us/politics/antonin-scalias-absence-likely-to-alter-courts-major-decisions-this-term.html> (noting that in the case of a 4-4 split, “the court can automatically affirm the decision under review without giving reasons and without setting a Supreme Court precedent[.] [o]r it can set the case down for re-argument in the term that starts in October in the hope that it will be decided by a full court”).

<sup>66</sup> See, e.g., Richardson, *supra* note 35, at 185 (noting that the success of the CPP “depends in large part on whether states’ regulatory efforts under the [p]lan can include emissions trading among regulated power plants”).

### D. Opponents of the CPP's Emissions Trading Provisions

Opponents of the CPP in its entirety argue that it is illegal because it regulates power plants in a manner that is not authorized by Congress in the Act.<sup>67</sup> One industry group has likened the EPA's efforts to regulate carbon emissions from power plants under Section 111(d) to an "unconstitutional elephant,"<sup>68</sup> referring to Justice Scalia's assertion in a past EPA case that "Congress . . . does not . . . hide elephants in mouseholes."<sup>69</sup> Many of the industry groups and states challenging the CPP are doing so on the grounds that the Rule constitutes an unauthorized attempt by the EPA to "reorganize the nation's energy grid."<sup>70</sup> The emissions trading provisions, while not the central target of opponents, constitute one piece of this allegedly unauthorized reorganization, which involves reducing carbon emissions by using alternative technologies and energy sources through a process known as "generation shifting."<sup>71</sup> While emissions trading is not a direct outlet for generation shifting, as solar panels or wind turbines would be, the ability to buy and sell emissions allowances or credits<sup>72</sup> makes the process more cost effective.<sup>73</sup>

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<sup>67</sup> See, 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 4 (2013), <http://www.fed-soc.org/publications/detail/the-clean-air-act-as-an-obstacle-to-the-environmental-protection-agencys-anticipated-attempt-to-regulate-greenhouse-gas-emissions-from-existing-power-plants> (stating that "there are very strong arguments that the EPA's current interpretation of Section 111(d) is at odds with the controlling statutory language and dilutes that language to fit the Agency's regulatory aims").

<sup>68</sup> Peabody Energy Corp.'s Motion for Stay at 7, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Nov. 5, 2015).

<sup>69</sup> *Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 468 (2001).

<sup>70</sup> State Petitioners' Motion for Stay and for Expedited Consideration of Petition for Review at 1, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Oct. 23, 2015).

<sup>71</sup> See Application by 29 States and State Agencies for Immediate Stay of Final Agency Action During Pendency of Petitions for Review at 10–11, *West Virginia v. EPA*, No. 15A773 (U.S. Jan. 26, 2016) [hereinafter Application by 29 States] (explaining that generation shifting is done "by power plant owners shutting down or curtailing operations at their plants, and then replacing the lost energy by investing in natural gas, wind, and solar, purchasing or building those sources of energy, or *purchasing in the form of a credit emission reductions* from competitors" (emphasis added) (internal quotation marks and alterations omitted) (citing Clean Power Plan, 80 Fed. Reg. 64,661, 64,726 (Oct. 23, 2015))).

<sup>72</sup> The term emission "allowance" refers to the unit a plant would earn, buy, or sell under a *mass-based* trading program, while the term emission "credit" or "ERC," for emission reduction credit, refers to the units under a *rate-based* trading program. I will simply refer to allowances, but all arguments apply to both systems.

<sup>73</sup> Clean Power Plan, 80 Fed. Reg. at 64,728 (explaining that "because [natural gas] units can generate as much as 46 percent more electricity from a given quantity of natural gas than a steam unit can, generation shifting from coal-fired steam [power plants] to existing [natural gas] units is a more cost-effective strategy for reducing CO<sub>2</sub> emissions"); see also Application by 29 States, *supra* note 71, at 10 (noting that "generation shifting"

An argument specifically targeting the emissions trading provisions is made in the briefs challenging the CPP. In their brief filed with the D.C. Circuit, the Petitioners claim the CPP is invalid because “it illegally requires sources and States to rely on an inadequately demonstrated emissions trading program to achieve compliance with its emission guidelines and State plan requirements.”<sup>74</sup> This argument fails simply because the CAA’s “adequate demonstration” requirement does not apply to the CPP’s emissions trading program. The Clean Air Act defines “standard of performance” as “the degree of emission limitation achievable through the application of the *best system of emission reduction* [“BSER”] which . . . the Administrator determines has been *adequately demonstrated*.”<sup>75</sup> As Petitioners point out in their brief, the emissions trading program was not part of the BSER;<sup>76</sup> therefore, the emissions trading program need not be “adequately demonstrated” in the way Petitioners suggest.

A separate brief for the Petitioners raises a similar, but distinct, argument against the trading provisions. Petitioners argue that “EPA claims authority to . . . develop a carbon dioxide emissions trading system of the sort Congress has rejected.”<sup>77</sup> Other legal commentators have also pointed to the cap-and-trade bill that recently failed in

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involves ‘replacement of higher emitting generation with lower- or zero-emitting generation’” (quoting Clean Power Plan, 80 Fed. Reg. at 64,728)).

When plants can sell allowances earned from reducing emissions or installing renewable energy, the plants that can reduce emissions—or install renewable energy sources—at the lowest cost will do so, and will then sell allowances to plants that would have to spend more to reduce emissions than to purchase the allowances. *See e.g.*, GABRIEL CHAN ET AL., THE SO<sub>2</sub> ALLOWANCE TRADING SYSTEM AND THE CLEAN AIR ACT AMENDMENTS OF 1990: REFLECTIONS ON TWENTY YEARS OF POLICY INNOVATION 6 (2012), [http://www.hks.harvard.edu/m-rcbg/heep/papers/SO2-Brief\\_digital\\_final.pdf](http://www.hks.harvard.edu/m-rcbg/heep/papers/SO2-Brief_digital_final.pdf) (explaining that because “[f]irms may buy allowances on the market . . . [or] choose to reduce their emissions[.]. . . investment in abatement technology or procedures would flow to where it was least costly to reduce emissions” and thus “the mandated environmental target is achieved at lowest cost[, which] is why cap and trade is generally considered a cost-effective form of regulation”).

<sup>74</sup> Opening Brief of Petitioners on Procedural and Record-Based Issues at 21–22, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Feb. 19, 2016) [hereinafter Brief on Procedural Issues].

<sup>75</sup> 42 U.S.C. § 7411(a) (2012) (emphasis added).

<sup>76</sup> Brief on Procedural Issues, *supra* note 74, at 49 (“[The] EPA cannot rely on actions [such as emissions trading] that are not part of the BSER to establish the achievability of its guidelines. It has neither established a trading program nor analyzed the reliability or achievability of any such programs that might be established by the States.”).

<sup>77</sup> Opening Brief of Petitioners on Core Legal Issues at 33, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Feb. 19, 2016) (arguing further that the EPA claims to have authority to force States to “reorder their mixes of electricity generation, to force the closure of coal-fired plants that generate some of America’s most affordable and reliable electricity, to govern how much electricity each source may produce, [and] to require the owners of regulated sources to subsidize and invest in their non-regulated competitors”).

Congress and argued that the EPA,<sup>78</sup> and to a larger extent President Obama's administration, cannot take a measure Congress refused to pass and implement it instead through agency regulations.<sup>79</sup> This argument lacks substance because Congress's failure to pass legislation bears no relation to whether a federal agency has authority to implement a given rule. Instead, as Part III discusses, the issue of the EPA's statutory authority will turn on whether the EPA's interpretation of CAA Section 111(d) is reasonable.<sup>80</sup>

Opposition to the CPP's trading program is primarily centered around the notion that the EPA lacks the authority to compel states to undertake any of the CPP measures, including participation in a trading program, that go beyond directly reducing emissions at individual plants.<sup>81</sup> At least one scholar has argued that the EPA's authority to implement cap-and-trade programs—similar to the emissions trading program in the CPP—under Section 111 is at least uncertain.<sup>82</sup> Professor Robert Nordhaus suggests that “EPA has questionable authority [under Section 111] to *require* states to participate in a national cap-and-trade program for existing sources.”<sup>83</sup> The Clean Power Plan, however, can be distinguished from his argument on the simple grounds that trading under the CPP is *optional* for the states because states can choose to implement a SIP that does not include trading provisions.

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<sup>78</sup> See Peabody Energy Corp.'s Motion for Stay, *supra* note 68, at 6 (arguing that “EPA touts the Rule as creating cap-and-trade systems when a bill to do just that was rejected by Congress in 2009–2010. Yet EPA seeks to usurp legislative power and circumvent the democratic process” (citation omitted)).

<sup>79</sup> See, e.g., Tribe, *supra* note 17 (arguing that “the EPA, like every administrative agency, is constitutionally forbidden to exercise powers Congress never delegated to it in the first place. The brute fact is that the Obama administration failed to get climate legislation through Congress”).

<sup>80</sup> See *infra* Section III.C (arguing that the EPA's interpretation of the statute as providing the agency with authority to implement an emissions trading program should be found reasonable and therefore upheld under a *Chevron* analysis).

<sup>81</sup> See, e.g., Joe Koncelik, *Clean Power Plan—An Ambitious Plan with Serious Legal Issues*, OHIO ENVTL. L. BLOG (Aug. 10, 2015, 8:57 PM), <http://www.ohioenvironmentallawblog.com/2015/08/articles/climate-change/clean-power-plan-an-ambitious-plan-with-serious-legal-issues> (noting that CPP “[o]pponents argue the EPA authority under Section 111(d) is limited to requiring certain technologies be installed at the plant itself. Opponents argue that fuel switching, renewables and a trading program are all well beyond its authority”).

<sup>82</sup> Robert R. Nordhaus, *New Wine into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L.J. 53, 64 (2007) (“[W]hile EPA would have authority to impose source-by-source emissions standards under section 111, it is less clear whether EPA can use section 111 to establish a national cap-and-trade program that captures the efficiency benefits of market-based regulation.”).

<sup>83</sup> *Id.* at 66 (emphasis added) (noting that “the courts may ultimately decide that any cap-and-trade program is impermissible under section 111”).

David Marshall Coover, in a recently published article, makes a more aggressive argument against the EPA's authority to implement the CPP. He contends that the entire Rule is outside the scope of the EPA's statutory authority because Congress did not intend controls not directly imposed on individual plants to be used by the EPA to regulate power plants.<sup>84</sup> Rather than attempt to refute sweeping claims against the EPA's authority under Section 111(d)—which the EPA and proponents of the Clean Power Plan have already done before the D.C. Circuit Court—this Note suggests only that the EPA has authority to implement an important and narrow component of the CPP: the emissions trading provisions.

## II

### CONSIDERING THE EPA'S OTHER TRADING PROGRAMS

This Part focuses on the EPA's other trading programs, first by providing an overview of how each program operates and then by reviewing the case law on the programs. As a brief reminder, the EPA's statutory authority to implement the CPP and its trading provisions comes from CAA Section 111(d). Importantly, Section 111 specifically references Section 110, under which two of the three programs discussed below were implemented.

Contrary to arguments that the CPP, and its emissions trading program, is a novel and unprecedented overreach for a federal agency, the EPA has in fact implemented several trading programs to decrease air pollution. These programs, including the Acid Rain Trading Program (Acid Rain Program), the NO<sub>x</sub> Budget Trading Program (NBTP), the Clean Air Interstate Rule (CAIR), and the Cross-State Air Pollution Rule (Transport Rule), are explained in the following Subparts.

#### A. Acid Rain Program

The first market-based emissions trading program in the country was the Acid Rain Program, established under Title IV in the 1990 Clean Air Act Amendments.<sup>85</sup> Although the Acid Rain Program was

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<sup>84</sup> David Marshall Coover, III, *Square Pegs and Round Holes: Why the Environmental Protection Agency's New Section 111 Greenhouse Gas Regulations Do Not Fit in with Supreme Court Precedent or Congressional Intent in the Clean Air Act*, 45 TEX. ENVTL. L.J. 1, 26 (2015) ("The CAA is bereft of any authorization for the EPA to manipulate industrial economies as a means of achieving pollution reductions. These sorts of controls are undoubtedly outside the scope of what Congress intended the EPA to regulate.").

<sup>85</sup> See Jonathan Remy Nash & Richard L. Revesz, *Markets and Geography: Designing Marketable Permit Schemes to Control Local and Regional Pollutants*, 28 ECOLOGY L.Q. 569, 584 (2001) (noting that the Acid Rain Program was "the first pollution trading program authorized by Congress, as well as the first with nationwide scope"); see also *Acid*

created as part of the CAA Amendments, the EPA was responsible for carrying out the program through regulations. Acid rain, also called “acid deposition,” occurs when sulfur emissions are transformed in the atmosphere into sulfates, which can then “travel hundreds of miles . . . before being dissolved into rain or snow.”<sup>86</sup> After running on an environmentally focused platform, George H.W. Bush signed the bill into law in November 1990.<sup>87</sup> The Acid Rain Program’s ambitious goal was to reduce “annual SO<sub>2</sub> emissions by 10 million tons from the 1980 baseline (26 million tons).”<sup>88</sup>

The Acid Rain Program was highly successful<sup>89</sup> in cutting sulfur emissions from power plants by implementing an overall cap on emissions and establishing a market for the plants to buy and sell emission allowances.<sup>90</sup> And it accomplished these emission reductions cost-effectively. One article describing the Acid Rain Program notes that it is “generally regarded as a triumph of cost-effectiveness” and that it was estimated to “provide benefits worth \$122 million annually at a cost of about \$3 million annually” by 2010.<sup>91</sup> A 2012 report published by the Harvard Environmental Economics Program found that the Acid Rain Program not only achieved its emission reduction goals, but also turned out to be “less costly than traditional command-and-control policies would have been.”<sup>92</sup> Rather than dictating how power plants would achieve the cuts, the Acid Rain Program instead set a cap on the annual emissions from all the nation’s power plants and distributed initial allowances, which each represented one ton of SO<sub>2</sub>.<sup>93</sup> Perhaps the most important benefits of the Acid Rain Program

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*Rain Program: Overview*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epa.gov/airmarkets/acid-rain-program> (last updated June 16, 2016) (describing the creation and requirements of the Acid Rain Program).

<sup>86</sup> Nash & Revesz, *supra* note 85, at 582–83.

<sup>87</sup> See Justin Gerdes, *Cap and Trade Curbed Acid Rain: 7 Reasons Why It Can Do the Same for Climate Change*, FORBES (Feb. 13, 2012, 12:53 PM), <http://www.forbes.com/sites/justingerdes/2012/02/13/cap-and-trade-curbed-acid-rain-7-reasons-why-it-can-do-the-same-for-climate-change> (noting that George H.W. Bush “emphasize[d] the environment on the campaign trail” and “promise[d] to update the Clean Air Act to address a grave and growing pollution threat”).

<sup>88</sup> *Id.*

<sup>89</sup> See Doremus & Hanemann, *supra* note 27, at 802 (“Emissions of SO<sub>2</sub> have been reduced at a faster rate and at considerably lower cost than expected. By 2005, SO<sub>2</sub> emissions from the power plants included in the program had fallen 35% from 1990 levels.” (footnotes omitted)).

<sup>90</sup> *Acid Rain Program: Overview*, *supra* note 85.

<sup>91</sup> Doremus & Hanemann, *supra* note 27, at 802.

<sup>92</sup> Chan, *supra* note 73, at 5.

<sup>93</sup> See *id.* at 4 (explaining that “[a]t the beginning of the program, the government (freely) allocated allowances, denominated in tons of SO<sub>2</sub> emissions, to power plants covered by the law”). The EPA’s 1990 cost estimate for implementing the Acid Rain Program was \$6.1 billion, but by 1998 other studies (using figures from the beginning years

are the “avoided health damages from reduced levels of airborne fine particles derived from SO<sub>2</sub> emissions.”<sup>94</sup> These health benefits were estimated to be \$50 billion per year by 2010 (nearly 35 times the estimated cost of implementation).<sup>95</sup>

After the EPA issued final emission limits in 1996 to implement the Acid Rain Program, industry groups brought suit challenging the rule in the D.C. Circuit.<sup>96</sup> That court upheld the rule in *Appalachian Power Co. v. EPA*<sup>97</sup> on the grounds that the EPA had not exceeded its statutory authority and that it was proper to give deference to the EPA’s scientific and technical expertise.<sup>98</sup>

### B. NO<sub>x</sub> Budget Trading Program

Another major air pollution problem the EPA attempted to combat in the 1980s and 1990s was the interstate transportation of soot and ground-level ozone.<sup>99</sup> Ozone “is the primary ingredient in smog, which causes numerous human health risks, adversely affects plants and ecosystems, and contributes to acid deposition.”<sup>100</sup> The EPA’s first attempt to curb this interstate ozone pollution was the NO<sub>x</sub> SIP Call,<sup>101</sup> which required “22 Eastern states and the District of Columbia” to revise their state plans to further reduce their NO<sub>x</sub> emissions.<sup>102</sup> The EPA issued the SIP Call under Section 110(a)(2)(D)

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of the program) estimated that the total costs of implementation would be between \$1.1 and \$1.7 billion. *Id.* at 5, 7.

<sup>94</sup> *Id.* at 5.

<sup>95</sup> *Id.* at 5, 7.

<sup>96</sup> ARNOLD W. REITZE JR., AIR POLLUTION CONTROL LAW: COMPLIANCE AND ENFORCEMENT 249 (2001).

<sup>97</sup> 135 F.3d 791 (D.C. Cir. 1998).

<sup>98</sup> *Id.* at 814 (stating that the court would “not substitute [its] judgment for EPA’s in this highly technical area”); see also REITZE, *supra* note 96, at 249 (summarizing the holding of the case).

<sup>99</sup> Patricia Ross McCubbin, *Cap and Trade Programs Under the Clean Air Act: Lessons from the Clean Air Interstate Rule and the NO<sub>x</sub> SIP Call*, 18 PENN. ST. ENVTL. L. REV. 1, 2 (2009) (noting also that “[b]ecause the downwind states suffering the adverse consequences from these transboundary pollutants cannot exercise jurisdiction over the upwind sources, the states depend on the federal government for assistance”).

<sup>100</sup> Nash & Revesz, *supra* note 85, at 599 (footnotes omitted).

<sup>101</sup> Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone (NO<sub>x</sub> SIP Call), 63 Fed. Reg. 57,356 (Oct. 27, 1998) (codified at 40 C.F.R. pts. 51, 72, 75, 96).

<sup>102</sup> Nash & Revesz, *supra* note 85, at 606 (footnote omitted); see also McCubbin, *supra* note 99, at 2 (stating that the “NO<sub>x</sub> SIP Call[ ] was so named because it required 23 states to adopt revised ‘state implementation plans’ (SIPs) in an effort to reduce emissions of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) that together form ground-level ozone”).

of the Act,<sup>103</sup> which is commonly referred to as the “good neighbor” provision because it “requires each state to ensure that emissions from sources within its borders do not ‘contribute significantly’ to air pollution in another state.”<sup>104</sup> One important and novel aspect of the SIP Call was the NO<sub>x</sub> Budget Trading Program (NBTP), which allowed sources to purchase and sell “emissions ‘allowances’ under an overarching regional limit.”<sup>105</sup>

When the EPA implemented the NBTP in 2003, it envisioned the program as a “cap and trade program created to reduce the regional transport of NO<sub>x</sub> emissions from power plants and other large combustion sources in the eastern United States.”<sup>106</sup> Professor Patricia Ross McCubbin, who has written extensively on the Act, notes that although “the validity of the SIP Call’s trading scheme was not litigated, many parties challenged other innovations in the rule, including EPA’s emissions ‘budgets’ for the states.”<sup>107</sup> Industry groups and states inevitably challenged the EPA’s authority to issue the SIP Call and promulgate the related regulations, but the D.C. Circuit ultimately rejected these claims and upheld the rule in *Michigan v. EPA*.<sup>108</sup> The lack of litigation over the NBTP as part of the SIP Call suggests that the EPA’s authority to implement an emissions trading program under Section 110 was not widely disputed.

The NBTP is important in the Clean Power Plan context for two primary reasons. First, the NBTP illustrates the EPA’s historical use of emissions trading to regulate pollutants. Second, the legality of the NBTP and other trading programs under Section 110 supports the statutory argument that these programs are also valid under Section 111(d), which instructs the EPA to “establish a procedure similar to that provided by section [110] of this title” under which each State submits a plan that establishes standards of performance for existing sources of air pollutants.<sup>109</sup> This statutory reference suggests that if the EPA may permissibly allow state plans under Section 110 to include emissions trading, as the agency did under the NBTP, then the

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<sup>103</sup> 42 U.S.C. § 7410(a)(2)(D) (2012).

<sup>104</sup> McCubbin, *supra* note 99, at 2–3 (quoting 42 U.S.C. § 7410(a)(2)(D)(i)(I) (2006)).

<sup>105</sup> *Id.* at 3 (quoting NO<sub>x</sub> SIP Call, 63 Fed. Reg. at 57,430). The EPA implemented the NBTP as a central component of the NO<sub>x</sub> SIP Call, which was promulgated in 1998. See generally *NO<sub>x</sub> Budget Trading Program: Overview*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epa.gov/airmarkets/nox-budget-trading-program> (last updated Feb. 25, 2016).

<sup>106</sup> *NO<sub>x</sub> Budget Trading Program: Overview*, *supra* note 105.

<sup>107</sup> McCubbin, *supra* note 99, at 3.

<sup>108</sup> *Michigan v. EPA*, 213 F.3d 663, 672 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001); see also Nash & Revesz, *supra* note 85, at 606 (describing the litigation and decision).

<sup>109</sup> 42 U.S.C. § 7411(d)(1) (2012).

EPA may also allow states to use emissions trading under the Clean Power Plan and Section 111(d).

### C. Clean Air Interstate Rule

Despite the progress made under the NO<sub>x</sub> SIP Call and the NBTP, many downwind states were still failing to meet the required air quality standards, mostly due to upwind emissions. To address this continued interstate pollution, the EPA implemented another, more comprehensive rule requiring the combined efforts of twenty-seven states and the District of Columbia.<sup>110</sup> These new regulations, known as CAIR,<sup>111</sup> were based largely on the SIP Call and included a regional cap-and-trade program for both NO<sub>x</sub> and SO<sub>2</sub> emissions.<sup>112</sup> CAIR's primary goal was to reduce interstate transport of soot and smog,<sup>113</sup> and the EPA promulgated the rule under the same provision as for the NBTP—Section 110 of the Act.

In 2008, the D.C. Circuit surprised both industry groups and environmentalists alike when it struck down CAIR in *North Carolina v. EPA*.<sup>114</sup> In that case, the D.C. Circuit held that the EPA failed to show that a multi-state trading approach was consistent with the CAA's requirement that *each state* avoid significant contribution of pollution to another state.<sup>115</sup> The court struck down CAIR in part based on its finding that the Good Neighbor Provision of Section 110 required that any interstate pollution-reduction program “must actually require elimination of emissions from sources that contribute significantly and interfere with maintenance in downwind nonattainment areas.”<sup>116</sup> The court held that CAIR's trading program was invalid because “[t]heoretically, sources in Alabama could purchase enough

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<sup>110</sup> See McCubbin, *supra* note 99, at 3 & n.9 (citing Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule), 70 Fed. Reg. 25,162, 25,167 (May 12, 2005) (to be codified at 40 C.F.R. pts. 51, 72, 73, 74, 77, 78, 96)) (explaining that “the District of Columbia is also subject to CAIR”).

<sup>111</sup> Clean Air Interstate Rule, 70 Fed. Reg. at 25,162.

<sup>112</sup> McCubbin, *supra* note 99, at 3.

<sup>113</sup> *Clean Air Interstate Rule (CAIR): Overview*, U.S. ENVTL. PROTECTION AGENCY, <http://archive.epa.gov/airmarkets/programs/cair/web/html/index.html> (last updated Feb. 21, 2016).

<sup>114</sup> See *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), *modified in part on reh'g*, 550 F.3d 1176 (D.C. Cir. 2008); see also McCubbin, *supra* note 99, at 3–4 (noting that “CAIR was well recognized as one of the most important rules to improve air quality adopted by the Bush Administration, and received support from many environmental organizations and states. The regulated community . . . also generally supported the rule because of the flexibility offered by the trading program”).

<sup>115</sup> See Nordhaus & Gutherz, *supra* note 18, at 10,373 n.68 (noting also that “the D.C. Circuit had not disturbed EPA's use of the same approach when the court upheld the Agency's 1998 NO<sub>x</sub> SIP Call Rule” in *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000)).

<sup>116</sup> *North Carolina v. EPA*, 531 F.3d at 908.

NO<sub>x</sub> and SO<sub>2</sub> allowances to cover all their current emissions, resulting in no change in Alabama's contribution to [another state's] nonattainment."<sup>117</sup>

This fatal flaw in the CAIR trading program can be contrasted with the structure of the NBTP, under which regions and individual states were given their own "emission budgets."<sup>118</sup> Under the NBTP, a state could not have purchased enough allowances to cover all its current emissions. Thus, a state failing to reduce emissions at all—as the D.C. Circuit hypothesized could happen under CAIR—was not a possibility under the NBTP because each state was required to meet an individual emissions limit.<sup>119</sup> Importantly, the Clean Power Plan's emissions limits are structured more like the NBTP, rather than like CAIR. The CPP contains individual, statewide carbon emission limits. Although states have broad flexibility to achieve compliance with the Rule, each state ultimately must meet the reduction requirements set by the EPA within its own borders. Thus, the D.C. Circuit's primary concern under CAIR—that sources could purchase enough credits to cover all their emissions without making any reductions—could not come to fruition under the Clean Power Plan.

#### D. Transport Rule

In response to the D.C. Circuit's decision in *North Carolina v. EPA*, the EPA implemented the Cross-State Air Pollution Rule, also known as "the Transport Rule," in yet another attempt to address interstate pollution.<sup>120</sup> Beginning in January 2015, the Transport Rule officially replaced CAIR.<sup>121</sup> Similar to CAIR, the Transport Rule required twenty-seven states across the South, East, and Midwest to revise their SIPs.<sup>122</sup> The EPA interpreted the "good neighbor" provi-

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<sup>117</sup> *Id.* at 907.

<sup>118</sup> See Sam Napolitano et al., *The NO<sub>x</sub> Budget Trading Program: A Collaborative, Innovative Approach to Solving a Regional Air Pollution Problem*, 20 *ELECTRICITY J.* 65, 68 (2007) (describing regional and state emission limits under the NO<sub>x</sub> Budget Trading Program).

<sup>119</sup> See *id.* (explaining that under the NBTP, "[a] regional NO<sub>x</sub> emission budget was determined by EPA and divided among the states. States had the obligation to meet their budget but were free to determine how and which sources would be required to reduce emissions to meet the limit").

<sup>120</sup> Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 *Fed. Reg.* 48,208, 48,211 (Aug. 8, 2011) (codified at 40 C.F.R. pts. 51, 52, 72, 78, 97); see also Ann E. Carlson & Megan M. Herzog, *Text in Context: The Fate of Emergent Climate Regulation After UARG and EME Homer*, 39 *HARV. ENVTL. L. REV.* 23, 26 (2015) (describing the EPA's implementation of the Transport Rule).

<sup>121</sup> *Cross-State Air Pollution Rule (CSAPR)*, U.S. ENVTL. PROTECTION AGENCY, <http://www3.epa.gov/crossstaterule> (last updated Feb. 29, 2016).

<sup>122</sup> Revesz, *supra* note 11, at 97.

sion of Section 110<sup>123</sup> to allow cost considerations, then allocated emissions reductions—based on cost-effectiveness—among upwind states contributing “significantly” to downwind states’ failure to meet the air quality standards.<sup>124</sup> The EPA then “established statewide emission budgets . . . and crafted trading mechanisms that states could opt into as a flexible, cost-effective means of meeting their budgets.”<sup>125</sup> The Transport Rule is expected to be a highly cost-effective regulatory program, with the EPA estimating that the rule will produce “\$120 to \$280 billion in annual health and environmental benefits, including the value of avoiding 13,000 to 34,000 premature deaths,” compared to “\$800 million in annual projected costs.”<sup>126</sup>

The most contested feature of emissions trading programs is likely the initial allocation of emissions budgets among sources, and the Transport Rule’s trading program was no different. First, “EPA modeled the allocation of cost-effective emission reductions among upwind states. EPA then translated its calculations into annual emission budgets representing the amount of emissions each upwind state would produce were it to implement all cost-effective controls.”<sup>127</sup> This system requires “states to reduce emissions at a given dollar amount per ton,”<sup>128</sup> which means states able to reduce emissions most cost-effectively are required to reduce more than states in which emission reductions are costlier. Thus, the Transport Rule was theoretically vulnerable to the same critique the D.C. Circuit made of CAIR: upwind states could be required to reduce emissions by more than their “fair share.” In fact, this issue is one of the grounds on which the D.C. Circuit invalidated the Transport Rule.<sup>129</sup>

After the D.C. Circuit’s decision in *North Carolina v. EPA*, there was “substantial uncertainty” as to whether the EPA had authority to implement emissions trading programs under Section 110.<sup>130</sup> The out-

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<sup>123</sup> 42 U.S.C. § 7410(a)(2)(D)(i) (2012).

<sup>124</sup> *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1596 (2014).

<sup>125</sup> Richard L. Revesz, Denise A. Grab & Jack Lienke, *Familiar Territory: A Survey of Legal Precedents for the Clean Power Plan*, 46 ENVTL. L. REP. 10,190, 10,192 (2016).

<sup>126</sup> *Cross-State Air Pollution Rule (CSAPR)*, *supra* note 121 (emphasis added).

<sup>127</sup> Carlson & Herzog, *supra* note 120, at 26.

<sup>128</sup> Ryland Li, Comment, *EPA v. EME Homer City Generation, L.P.: Agencies Can Consider Costs in the Face of Statutory Silence*, 39 HARV. ENVTL. L. REV. 293, 297 (2015).

<sup>129</sup> See *id.* at 298 (noting that the D.C. Circuit invalidated the Transport Rule in part because “the rule improperly required reductions according to the . . . metric of cost-effectiveness, which could force some states to reduce emissions by more than their ‘fair share’” (quoting *EME Homer City Generation L.P. v. EPA*, 696 F.3d 7, 27 (D.C. Cir. 2012))).

<sup>130</sup> See John Wittenborn & Eric Waeckerlin, *D.C. Circuit Court of Appeals Rejects EPA Clean Air Interstate Rule*, 38 ENVTL. L. REP. 10,790, 10,795 (2008) (noting that the court’s decision in *North Carolina v. EPA* “create[d] substantial uncertainty regarding the

look grew even dimmer when, in 2012, the D.C. Circuit struck down the Transport Rule on the grounds that the EPA had impermissibly calculated the states' emissions budgets not by "reference to the 'amounts' of emissions that 'contribute significantly to nonattainment,' but rather by reference to the cost of emission reductions."<sup>131</sup> The court was concerned that this cost-conscious allocation of emission reductions could result in a state having to reduce its emissions "by more than its ratable share of downwind-state pollution."<sup>132</sup>

In the 2014 case *EPA v. EME Homer City Generation, L.P.*,<sup>133</sup> however, the Supreme Court reversed the D.C. Circuit's decision and significantly altered the outlook for the EPA's emissions trading rules. Justice Ruth Bader Ginsburg, writing for a six-Justice majority, opined that "EPA's cost-effective allocation of emission reductions among upwind States . . . is a permissible, workable, and equitable interpretation of the Good Neighbor Provision."<sup>134</sup> The Court found also that "the Good Neighbor Provision does not require EPA to disregard costs and consider exclusively each upwind State's physically proportionate responsibility for each downwind air quality problem."<sup>135</sup>

While the decision did not directly address emissions trading programs, *EME Homer* seems to signal the Court's approval of "cost minimization" techniques, which include emissions trading, as consistent with the Act.<sup>136</sup> Emissions trading falls under the scope of what Professor Richard Revesz calls "flexible market-based instruments" that are used to achieve "cost minimization."<sup>137</sup> Revesz suggests that the Court's "defense of cost minimization is consistent with the use of trading schemes . . . [because] a core characteristic of marketable

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Agency's legal authority to establish cap-and-trade programs to reduce air pollutants under § 110(a)(2)(D)(i)(I)").

<sup>131</sup> Revesz, *supra* note 11, at 97 (quoting *EME Homer*, 696 F.3d at 12).

<sup>132</sup> *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1593 (2014).

<sup>133</sup> *Id.*

<sup>134</sup> *Id.* at 1610; *see also* Revesz, *supra* note 11, at 97–98 ("In a straightforward application of the deference principles of *Chevron*, the Court deferred to the EPA's decision to take costs into account in making this significance determination." (internal quotations omitted)).

<sup>135</sup> *EME Homer*, 134 S. Ct. at 1610.

<sup>136</sup> *See* Revesz, *supra* note 11, at 100 ("EPA's cost-minimization approach was in legal limbo for more than a decade as a result of the inconsistent decisions of the D.C. Circuit. In *EME Homer*, the Supreme Court ultimately upheld the use of cost minimization."). *But see* Devon Applegate, Comment, *What About Whitman?: The Supreme Court's Decision in EPA v. Homer to Authorize Cost Consideration in Environmental Regulation Contradicts Its Own Precedent*, 42 B.C. ENVTL. AFF. L. REV. 1, 13 (2015) (arguing that the Court's decision in *EME Homer* provided the EPA with authority to consider costs that are neither authorized by the statute nor consistent with the Court's prior decision in *Whitman v. American Trucking Ass'ns, Inc.*, 531 U.S. 457 (2001)).

<sup>137</sup> Revesz, *supra* note 11, at 94.

permit schemes is that they minimize the aggregate cost of meeting a regulatory target.”<sup>138</sup> Significantly, the Transport Rule contains trading provisions that were not separately challenged and, thus, were not affected by the Court’s decision.<sup>139</sup> At a minimum, this case signals the Court’s willingness to defer to the EPA’s interpretation and allow flexible emission reduction tools, such as emissions trading programs, under the Clean Air Act.

In sum, this analysis of the EPA’s past trading programs demonstrates both that the EPA has a longstanding history of using market-based systems to reduce emissions of air pollutants, and that these programs can reduce emissions in a cost-effective manner. The legal challenges to these programs and the resulting case law show that, at least in the context of Section 110, the Supreme Court approves of the EPA’s use of cost-minimization techniques, which may include emissions trading programs like the one in the Clean Power Plan.

### III

#### ANALYZING THE LEGAL BASIS FOR EMISSIONS TRADING IN THE CPP AND FEDERAL PLAN

This Part examines the legal justification for the CPP’s and the proposed federal plan’s trading provisions, first by delving into the EPA’s statutory authority under Section 111(d), then by reviewing the statutory references in Section 111 to Section 110. It then demonstrates that the CPP’s emissions trading provisions, both under optional SIPs and the EPA-administered FIP rule, are valid based on the statutory text of Section 111(d) and that section’s substantive references to Section 110. Finally, this Part suggests that even if Section 111(d) is read to be silent or ambiguous on the issue of whether emissions trading is permissible, these provisions are nonetheless valid under the deferential standard of review a court must give the EPA’s reasonable interpretation of the Act after *Chevron*.

##### A. *The EPA’s Authority Under Section 111(d) of the Clean Air Act*

The Act charges the EPA with authority to regulate certain air pollutants from existing sources under Section 111(d).<sup>140</sup> Section 111 is based on the EPA’s determination of statewide performance stan-

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<sup>138</sup> *Id.* at 106 (“It follows, therefore, that if cost minimization is impermissible, marketable permit schemes will be impermissible as well.”).

<sup>139</sup> *See id.* (noting that “the Transport Rule contained a trading provision, which was not separately challenged and therefore remains in place following the Supreme Court’s decision”).

<sup>140</sup> 42 U.S.C. § 7411 (2012).

dards, which limit emissions from each state to a specific amount, rather than design standards, which prescribe specific technology or devices that sources must install to reduce their emissions. Section 111(a) defines a “standard of performance” as the “standard for emissions of air pollutants” using the “best system of emission reduction which . . . has been adequately demonstrated.”<sup>141</sup> Section 111(d) refers to Section 110 and requires that “the procedure for development and review of state plans [under Section 111(d)] must be similar to that provided under §110 of the [Act] for state implementation plans (SIPs).”<sup>142</sup> This fact strongly suggests the EPA’s authority under Section 111(d) mirrors the agency’s authority under Section 110. And, as Part II demonstrated, emissions trading programs under Section 110 are on solid legal ground.

*B. Analyzing the Statutory References Between  
Sections 110 and 111*

Section 111(d), under which the CPP was implemented, contains two important references to Section 110, which governs other trading programs implemented in the past by the EPA, including the NBTP and the Transport Rule. In guiding the EPA on the correct process under Section 111(d), that provision references both the process for SIPs and implementation of a FIP under Section 110. First, Section 111(d)(1) directs the EPA to implement “regulations which shall establish a procedure *similar to that provided by [Section 110] of this title.*”<sup>143</sup> Then, in Section 111(d)(2), the EPA is given “the same authority to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as [the Administrator] would have *under [Section 110(c)] of this title.*”<sup>144</sup> These two crucial references permit a straightforward statutory argument that the two provisions—Sections 110 and 111—provide an analogous legal basis for the EPA to implement trading programs and, therefore, the CPP’s emissions trading provisions are valid. While other scholars addressing this issue of statutory interpretation have made similar arguments,<sup>145</sup> this Note further argues that the significance of the statutory cross-references is strengthened by the EPA’s history of emissions trading in past pro-

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<sup>141</sup> *Id.* § 7411(a)(1).

<sup>142</sup> Nordhaus & Gutherz, *supra* note 18, at 10,366.

<sup>143</sup> 42 U.S.C. § 7411(d)(1) (emphasis added).

<sup>144</sup> 42 U.S.C. § 7411(d)(2)(A) (emphasis added).

<sup>145</sup> *See, e.g.*, Nordhaus & Gutherz, *supra* note 18, at 10,385 (explaining that “EPA could argue that support for [trading] in SIPs is found in the §111(d) cross-reference to §110 . . . [because] §111(d) provides that the procedure for submission and approval of state plans should be similar to that under §110 for SIPs” and Section 110(a)(2)(A) allows states to include marketable permits in their plans).

grams under Section 110. Because three of the four other emissions trading programs discussed here—all but the Acid Rain Program—were implemented under Section 110, there is a compelling argument that Section 111(d)'s references to Section 110 provide an analogous legal basis for the EPA both to promulgate provisions allowing states to create or join emissions trading programs (as the CPP does) and to implement an emissions trading program in the federal plan.

### 1. *The EPA's Authority to Allow Emissions Trading in SIPs*

The first legal question that must be addressed is whether the EPA has the authority under Section 111(d) to allow states to achieve their carbon emission limits by participating in an optional emissions trading program. Because Section 111(d) provides that the procedure for state plans should be similar to the one established in Section 110 for SIPs, that reference alone presents a compelling statutory argument that any mechanism, including emissions trading, upheld as part of a SIP under Section 110 would also be valid as part of a state plan under Section 111(d). That Congress may have intended trading programs to be allowed in state plans under Section 111(d) is further evidenced by the fact that "Section 110(a)(2)(A), in turn, *explicitly* allows states to include measures utilizing 'marketable permits' in their plans."<sup>146</sup> Although the language in Section 111(d) does not directly speak to whether emissions trading programs are a permissible tool for the EPA to allow states to use, the explicit reference to Section 110 is compelling statutory evidence that the EPA has authority under Section 111(d) to allow states to implement or join emissions trading programs.

Further evidence of the significance of the statutory cross-reference is found by analyzing the EPA's longstanding use of trading programs under Section 110. Importantly, both the NBTP and the Transport Rule were promulgated by the EPA under Section 110 and contained trading programs that were not directly challenged in litigation over the rules. The EPA's consistent use of trading programs under Section 110 and the fact that these programs themselves were not highly controversial during litigation is consistent with the EPA's use of emissions trading provisions under Section 111(d). The EPA's widespread and accepted use of market-based trading programs to reduce emissions under the section that Section 111(d) specifically references—Section 110—is persuasive evidence that the CPP's trading provisions are valid.

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<sup>146</sup> Nordhaus & Gutherz, *supra* note 18, at 10,385 (quoting 42 U.S.C. § 7410(a)(2)(A)).

One counterargument to this statutory reading may be that if Congress explicitly authorized the use of marketable permits in state plans under Section 110(a), it could have done so under Section 111(d) as well. While it is true that Congress could have been more explicit about the permissibility of trading and other market-based tools under Section 111, the reference to Section 110 is arguably evidence that Congress may have intended for *every* component of state plans under Section 110 to be incorporated by reference into state plans under Section 111(d). Rather than repeat each possible mechanism available under state plans in the text of Section 111(d), the statute simply references the framework already outlined in Section 110. And assuming that detractors of this interpretation are unconvinced of the statutory references as ample textual authority for the EPA, emissions trading would nonetheless still be permissible in state plans assuming the EPA's interpretation of the statute is reasonable under *Chevron*.

## 2. *The EPA's Authority to Implement Emissions Trading in the FIP*

This Subpart addresses the second legal question and suggests that the EPA is correct in its argument that “the plain language of the statute authorizes the use of market techniques in CAA section 111(d) federal plans.”<sup>147</sup> As with Section 111(d)'s reference to the SIP framework in Section 110, the statutory language of Section 111(d)(2) provides the EPA with the authority to promulgate a FIP that includes emissions trading because that section refers to Section 110(c). Section 111(d)(2) references Section 110 and provides that the EPA has “the same authority to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as [the EPA] would have under [Section 110(c)] of this title in the case of failure to submit an implementation plan.”<sup>148</sup> In the proposed FIP, the EPA relies on this argument as well, noting that “Section 111(d)(2) of the CAA provides the EPA the same authority to prescribe a federal plan under CAA section 111 as it would have to promulgate a FIP under CAA section 110(c).”<sup>149</sup> Essentially, Section 111(d)(2) gives the EPA the same authority that the agency has “under [Section 110(c)]” to implement a federal plan in states that fail to implement an adequate state plan.<sup>150</sup> The definitions section of the Act, in turn, provides that a “Federal

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<sup>147</sup> Proposed Federal Plan Requirements, 80 Fed. Reg. 64,966, 64,988 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 62, 78).

<sup>148</sup> 42 U.S.C. § 7411(d)(2)(A) (emphasis added).

<sup>149</sup> Proposed Federal Plan Requirements, 80 Fed. Reg. at 64,988.

<sup>150</sup> 42 U.S.C. § 7411(d)(2)(A).

Implementation Plan” is an EPA-promulgated plan that “includes enforceable emissions limitations or other control measures, means or techniques (*including economic incentives, such as marketable permits or auctions of emissions allowances*).”<sup>151</sup>

This plain language defining a FIP under Section 110, read in conjunction with Section 111(d)’s explicit reference to Section 110, creates a compelling statutory argument that the Act expressly provides for emissions trading programs in federal plans under Section 111(d). The statutory reference gives the EPA the “same authority,”<sup>152</sup> as the agency has in implementing a FIP under Section 110, and the Act’s definition of a FIP, in turn, expressly allows “marketable permits or auctions of emissions allowances.”<sup>153</sup> Read together, these provisions of the Act suggest that Congress may have intended the EPA to have the option of utilizing emissions trading programs in a FIP under Section 111(d).

### C. Accounting for Chevron Deference

Above, this Note explored the compelling statutory arguments for why the EPA has authority under Section 111(d) both to allow state plans to include emissions trading, and to implement an emissions trading program in the federal plan. This Section suggests that the EPA’s overall position is strengthened by the deference shown by reviewing courts to “reasonable” agency interpretations of a statute under *Chevron v. NRDC*.<sup>154</sup> In *Chevron*, the Supreme Court held that judicial deference to an agency’s interpretations of its authorizing statute should be determined with a two-part test. First, the reviewing court determines whether Congress, in the statute, has “directly spoken to the precise question at issue,” and if so, that is the end of

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<sup>151</sup> 42 U.S.C. § 7602(y) (2012) (emphasis added).

<sup>152</sup> § 7411(d)(2)(A).

<sup>153</sup> § 7602(y).

<sup>154</sup> *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 842–44 (1984). The underlying facts and outcome of *Chevron*, which was a CAA case, may also support the EPA’s authority to implement emissions trading under Section 111(d). In *Chevron*, the Court upheld the EPA’s “bubbling” concept. *Id.* at 845 (“Congress did not have a specific intention on the applicability of the bubble concept in these cases, and [we] conclude that the EPA’s use of that concept here is a reasonable policy choice for the agency to make.”). “Bubbling” allows source operators to comply with emission limits by averaging emissions from all sources at any given “facility.” See Richardson, *supra* note 35, at 211 (explaining that “bubbling would allow an existing plant to avoid [individual performance standards] by averaging its emissions across multiple facilities within the plant”). Rather than bringing each source into compliance, an operator need only bring enough sources under the emissions threshold so that these emissions, when averaged with the higher-emitting sources at the same facility, are below the limit set by the EPA. Thus, “bubbling” may be viewed as a narrow form of emissions trading.

the inquiry.<sup>155</sup> If, however, a court finds that Congress's intent is not clear from the text of the statute, the analysis shifts to *Chevron* step two, and the court must uphold the agency's interpretation of the statute as long as it is reasonable.<sup>156</sup>

While this Note argues the statutory references between Section 111(d) and Section 110 authorize emissions trading under Section 111(d)—meaning a court could resolve the issue under *Chevron* step one—there is nonetheless a possibility that a court may find the statute to be ambiguous on this issue and would analyze the case under *Chevron* step two. First, under *Chevron* step one, a reviewing court would ask whether in Section 111(d) Congress spoke to the precise question at issue, which in this case is whether emissions trading programs are permissible. The court might then find Section 111(d)'s textual references to Section 110, under which emissions trading programs have been upheld, to be determinative of the issue. If so, the court would not disturb the EPA's exercise of its express statutory authority and the CPP's emissions trading provisions would be upheld.

If a reviewing court found that Section 111(d) is ambiguous or silent on the issue of whether emissions trading programs are permissible, however, the EPA's interpretation of its authority to allow trading in state plans and to establish a federal plan based on emissions trading would fall under *Chevron* step two.<sup>157</sup> At this point, a reviewing court would reverse the EPA's decision only if it found that the agency's interpretation was "arbitrary, capricious, or manifestly contrary to the statute."<sup>158</sup> In determining whether the EPA's decision in *Chevron* was a reasonable construction of the relevant CAA provision, the Court noted that it was proper to defer to the agency's interpretation because the EPA has been tasked with "implementing policy decisions in a technical and complex arena," and because "[j]udges are not experts in the field."<sup>159</sup> It seems equally likely that a reviewing court would offer the EPA's interpretation of its authority under Section 111(d) the same deference because Section 111(d) requires the agency to regulate in a similarly "technical and complex arena" involving carbon emissions.

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<sup>155</sup> *Chevron*, 467 U.S. at 842.

<sup>156</sup> *See id.* at 842–43.

<sup>157</sup> *See Nordhaus & Gutherz, supra* note 18, at 10,375 (positing that "[f]or many questions relating to EPA's statutory authority to promulgate CO<sub>2</sub> regulations under §111(d), the standard of review is likely to be based on 'Chevron Step Two'" because "§111(d) directs the EPA to prescribe implementing regulations, but does not clearly dictate a particular outcome on many important issues").

<sup>158</sup> *Chevron*, 467 U.S. at 844.

<sup>159</sup> *Id.* at 863, 865.

The EPA's past use of trading programs might also be relevant under a reviewing court's reasonableness inquiry. As Professor Cass Sunstein has noted, "[o]n the question of reasonableness, . . . the agency must be given considerable latitude."<sup>160</sup> Under *Chevron*, the EPA's interpretation of the statute will be upheld as reasonable so long as it is not arbitrary or capricious.<sup>161</sup> When reviewing the EPA's interpretation of the relevant statutory provision in *EME Homer*, the Court concluded that the EPA's decision was "a 'reasonable' way of filling the 'gap left open by Congress.'"<sup>162</sup> A court reviewing the CPP would likely conduct the same reasonableness inquiry to determine whether the EPA's interpretation of Section 111(d) is permissible. The EPA's prior use of trading programs supports the reasonableness of the agency's interpretation because these past programs suggest the EPA has expansive and well-developed expertise when it comes to reducing emissions through emissions trading. A reviewing court should uphold the EPA's decision to implement emissions trading because—similar to the EPA's interpretation in *EME Homer*—the EPA's interpretation of its authority to allow emissions trading is a "permissible, workable, and equitable interpretation"<sup>163</sup> of Section 111(d).

### CONCLUSION

While agency authority cannot go unchecked, agencies like the EPA charged with immensely important regulatory duties must be given space to regulate effectively. The Clean Power Plan's trading provisions are legally justified under Section 111(d) of the Act and are a proper exercise of the EPA's authority and expertise in the area of controlling emissions. The EPA's past emissions trading programs, particularly those promulgated under Section 110, demonstrate both the legally analogous grounds for trading provisions under Section 111(d) and the EPA's longstanding use of trading programs to reduce emissions cost-effectively. The CPP's trading provisions are within the EPA's statutory authority under Section 111(d), which expressly references Section 110, the provision under which most of the EPA's prior

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<sup>160</sup> Cass R. Sunstein, *Law and Administration After Chevron*, 90 COLUM. L. REV. 2071, 2105 (1990).

<sup>161</sup> *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1603 (2014) (citing *Chevron*, 467 U.S. at 844); see also Kenneth W. Starr, *Judicial Review in the Post-Chevron Era*, 3 YALE J. REG. 283, 288 (1986) ("First, the court must consider whether Congress 'has directly spoken to the precise question at issue.' . . . In cases where Congress' intent is not clear . . . [a reviewing court must] uphold any reasonable interpretation offered by the agency." (citing *Chevron*, 467 U.S. at 842)).

<sup>162</sup> *EME Homer*, 134 S. Ct. at 1607 (quoting *Chevron*, 467 U.S. at 866).

<sup>163</sup> *Id.* at 1610.

trading programs were promulgated. The trading provisions in the CPP and proposed federal plan are crucial—and permissible—pieces of this much-needed regulation addressing carbon pollution and, more broadly, the devastating effects of climate change.