

# Federal Implementation Plans and the Path to Clean Power

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## ABSTRACT

*Promulgated under the Clean Air Act in October 2015, the Clean Power Plan (“CPP”) requires states to significantly reduce carbon emissions from existing power plants and is the centerpiece of the Environmental Protection Agency’s (“EPA”) response to global warming. Many states have filed lawsuits challenging the CPP and some states have vowed that, if those suits are unsuccessful, they will refuse to implement it. In turn, EPA has proposed rules that would implement the CPP by imposing a “federal implementation plan” (“FIP”) upon those recalcitrant states under the authority of the Clean Air Act. Thus, the success of the CPP may well rest upon this FIP, a regulatory instrument that academic commentary has almost universally dismissed as highly ineffective.*

*This Article first comprehensively examines EPA’s past use of FIPs. Contrary to accepted belief, EPA has imposed FIPs on numerous occasions and its use of them has greatly evolved. The Article analyzes this evolution and finds that FIPs have altered the “cooperative federalism” structure of the Clean Air Act in important ways. The use of FIPs has centralized more power at the federal level, afforded EPA considerable experience in designing and administering market-trading systems, altered the state-centered political geography of the Clean Air Act, and created new compliance incentives for states and regulated industries. The Article then employs these conclusions as a lens through which to examine EPA’s proposed FIP for the CPP. It finds that the proposed FIP derives logically from EPA’s prior work on FIPs. However, the Article concludes that the structure and complexities of the Clean Power Plan raise a series of issues for the proposed FIP that will require difficult tradeoffs involving competing regulatory goals.*

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## INTRODUCTION

The principal American response to global warming, President Barack Obama's Clean Power Plan ("CPP"),<sup>1</sup> enlists the venerable Clean Air Act ("CAA" or "the Act") as its primary method of implementation. As implemented in Environmental Protection Agency ("EPA") rules now under legal challenge,<sup>2</sup> the CPP requires states to create implementation plans demonstrating how those states will reduce carbon emissions from existing power plants.<sup>3</sup> The task is a daunting one that will require many states to make significant changes in their methods of generating electricity.

Given the political controversy over the response to climate change, it is unsurprising that many states have resisted complying with their responsibilities under the CPP. The resistance has manifested itself in claims ranging from legal arguments that the CPP exceeds EPA's authority under the CAA<sup>4</sup> to assertions that the CPP inevitably will lead to brownouts.<sup>5</sup> Nationally, U.S. Senator Mitch McConnell, the Senate Majority Leader, has led the opposition, releasing a letter sent to the governors of all fifty states urging them to "just say no" to complying with the Clean Power Plan.<sup>6</sup>

The CAA anticipates the possibility of state resistance. The Act requires the federal EPA to set national ambient air quality standards ("NAAQS") and relies on states to achieve them.<sup>7</sup> However, if state cooperation fails, the Act ultimately

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1. ENVTL. PROT. AGENCY, EPA FACT SHEET: OVERVIEW OF THE CLEAN POWER PLAN (2014), <https://www.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-overview>.

2. Timothy Cama, *Two Dozen States Sue Obama Over Coal Plant Emissions Rule*, THE HILL (Oct. 23, 2015, 8:51 AM), <http://thehill.com/policy/energy-environment/257856-24-states-coal-company-sue-obama-over-climate-rule>.

3. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) [hereinafter Clean Power Plan].

4. See, e.g., Amy Harder and Brent Kendall, *Obama Carbon Rules to Face Lawsuits, Congressional Tests*, WALL ST. J. (Oct. 23, 2015, 4:11 PM), <http://www.wsj.com/articles/obama-carbon-rules-to-face-lawsuits-congressional-tests-1445611059>.

5. See, e.g., Doug Domenech, *The EPA's Clean Power Plan: A Scheme For Rich White Elitists*, WASH. EXAM'R (June 22, 2015, 5:00 AM), <http://www.washingtonexaminer.com/the-epas-clean-power-plan-a-scheme-for-rich-white-elitists/article/2566661> ("By forcing fuel switching, the rule will all but guarantee brownouts during peak usage times—the hottest parts of the summer, the coldest parts of winter.").

6. Letter from Mitch McConnell, U.S. Senate Majority Leader, to Nat'l Governors Ass'n (Mar. 19, 2015), <http://www.mcconnell.senate.gov/public/index.cfm/2015/3/senate-majority-leader-mitch-mcconnell-s-letter-to-nation-s-governors>.

7. Clean Air Act §§ 108–110, 42 U.S.C. §§ 7408–7410 (2014). See also Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U. L. REV. 1692, 1696 (2001) ("Cooperative federalism programs set forth some uniform federal standards . . . but leave state agencies with discretion to implement the federal law, supplement it with more stringent standards, and, in some cases, receive an exemption from federal requirements."); CLIFFORD RECHTSCHAFFEN & DAVID MARKELL, *REINVENTING ENVIRONMENTAL ENFORCEMENT* 19 (2003) (stating that 75% of major federal environmental programs are administered by states).

places the responsibility for attaining the air quality standards on EPA.<sup>8</sup> If a state refuses to prepare an implementation plan that would meet those standards, the Act requires EPA to impose a “federal implementation plan” (“FIP”) that would attain the standards in the state.<sup>9</sup> Consistent with this regulatory fallback mechanism, when EPA finalized its rules implementing the CPP, it also proposed rules calling for the agency to adopt FIPs if states refused to adopt plans that reduce carbon emissions to the levels required by the CPP.<sup>10</sup> Accordingly, if the initial verbal resistance by states to the CPP culminates in a refusal to comply, EPA has positioned itself to respond by adopting a federal plan under the Act.

The question, then, is whether such a FIP can be effective. There is reason for some skepticism. EPA gained early experience with FIPs in the 1970s, and that experience was quite negative. After this time, many commentators dismissed FIPs as ineffectual and largely irrelevant in the real world.<sup>11</sup> Since then, however, EPA has gained considerable additional experience with FIPs. EPA has now adopted FIPs on numerous occasions, and the agency’s use of and attitude toward FIPs have evolved substantially. Over time, EPA has sculpted the FIP into a valuable regulatory tool.

This Article analyzes the role that FIPs have played in air quality regulation and how EPA’s experience with them will affect FIPs implementing the Clean Power Plan. After setting forth the statutory authority for and constraints on FIPs, the Article examines how EPA’s use of FIPs has evolved over time. It categorizes the various FIPs into a taxonomy and then details the individual characteristics of each category of FIPs. The analysis then identifies how these FIPs have altered the federal structure for implementing the CAA. For example, the FIPs have set in motion an evolution in which, in some situations, state boundaries have receded as the center of air quality planning, and federal incentives to reduce air pollution now strongly influence state regulatory choices. Finally, with this

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8. Thus, as one scholar noted, “cooperative federalism” is decidedly one-sided. JOSEPH F. ZIMMERMAN, *CONTEMPORARY AMERICAN FEDERALISM* 9 (1992).

9. 42 U.S.C. § 7410.

10. Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations, 80 Fed. Reg. 64,966 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 62, 78) [hereinafter Proposed Clean Power Plan FIP] (proposing FIP to implement GHG emission guidelines for existing fossil-fuel fired electric generating units).

11. See, e.g., Arnold W. Reitze, Jr., *EPA’s Fine Particulate Air Pollution Control Program*, 44 ENVTL. L. REP. NEWS & ANALYSIS 10996, 11022 (2014) (“FIPs have not played a major role in protecting air quality.”); John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183, 1216 (1995) (“Since the 1970 enactment of the Clean Air Act, legislators and EPA officials have known that the federal government does not have, and probably never will have, the resources to implement federal air pollution policy without considerable state assistance.”); Brigham Daniels, *Environmental Regulatory Nukes*, 2013 UTAH L. REV. 1505, 1520–33 (categorizing FIPs as a “regulatory nuke” and observing that EPA “rarely imposes” them); CRAIG N. JOHNSTON ET AL., *LEGAL PROTECTION OF THE ENVIRONMENT* 321 (3d ed. 2010) (“EPA has only rarely stepped in to establish a FIP.”); JAMES SALZMAN & BARTON H. THOMPSON, JR., *ENVIRONMENTAL LAW AND POLICY* 95 (3d ed. 2010) (calling FIPs a “paper tiger”).

background in mind, the Article identifies five areas where a proposed CPP FIP must make difficult choices that seek to accommodate conflicting policies.

## I. FEDERAL PLANS UNDER THE CLEAN AIR ACT: AUTHORITY AND CONSTRAINTS

### A. THE STATE IMPLEMENTATION PLAN PROCESS

#### 1. State Plans Under Section 110

The Clean Air Act Amendments of 1970<sup>12</sup> inaugurated a new relationship between the federal government and the states in regulating air pollution, a relationship often referred to as “cooperative federalism.”<sup>13</sup> The 1970 CAA Amendments first required the EPA to establish NAAQS set at a level to protect human health.<sup>14</sup> The 1970 Amendments then tasked states with attaining the standards<sup>15</sup> through the adoption of so-called “State Implementation Plans” (“SIPs”).<sup>16</sup> These plans are collections of control measures on sources of air pollution that would, in toto, attain the air quality standards.<sup>17</sup>

From the beginning the SIP process was a difficult one. It required states to inventory pollution sources, investigate potential control measures, and then decide upon a mix of control measures on various categories of sources that would attain the standards.<sup>18</sup> Over time, the process of adopting a SIP has become even more complex.<sup>19</sup>

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12. Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified as amended at 42 U.S.C. §§ 7401–7671q (2014)) [hereinafter 1970 CAA Amendments].

13. See, e.g., Rena I. Steinzor, *Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351, 357 (2000) (“All of the major federal environmental laws divide the authority to implement programs between the federal and state governments.”); David E. Adelman, *Environmental Federalism When Numbers Matter More Than Size*, 32 UCLA J. ENVTL. L. & POL’Y 238, 244 (2014) (“[The CAA] established the model for cooperative federal-state regulation found in the major national environmental laws.”). Numerous articles discuss environmental federalism. See, e.g., Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553 (2001); Jessica Bulman-Pozen & Heather K. Gerken, *Uncooperative Federalism*, 118 YALE L. J. 1256, 1276 (2009) (discussing cooperative federalism under the CAA); Adam Babich, *The Supremacy Clause, Cooperative Federalism, and the Full Federal Regulatory Purpose*, 64 ADMIN. L. REV. 1 (2012).

14. 42 U.S.C. § 7409(b).

15. 1970 CAA Amendments, 84 Stat. at 1680.

16. *Id.* at 1680–81.

17. See 40 C.F.R. pt. 51 (1987) (detailing criteria for the approval of a SIP).

18. See, e.g., *Train v. Nat. Res. Def. Council, Inc.*, 421 U.S. 60, 67 (1975) (“[A] State’s plan must include ‘emission limitations, schedules, and timetables for compliance with such limitations’; it must also contain such other measures as may be necessary to insure both timely attainment and subsequent maintenance of the national ambient air quality standards.”) (quoting the 1970 CAA Amendments § 110(a)(2)(B), 84 Stat. at 1680).

19. See generally Arnold W. Reitze, Jr., *Air Quality Protection Using State Implementation Plans—Thirty-Seven Years of Increasing Complexity*, 15 VILL. ENVTL. L.J. 209 (2004) (detailing the evolution of the SIP process).

## 2. State Plans Under Section 111

While most SIPs are submitted under section 110 of the CAA, section 111 of the Act<sup>20</sup> addresses regulation of certain new and existing sources of air pollution. This section, which applies to the Clean Power Plan, establishes provisions that in significant respects largely parallel those under section 110.

Section 111(b) requires EPA to establish by regulation “standards of performance”<sup>21</sup> for new stationary sources of air pollution.<sup>22</sup> In turn, section 111(d) mandates EPA to adopt standards of performance for any existing stationary source that would be subject to a standard under section 111(b) if it were a new source.<sup>23</sup> Just as under section 110, section 111 requires states to submit a plan to EPA that will achieve the emission guidelines established by EPA’s regulations.

Thus, Congress plainly intended that the process for submission of plans under section 111 would be similar to the process under section 110 of the Act. Both require states to adopt implementation plans to attain the standards set by EPA. And, as discussed below, both sections contain similar provisions in the event that states do not comply with the federal mandate.

### B. THE MANDATE FOR FEDERAL IMPLEMENTATION PLANS

#### 1. The Original Statutory Directives

Congress recognized that attainment of the air quality standards would be difficult to achieve and that states might prove recalcitrant in adopting the measures in a SIP needed to assure attainment. Accordingly, the CAA Amendments included a secondary “backup” procedure. If states submitted inadequate plans, EPA would then intervene and impose a federal implementation plan in that state.<sup>24</sup>

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20. Clean Air Act § 111, 42 U.S.C. § 7411 (2014).

21. A “standard of performance” is defined as:

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

*Id.* § 7411(a)(1).

22. *Id.* § 7411(b)(1). The sources must be part of a list of stationary sources that the Administrator has promulgated. *Id.* § 7411(b)(1)(A).

23. *Id.* § 7411(d). Notably, EPA does not establish standards of performance under section 111(d) for pollutants which it regulates under section 112 of the Act (hazardous air pollutants) or section 108 of the Act (criteria air pollutants). As a practical matter, these limitations mean that relatively few pollutants are regulated under section 111.

24. The relevant statute read at the time:

The Administrator shall, after consideration of any State hearing record, promptly prepare and publish proposed regulations setting forth an implementation plan, or portion thereof, for a State if—

After the 1970 Amendments, states no longer exclusively occupied the field of regulation of stationary sources of air pollution. Rather, if needed, the FIP would federalize air regulation in areas where it took effect. In the process of imposing a FIP, EPA would have to allocate emission reductions among various industries, thus potentially interfering in the operation of state economies.<sup>25</sup> Moreover, the Clean Air Act also empowered citizens to sue EPA to compel the agency to carry out a nondiscretionary duty to act.<sup>26</sup> Citizens have employed this authority on numerous occasions to obtain judicial orders requiring EPA to promulgate FIPs.<sup>27</sup>

While the FIP process has largely concerned state inaction in preparing plans under section 110 of the Act, the Clean Power Plan proceeds under section 111(d) of the Act.<sup>28</sup> EPA's CPP rules cite section 111(d) as the source of authority for regulating carbon emissions from power plants.<sup>29</sup> Like the SIP requirement of section 110, section 111(d) requires each state to submit a plan that "provides for the implementation and enforcement" of the standard of performance.<sup>30</sup>

If the state does not submit such a plan under section 111(d), then the EPA Administrator has "the same authority" to "prescribe a plan for a State . . . as he

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- (1) the State fails to submit an implementation plan for any national air quality primary or secondary standard within the time prescribed,
  - (2) the plan, or any portion thereof, submitted for such State is determined by the Administrator not to be in accordance with the requirements of this section, or
  - (3) the State fails, within 60 days after notification by the Administrator or such longer period as he may prescribe, to revise an implementation plan as required pursuant to a provision of its plan . . . .

1970 CAA Amendments, 84 Stat. at 1681–82.

25. J.B. RUHL ET AL., *THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW* 199 (2d ed. 2010) ("[N]o state wants to experience [a FIP] because the state would lose control over its desired mix of air pollution control strategies.").

26. 42 U.S.C. § 7604(a):

(a) Authority to bring civil action; jurisdiction

Except as provided in subsection (b) of this section, any person may commence a civil action on his own behalf—

. . . .

(2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator . . . .

*See also* Mountain States Legal Found. v. Costle, 630 F.2d 754, 766 (10th Cir. 1980) ("Congress thus restricted citizens' suits to actions seeking to enforce specific non-discretionary clear-cut requirements of the Clean Air Act.").

27. *See, e.g.*, Proposed Consent Decree, Clean Air Act Citizen Suit, 74 Fed. Reg. 64,076, 64,076 (Dec. 7, 2009) ("The proposed consent decree would settle the complaint filed by Plaintiff for EPA's alleged failure either to approve a State Implementation Plan ("SIP") or promulgate a Federal Implementation Plan ("FIP") for California, Colorado, Idaho, New Mexico, North Dakota, Oklahoma, and Oregon . . . .").

28. Clean Power Plan, 80 Fed. Reg. at 64,710; 42 U.S.C. § 7411(d)(1). *See also* Robert M. Sussman, *Power Plant Regulation Under the Clean Air Act: A Breakthrough Moment for U.S. Climate Policy?*, 32 VA. ENVTL. L.J. 97, 112–13 (2014).

29. Clean Power Plan, 80 Fed. Reg. at 64,710.

30. *Id.* at 64,758.



would have under section 7410(c).”<sup>31</sup> In other words, the Administrator can prepare a FIP under section 111(d) just as she would under section 110. Section 111(d) thus provides EPA with authority to promulgate FIPs for states that refuse to comply with the Clean Power Plan rules.

While the statutory language and legislative intent regarding FIPs were clear, equally apparent is that Congress never seriously thought about the content of such federal plans or their consequences when it passed the 1970 CAA Amendments.<sup>32</sup> Nor did Congress consider the resources that might be necessary to implement FIPs. And, while the Act required EPA to impose land use and transportation controls in a federal plan adopted under section 110, Congress did not grasp the ramifications of authorizing such a federal intrusion into an area traditionally viewed as the province of state and local governments. Instead, the point of a FIP apparently was to spur state action by threatening a federal regulatory takeover. That threat presumably would be sufficient to incentivize states to create adequate implementation plans and thereby avoid the promulgation of a FIP by EPA.

The FIP process under section 110 was soon tested. States refused to adopt implementation plans that would take the burdensome steps needed to attain the air quality standards by the initial 1975 deadline set by the 1970 Amendments.<sup>33</sup> Mandated by court orders, EPA then reluctantly proposed federal plans that immediately generated a firestorm of political opposition<sup>34</sup> and a barrage of litigation.<sup>35</sup> Ultimately, Congress amended the Clean Air Act in 1977 to extend the attainment deadlines, and EPA withdrew the federal plans.<sup>36</sup>

## 2. Confirmation of the Mandate

The 1977 CAA Amendments retained the FIP mandate but amplified the circumstances under which a FIP was required. Under those amendments, EPA

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31. 42 U.S.C. § 7411(d)(2).

32. For example, the Summary of the Provisions of Conference Agreement for the 1970 CAA Amendments merely stated: “The Administrator has six months to approve a submitted implementation plan or if no plan is submitted or the plan is inadequate, to substitute one a plan of his own.” 116 CONG. REC. 32,484–85 (1970). Similarly, the discussion of key provisions in the Senate bill just called for the Administrator “to either approve a State plan or decide to substitute his own authority in promulgating a plan . . .” *Id.*

33. 1970 CAA Amendments § 110(a)(2)(A), 84 Stat. at 1680.

34. *Clean Air Standards: Hearings Before the Subcomm. on Health and the Env't of the Comm. on Energy and Commerce*, 100th Cong. 27 (1987) (statement of Lee M. Thomas, Adm'r, EPA) (noting that EPA was “still trembling” from the public reaction to FIPs proposed for California).

35. *See, e.g.*, *Brown v. EPA*, 521 F.2d 827, 828 (9th Cir. 1975), *vacated*, 431 U.S. 99 (1977) (case resulted from numerous petitions for review of EPA regulations promulgating a transportation control plan for California); *Maryland v. EPA*, 530 F.2d 215 (4th Cir. 1975), *vacated sub nom. EPA v. Brown*, 431 U.S. 99 (1977) (challenging FIP for the Baltimore area); *Pennsylvania v. EPA*, 500 F.2d 246 (3d Cir. 1975) (challenging FIP transportation control plan for Pennsylvania); *S. Terminal Corp. v. EPA*, 504 F.2d 646, 646 (1st Cir. 1975) (challenging FIP transportation control plan for the Boston area).

36. *Revocation of Gasoline Rationing Regulations*, 41 Fed. Reg. 45,565 (Oct. 15, 1976) (to be codified at 40 C.F.R. pt. 52).



must impose a FIP under section 110 at any time within two years after the Administrator either (1) “finds that a State has failed to make a required submission” or the submission “does not satisfy the minimum criteria” established under the Act, or (2) “disapproves a State implementation plan submission in whole or in part.”<sup>37</sup> A state can avoid a FIP only if it submits a legally adequate SIP and EPA approves that plan before the Administrator promulgates the FIP.

Accordingly, under the 1977 Amendments, EPA’s disapproval of a state’s SIP submission is not a prerequisite to EPA’s imposing a FIP. Rather, EPA must impose a FIP whenever it learns that a SIP does not conform to the Act’s mandates.<sup>38</sup> The 1977 Amendments also clarified that EPA did not have to reject the entire SIP when it imposed a FIP. The Amendments defined a FIP as a measure to “correct all *or a portion* of an inadequacy in a State implementation plan.”<sup>39</sup> EPA viewed this definition as codifying a principle otherwise implicit in the 1970 Amendments.<sup>40</sup>

Finally, EPA has emphasized the breadth of its FIP authority. The agency has declared that it may exercise any authority it possesses under section 110(c) of the Act to “fill gaps left by a state failure” and “to cure a planning inadequacy in any way not clearly prohibited by statute.”<sup>41</sup> It also has declared that the agency

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37. Clean Air Act § 110(c)(1), 42 U.S.C. § 7410(c)(1). The provisions read in full:

(1) The Administrator shall promulgate a Federal implementation plan at any time within 2 years after the Administrator—

(A) 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 established under subsection (k)(1)(A) of this section, or

(B) 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.

38. EPA has recognized this obligation on numerous occasions. *See, e.g.*, Approval and Promulgation of Air Quality Implementation Plans; States of Michigan and Minnesota; Regional Haze, 78 Fed. Reg. 8478, 8484 (proposed Feb. 6, 2013) (to be codified at 40 C.F.R. pt. 52) (“EPA notes that the agency’s mandate to promulgate such a FIP applies without regard to whether EPA has disapproved a state submittal. While EPA has proposed to disapprove Michigan and Minnesota’s regional haze SIPs in this instance, publication of final disapproval of the states’ submittals is not a prerequisite for promulgating a FIP . . .”). EPA has, however, adopted the position that, if it disapproves state submissions that are intended to replace parts of a previously approved plan, then the disapproval does not trigger a FIP. *See, e.g.*, Approval and Promulgation of Implementation Plans; State of California; 2003 State Strategy and 2003 South Coast Plan for One-Hour Ozone and Nitrogen Dioxide, 74 Fed. Reg. 10,176 (Mar. 10, 2009) (to be codified at 40 C.F.R. pt. 52) (“The plan elements that are being disapproved are not required under the Clean Air Act because they represent revisions to previously-approved SIP elements, and thus, the disapprovals will not affect the requirements for the State to have an approved SIP for these SIP elements. Therefore, the disapprovals do not trigger . . . EPA’s obligation to promulgate a Federal implementation plan.”).

39. 42 U.S.C. § 7602(y) (emphasis added).

40. Federal Implementation Plans to Reduce the Regional Transport of Ozone, 63 Fed. Reg. 53,694, 56,398 (proposed Oct. 21, 1998) (to be codified at 40 C.F.R. pts. 40 and 98).

41. Approval and Promulgation of State and Federal Implementation Plans; California—Sacramento and Ventura Ozone; South Coast Ozone and Carbon Monoxide; Sacramento Ozone Area Reclassification, 59 Fed. Reg. 23264, 23290 (proposed May 5, 1994) (to be codified at 40 C.F.R. pts. 52 and 81199481) [hereafter

“may exercise its own, independent regulatory authority under the Clean Air Act in any way not clearly prohibited by an explicit provision of the Act.”<sup>42</sup>

### C. THE CLEAN POWER PLAN

In June 2014, EPA proposed regulations that would implement President Obama’s Clean Power Plan by limiting carbon emissions from power plants,<sup>43</sup> and in August 2015, the agency adopted final regulations.<sup>44</sup> Under section 111(d) of the Act, the “standards of performance” established by EPA must reflect the “best system of emissions reductions [“BSEER”] . . . adequately demonstrated” for a particular pollutant and a particular group of sources.<sup>45</sup> Here, the pollutant is carbon dioxide (“CO<sub>2</sub>”), and the sources are fossil fuel-fired electric generating units (“EGUs”).<sup>46</sup>

EPA determined the BSEER for the CPP by examining existing technologies and measures. The agency found that it could reduce carbon emissions from existing power plants by using three so-called “building blocks”: (1) increasing the operational efficiency of coal-fired power plants; (2) shifting electricity generation from higher emitting fossil fuel-fired power plants (usually coal-fired plants) to lower-emitting, natural gas-fired plants; and (3) increasing electricity generation from renewable sources of energy like wind and solar.<sup>47</sup> Here, EPA used the

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Sacramento and Ventura Ozone]. EPA has also stated that “the Courts have held that EPA may exercise all authority that the State may exercise under the Act,” *id.*, and that the agency “stands in the shoes of the defaulting State, and all of the rights and duties that would otherwise fall to the State accrue instead to EPA,” *id.* (quoting *Cent. Ariz. Water Conservation Dist. v. EPA*, 990 F.2d 1531, 1541 (9th Cir. 1993)). These statements, however, may well be overbroad given the limitations imposed by later cases construing the Tenth Amendment. See *infra* section I.D.1.

42. Federal Implementation Plans to Reduce the Regional Transport of Ozone, 63 Fed. Reg. at 56,398. At the same time, however, measures that are solely within state authority are not available to EPA when it promulgates a FIP. These include measures related to land use, as the 1977 CAA Amendments barred EPA from undertaking review of “indirect sources” of air pollution such as shopping malls. Pub. L. No. 95-95, § 108(e), 91 Stat. 685, 695–96 (1977) (codified at 42 U.S.C. § 7410(a)(5)(A)(ii) (1988)). See generally Philip E. Rothschild, Comment, *The Clean Air Act and Indirect Source Review: 1970–1991*, 10 UCLA J. ENVTL. L. & POL’Y 337 (1992).

43. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (proposed June 8, 2014) (to be codified at 40 C.F.R. pt. 60).

44. Clean Power Plan, 80 Fed. Reg. at 64,662. For a summary of previous EPA actions that led to these regulations, see Tomás Carbonell, *EPA’s Proposed Clean Power Plan: Protecting Climate and Public Health by Reducing Carbon Pollution from the U.S. Power Sector*, 33 YALE L. & POL’Y REV. 403, 405–08 (2014). See also PRESIDENTIAL MEMORANDUM, POWER SECTOR CARBON POLLUTION STANDARDS (June 25, 2013), <https://www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards>.

45. Clean Air Act § 111(a)(1), 42 U.S.C. § 7411(a)(1) (2014).

46. EPA established emission performance rates for two subcategories of affected EGUs: (1) fossil fuel-fired electric utility steam generating units, and (2) stationary combustion turbines. Clean Power Plan, 80 Fed. Reg. at 64,667.

47. *Id.* “These three building blocks are approaches that are available to all affected EGUs, either through direct investment or operational shifts or through emissions trading where states . . . incorporat[e] emissions trading.” *Id.*

BSER to establish CO<sub>2</sub> emission rates for two subcategories power plants.<sup>48</sup> EPA then turned these BSER rates into a “rate-based” CO<sub>2</sub> goal that applies to the individual power plans in each state.<sup>49</sup> At the same time, it set an alternative “mass-based” goal that established a statewide limit on emissions.<sup>50</sup>

Affected EGUs—individually, in the aggregate, or in combination with other measures implemented by the state—must achieve one of these goals.<sup>51</sup> The final Clean Power Plan regulations establish several ways for states to do so. Most importantly, they can do so by adopting emission standards that meet either the rate-based goal or the mass-based goal established for each individual state.<sup>52</sup> The mass-based goal is particularly attractive, since previous emissions trading programs have used mass-based goals.<sup>53</sup> To further assist states, EPA in a separate regulation proposed mass- and rate-based model rules that states could choose to adopt or modify, and then submit to EPA for approval.<sup>54</sup>

#### D. THE CONSTRAINTS ON FEDERAL ACTION

In implementing the Clean Power Plan, EPA faces the likely possibility that it will have to impose FIPs on recalcitrant states. But EPA must contend with significant constitutional and practical constraints in administering FIPs.

##### 1. The Expanded Tenth Amendment

EPA’s statutory authority to promulgate a FIP is not the end of the story, for the agency then must put that FIP into effect. For example, EPA must ensure that the permits for individual sources of air pollution regulated by the FIP incorporate the emission limitations in the FIP. EPA also must monitor emissions from sources subject to the FIP and, if necessary, take action to enforce the FIP. All of these actions are in lieu of regulation by a state’s environmental agency, which

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48. EPA established an emission performance rate of 1,305 lb CO<sub>2</sub>/MWh for fossil fuel-fired steam generating units, and 771 lb CO<sub>2</sub>/MWh for stationary combustion turbines. *Id.*

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.* at 64,668. See ENVTL. PROT. AGENCY, FACT SHEET: CLEAN POWER PLAN AND THE ROLE OF STATES 2 (2015), <https://www.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-and-role-states> (“One cost-effective way that states can meet their goals is emissions trading, through which affected power plants may meet their emission standards via emission rate credits (for a rate-based standard) or allowances (for a mass-based standard).”).

53. Robert B. McKinstry, Jr. & Ronald M. Varnum, *State Implementation of the Clean Power Plan: Why it Matters to Industries Outside the Power Sector*, 45 ENVTL. L. REP. NEWS & ANALYSIS 11008, 11010 (2015) (“No trading program established to date has involved rate averaging over a universe of regulated and unregulated stationary sources. Moreover, the CPP makes it clear that trading may not occur between states employing mass-based trading programs and those employing rate-based programs, so that adoption of a rate-based trading approach would preclude trading [between the existing GHG trading programs in California and the Northeast].”).

54. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,966.

nonetheless will continue to regulate sources that are not subject to the FIP. Further, EPA personnel might be relatively unfamiliar with the sources that the FIP has now committed them to regulating, requiring EPA to allocate significant personnel resources to the task of FIP implementation.

EPA's burden would considerably lighten, of course, if it could rely upon the state regulatory agencies to implement FIPs. In early FIPs, EPA generally assumed that state agencies would implement the FIP's regulatory system. As EPA's attitude towards FIPs evolved in later years, however, its ability to rely on state agencies for implementation became highly questionable as the constraints imposed on the agency by the Tenth Amendment to the United States Constitution substantially expanded.

The Tenth Amendment declares that "[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."<sup>55</sup> When EPA under judicial compulsion began drafting FIPs in 1974 that included transportation plans and land use controls, states challenged EPA's action as violating the Tenth Amendment. In response, some courts found that EPA's FIPs so interfered with state sovereignty as to violate the Tenth Amendment, while others interpreted the Act to avoid the constitutional problem.<sup>56</sup> The 1977 Amendments to the Act mooted the issue for the moment, but the seriousness of the Tenth Amendment issue was evident.<sup>57</sup>

Thereafter, a series of U.S. Supreme Court decisions expanded the reach of the Tenth Amendment and sharply curtailed EPA's ability to enlist states in the implementation of a FIP. The first was *New York v. United States*,<sup>58</sup> which found that the federal Low-Level Radioactive Waste Policy Act violated the Tenth Amendment by requiring a state to either "take title" to radioactive waste under certain circumstances or to regulate as Congress specified. The Court notably

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55. U.S. CONST. amend. X.

56. *Brown v. EPA*, 521 F.2d 827, 834 (9th Cir. 1975) *vacated* 431 U.S. 99 (1977) ("A diligent search of the sections of the Clean Air Act fails to reveal a single instance in which Congress explicitly has vested in the Administrator power to compel the states to administer and enforce regulations promulgated by him designed to govern polluters, potential or actual, other than the state, municipality, or political subdivision of the state . . ."); *Maryland v. EPA*, 530 F.2d 215, 228 (4th Cir. 1975), *vacated sub. nom.*, *EPA v. Brown*, 431 U.S. 99 (1977) ("But in the promulgation of its own plan, the EPA may not, under the statute, direct Maryland to act in the manner and form prescribed under these regulations. This would be construing the statute to have a breadth Congress never intended. Inviting Maryland to administer the regulations, and compelling her to do so under threat of injunctive and criminal sanctions, are two entirely different propositions . . .").

57. *Pennsylvania v. EPA*, 500 F.2d 246, 263 (3d Cir. 1974):

We therefore conclude that the application of the federal enforcement procedures to the Commonwealth for noncompliance with the regulations contained in the Pennsylvania Transportation Control Plan is a valid exercise of the federal commerce power. We recognize that there may remain a legitimate concern for possible intrusions upon the proper functioning of our federalist system as a result of future developments in the implementation of the Clean Air Act, and this court will remain ready to protect that concern in any appropriate case.

*Id.*

58. *New York v. United States*, 505 U.S. 144 (1992).

warned that “Congress may not simply “commande[e]r the legislative processes of the States by directly compelling them to enact and enforce a federal regulatory program.”<sup>59</sup>

Later decisions strengthened the Tenth Amendment’s limitations on federal action. The key decision was *Printz v. United States*,<sup>60</sup> in which the Court found that provisions of the Brady Handgun Violence Prevention Act violated the Tenth Amendment by enlisting local sheriffs in its enforcement. The enlistment was minimal; the Act merely required local officers to conduct background checks on handgun applicants and to accept applicants’ statements from firearm dealers. Nonetheless, the Court found that these requirements violated the Tenth Amendment. The five-justice majority proclaimed a broad principle: “[T]he Federal Government may not compel the States to implement, by legislation or executive action, federal regulatory programs.”<sup>61</sup>

These cases have important implications for FIPs adopted by EPA. Unquestionably, EPA can impose emission limits on sources through a FIP. But the Tenth Amendment’s “anti-commandeering” principle renders it very unlikely that EPA could demand that states take any significant action to implement these measures. The *Printz* decision calls into question even minor reliance by EPA on the state regulatory system to administer a FIP.<sup>62</sup>

The Tenth Amendment, however, is not nearly the only obstacle to implementing a FIP. State efforts to oppose the Clean Power Plan can extend even further in other directions.

## 2. The Rise of Uncooperative Federalism

Courts and scholars often label the Clean Air Act as a model of “cooperative federalism,”<sup>63</sup> a somewhat elastic term that encompasses several different pre-

59. *Id.* at 161 (citing *Hodel v. Va. Surface Mining & Reclamation Ass’n*, 452 U.S. 264, 288 (1981)).

60. 521 U.S. 898 (1996).

61. *Id.* at 925. At the same time, the Court began limiting Congress’s ability to condition funding to states on their compliance with federal law. This issue came to a head in *National Federation of Independent Business v. Sebelius*, 132 S. Ct. 2566, 2607–08 (2012), a challenge to the constitutionality of the Patient Protection and Affordable Care Act (commonly known as “Obamacare”). The Act’s provisions withdrew all Medicaid funding from states that chose not to participate. The Court found that this measure violated the Spending Clause of the U.S. Constitution by not giving the states a real choice about whether to participate; instead, the Act amounted to “economic dragooning that leaves the States with no real option but to acquiesce . . .” *Id.* at 2605. Some now argue that the Clean Air Act violates the Spending Clause by unconstitutionally coercing states into compliance by threatening a loss of federal highway funding. *See, e.g., Eric Turner, Protecting from Endless Harm: A Roadmap for Coercion Challenges after N.F.I.B. v. Sebelius*, 89 CHI.-KENT L. REV. 503, 529–32 (2014).

62. Virginia challenged the constitutionality of EPA actions disapproving part of its SIP. *Virginia v. United States*, 74 F.3d 517 (4th Cir. 1996) (affirming dismissal of case on the grounds that exclusive jurisdiction for such challenges lay in the court of appeals under section 307 of the Act).

63. *See, e.g., GenOn REMAR, LLC v. EPA*, 722 F.3d 513, 516 (3d Cir. 2013) (“This ‘cooperative federalism’ structure is a defining feature of the statute.”); *Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012) (terming the Clean Air Act an “experiment in cooperative federalism”) (citing *Michigan v. EPA*, 268 F.3d 1075, 1083 (D.C. Cir. 2001)).

cepts. At its core, cooperative federalism involves state implementation of federally established standards.<sup>64</sup> States often possess significant discretion in how they go about that implementation effort,<sup>65</sup> and the federal law involved may contain incentives for states to undertake implementation.<sup>66</sup> Furthermore, in some instances the federal law establishes minimum regulatory standards, and states can adopt more stringent standards if they wish.<sup>67</sup> However, there is an important limitation on state discretion. If states decline to implement those standards, then the federal government will step in and implement them.<sup>68</sup>

Critics of environmental federalism have pointed out that the “cooperation” in cooperative federalism is often decidedly one-sided.<sup>69</sup> The Clean Air Act—often cited as a prime example of cooperative federalism<sup>70</sup>—significantly constrains state discretion. For example, the Act preempts states from regulating certain sources of air pollution. EPA sets “new source performance standards” for new stationary sources of air pollution<sup>71</sup> and regulates automobile emissions from new automobiles.<sup>72</sup> The Act largely relegates states to regulating existing sources of air pollution.<sup>73</sup>

In recent years, however, academics have observed that states subject to “cooperative federalism” laws do not face the binary choice of either cooperating with the federal government or having the federal government take over implementation of the program in question. Instead, states playing the role of federal servant in such regulatory schemes can actively oppose or resist implementation

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64. See, e.g., Robert L. Fischman, *Cooperative Federalism and Natural Resources Law*, 14 N.Y.U. ENVTL. L.J. 179, 190 (2005) (“The narrow conception [of cooperative federalism] focuses on programs in which the federal government establishes minimum standards that states may opt to implement through programs that are no less stringent.”); *New York v. United States*, 505 U.S. 144, 167 (1992) (defining cooperative federal laws as ones that “offer States the choice of regulating [certain] activity according to federal standards or having state law pre-empted by federal regulation”).

65. Evan H. Caminker, *State Sovereignty and Subordinacy: May Congress Commandeer State Officers to Implement Federal Law?*, 95 COLUM. L. REV. 1001, 1002–03 (1995) (“In some situations Congress can even use state intermediaries as a means of preserving a significant role for state discretion in achieving specified federal goals, where the alternative is complete federal preemption of any state regulatory role.”).

66. Fischman, *supra* note 64, at 189 (“A carrot-and-stick approach to inducements is fundamental to cooperative federalism under any conception. The federal government may offer significant incentives for implementation, such as funding for state environmental agencies or opportunities for local officials to tailor requirements . . .”).

67. *Id.* at 191 (a component of cooperative federalism “is the federal stringency floor by which states may tailor pollution control programs to be stricter, but not more lax, than the federal standards . . .”).

68. See *Hodel v. Va. Surface Mining & Reclamation Ass’n.*, 452 U.S. 264, 288 (1981) (“If a State does not wish to submit a proposed permanent program that complies with the Act and implementing regulations, the full regulatory burden will be borne by the Federal Government . . .”).

69. ZIMMERMAN, *supra* note 8, at 9.

70. See, e.g., Dwyer, *supra* note 11, at 1193–99 (lengthy discussion of cooperative federalism under the CAA).

71. Clean Air Act § 111(a)(1), 42 U.S.C. § 7411(a)(1) (2014); see 40 C.F.R. pt. 60.

72. 42 U.S.C. § 7521; see 40 C.F.R. pt. 85.

73. Adelman, *supra* note 13, at 244 (suggesting that states face significant “political and administrative barriers” in regulating small stationary sources).



of federal policy. A leading article termed this response “uncooperative federalism.”<sup>74</sup>

State resistance can take a variety of forms, ranging from “restrained disagreement to fighting words.”<sup>75</sup> The arenas for state resistance can also vary, encompassing political or administrative resistance, or judicial challenge to federal action.<sup>76</sup> An important factor supporting state resistance is that, while cooperative federalism schemes promise a federal takeover of the program if states decline to act, in many instances the federal government simply has neither the resources nor the knowledge to carry out that threat.<sup>77</sup> If the federal government has come to depend on states to implement federal law, states possess a heightened ability to resist that implementation through uncooperative federalism by calling the federal government’s “bluff” about a federal takeover.<sup>78</sup>

Uncooperative federalism has increased over time in the implementation of the Clean Air Act. The political consensus supporting the actions required by the Act has substantially weakened, and attacks on EPA’s oversight role under the CAA have proliferated.<sup>79</sup> At the same time, EPA has now employed the Act as the principal tool in its response to global warming. It found that carbon emissions present an endangerment to public health under the Act<sup>80</sup> and adopted the Clean Power Plan to curb those emissions.<sup>81</sup>

The CPP has provoked the strongest form of uncooperative federalism: active resistance by a significant number of states. Those states publicly declared that they will not comply with mandates under the Act and have sued to overturn EPA

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74. See Bulman-Pozen & Gerken, *supra* note 13, at 1258–59 (“Uncooperative federalism occurs when states . . . implementing federal environmental law use that power to push federal authorities to take a new position . . . .”); see, e.g., Ernest A. Young, *A Research Agenda for Uncooperative Federalists*, 48 TULSA L. REV. 427, 428 (2013) (“Although state officials in such a role [implementing federal regulatory and benefit schemes] are nominally subservient to federal authority, they nonetheless retain considerable power to block or slow down the implementation of federal policy . . . .”).

75. Bulman-Pozen & Gerken, *supra* note 13, at 1271.

76. See Barak Y. Orbach et al., *Arming States’ Rights: Federalism, Private Lawmakers, and the Battering Ram Strategy*, 52 ARIZ. L. REV. 1161, 1168 (2010) (“States and localities, moving in coalition or unilaterally, may attack federal laws by enacting state declaratory laws or laws that directly conflict with and challenge unpopular federal laws. They also may litigate unpopular federal regulatory choices.”).

77. Ronald J. Krotoszynski, Jr., *Cooperative Federalism, the New Formalism, and the Separation of Powers Revisited*, 61 DUKE L.J. 1599, 1654 (2012) (“Indeed, the empirical reality is that federal agencies almost never suspend state primacy, once it is established . . . .”).

78. *Id.* See also Bulman-Pozen & Gerken, *supra* note 13, at 1267 (“While the federal government may threaten to administer a program itself if the state does not cede to its demands, its capacity to do so is often limited, and the state may call Congress’s bluff.”).

79. See, e.g., Christopher D. Ahlers, *Presidential Authority over EPA Rulemaking under the Clean Air Act*, 44 ENVTL. L. 31 (2014) (discussing controversies within the Executive Branch over EPA actions promulgating national ambient air quality standards).

80. Endangerment and Cause or Contribute Findings Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009) (to be codified at 40 C.F.R. ch. I).

81. Clean Power Plan, 80 Fed. Reg. at 64,663.



regulations implementing the CPP on both statutory and constitutional grounds.<sup>82</sup> As mentioned above, politicians have stoked the resistance with calls for states to “just say no” to the Clean Power Plan. Indeed, the partisan political nature of the opposition to the CPP is evident and, under uncooperative federalism, is especially likely where one political party controls states that must comply with the federal plans promulgated by the opposition party.<sup>83</sup> States can “channel[] partisan conflict through federalism’s institutional framework.”<sup>84</sup>

States’ opposition to the Clean Power Plan presents a significant challenge for EPA. As noted above, the assumption has generally been that, in the end, federal agencies will have great difficulty taking over state programs, and commentators have stressed the need for cooperation between EPA and the states in combatting global warming.<sup>85</sup> Here, with respect to the CPP, that cooperation has not been forthcoming from many states; accordingly, much will depend on EPA’s ability to implement the plan through FIPs. One important question is whether EPA could design the FIPs in a way that might, at least in some respects, overcome some aspects of the state opposition.

### 3. The Aging of the Clean Air Act

A final factor has affected the development of federal implementation plans over the last forty years. It might be termed the aging of the Clean Air Act. As the Act has been implemented, significant changes have occurred in both the nature of the air pollution problem that the Act addresses and the efforts needed to attain the national ambient air quality standards.

The 1970 Amendments initially mandated states to attain the NAAQS by 1975, which in hindsight was an impossible task. Since then, Congress has twice amended the law to extend the attainment dates. While these extensions may have reduced the pressure on states to attain the standards, the interim period has brought a much-enhanced understanding of the nature and extent of air pollution.

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82. Joby Warrick, *States Sue to Block EPA’s Pollution Rule*, WASH. POST, Oct. 24, 2015, at A02 (“More than two dozen states filed lawsuits Friday seeking to block the Obama administration’s signature climate-change regulation in a wave of opposition.”).

83. Jessica Bulman-Pozen, *Partisan Federalism*, 127 HARV. L. REV. 1077, 1081 (2014) (arguing that party politics drives states to contest federal government programs); see also Young, *supra* note 74, at 429 (“Groups that are in the minority nationally may nonetheless constitute a majority in a particular state, so that federalism’s reservation of important governmental prerogatives to states offers those minorities an opportunity to implement their dissenting vision.”).

84. Bulman-Pozen, *supra* note 83, at 1081.

85. See, e.g., Hari M. Osofsky, *Diagonal Federalism and Climate Change: Implications for the Obama Administration*, 62 ALA. L. REV. 237, 285 (2011) (“Cooperative federalism’s greatest advantage as a basis for climate change regulation is its ability to create coordinated multiscalar action in which each actor provides its unique contribution.”); Alice Kaswan, *A Cooperative Federalism Proposal for Climate Change Legislation: The Value of State Autonomy in a Federal System*, 85 DENV. U. L. REV. 791, 792 (2008) (presenting “theoretical and practical justifications for a cooperative federalist approach that strives to avoid the weaknesses and build on the strengths of each level of government.”).

This period has also afforded time for the development of new control technologies, and both EPA and state air pollution agencies have become much more sophisticated in carrying out the CAA. Furthermore, the regulation of emissions from automobiles over the last forty years has become a major success story. New automobiles emit a fraction of the pollution that they did in 1970,<sup>86</sup> and this reduction has improved air quality even as the number of vehicles on the road has greatly increased.<sup>87</sup> As a result of these developments, the gap has shrunk between existing air quality and the air quality needed to attain the standards. Attainment, while difficult, no longer seems impossible.

Another change in the Act's implementation has been a renewed emphasis on addressing interstate pollution. This change began with the effort under the Clean Air Act to control acid rain,<sup>88</sup> which largely concerned pollution from power plants that crossed state lines and damaged forests.<sup>89</sup> Later, EPA began grappling with regional haze, a problem caused by transported pollution that threatened vistas at national parks in the west,<sup>90</sup> and then with cross-state transport of air pollutants in the East.

This heightened focus on interstate pollution had two important effects. First, EPA successfully implemented a so-called "marketable trading system" to address the acid rain problem.<sup>91</sup> This system promised greater flexibility for sources attempting to meet air quality standards. It also minimized costs, as sources could either control pollution or trade for pollution credits.<sup>92</sup>

Second, the trading system streamlined implementation. Enforcement now focused on accounting for emissions rights at the end of regulatory periods rather than on assessing the economic and technological feasibility of control methods.<sup>93</sup> The Act did allow so-called "technology forcing," which empowers states

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86. *Progress Cleaning the Air and Improving People's Health*, ENVTL. PROT. AGENCY, <http://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health> (last updated Sept. 6, 2016) ("Compared to 1970 vehicle models, new cars, SUVs and pickup trucks are roughly 99 percent cleaner for common pollutants (hydrocarbons, carbon monoxide, nitrogen oxides and particle emissions).").

87. See generally Arnold W. Reitze, Jr., *Mobile Source Air Pollution Control*, 6 ENVTL. LAW 309 (2000).

88. 42 U.S.C. §§ 7651–7651o.

89. See, e.g., Lesley K. McAllister, *The Overallocation Problem in Cap-and-Trade: Moving Toward Stringency*, 34 COLUM. J. ENVTL. L. 395, 399 (2009) (summarizing the U.S. Acid Rain Program).

90. In January 2009, EPA found that 37 states had failed to submit SIPs addressing regional haze by the deadline set in the CAA. Finding of Failure to Submit State Implementation Plans Required by the 1999 Regional Haze Rule, 74 Fed. Reg. 2392, 2393 (Jan. 15, 2009) (to be codified at 40 C.F.R. pt. 52). See John Copeland Nagle, *The Scenic Protections of the Clean Air Act*, 87 N.D. L. REV. 571 (2011).

91. *Overview of the Acid Rain Program*, ENVTL. PROT. AGENCY, <http://www.epa.gov/airmarkets/acid-rain-program> (last updated June 16, 2016) (discussing the program).

92. See, e.g., Ann E. Carlson, *Designing Effective Climate Policy: Cap-and-Trade Complementary Policies*, 49 HARV. J. ON LEGIS. 207, 218–19 (2012) (describing the Acid Rain Program as "[b]y far the most successful and lauded domestic market-based program to date").

93. See, e.g., D. Bruce La Pierre, *Technology-Forcing and Federal Environmental Protection Statutes*, 62 IOWA L. REV. 771, 805–831 (1977); David Schoenbrod, *Goals Statutes or Rules Statutes: The Case of the Clean Air Act*, 30 UCLA L. REV. 740, 766 (1983) ("The Act's failure to deal with the allocation of duties undercut the

to force regulated sources to develop technology that presently does not exist.<sup>94</sup> However, both EPA and the states were concerned that the economic cost of technology forcing might cause sources to shut down. As a result, both EPA and the states tended to focus on presently available technology in setting regulatory limits. This approach changed markedly with the advent of market-based regulation through cap and trade. Now, the available technology merely establishes the level at which emission rights are initially allocated.

In summary, EPA's development of its FIP authority occurred against a backdrop of important legal and regulatory changes affecting air quality regulation. With that background in mind, the discussion now turns to EPA's experience with FIPs since the CAA Amendments of 1970. That experience will inform EPA's use of its FIP power to implement the Clean Power Plan.

## II. THE EVOLUTION OF FEDERAL IMPLEMENTATION PLANS

EPA's development of federal implementation plans proceeded through a series of phases in which the agency's attitude towards FIPs evolved substantially. The phases were not chronologically distinct, as the use of FIPs for different purposes sometimes overlapped. Still, examining the FIPs in a discrete typology illuminates the factors underlying the evolution of FIPs.

### A. EVASION FIPS

#### 1. Forced Plans

The 1970 CAA Amendments required attainment of the NAAQS over an impossibly short time period.<sup>95</sup> States with highly polluted areas realized that the standards could be attained only through massive intervention into the state economy and drastic limits on automobile use. Rather than face those decisions, states chose to submit legally insufficient SIPs to EPA. EPA was well aware of both the substantial obstacles to reaching attainment and the political fallout that would accompany draconian FIPs. As a result, EPA did not respond to the inadequate SIPs by preparing FIPs as the Act required.

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pivotal concept of 'technology forcing,' which depends on the imposition of tough emission limits to prod development of better ways to control pollution.").

94. See *Union Elec. Co. v. EPA*, 427 U.S. 246, 257 (1976). The Court held that claims of economic and technological infeasibility were "to be wholly foreign to the Administrator's consideration of a state implementation plan." *Id.* at 256. Such claims were proper before the state when it was formulating the state implementation plan. *Id.* at 266.

95. See Carolyn McNiven, *Using Severability Clauses to Solve the Attainment Deadline Dilemma in Environmental Statutes*, 80 CAL. L. REV. 1255, 1266-67 (1992) (discussing the attainment deadlines of the 1970 CAA Amendments).

Environmentalists reacted to EPA's avoidance in a manner that quickly developed into a recurring pattern. They sued under section 304 of the Act<sup>96</sup> claiming that EPA's refusal to promulgate a FIP constituted a failure to perform a non-discretionary duty required by the Act. In response, courts ordered the preparation of FIPs for Southern California and several other highly polluted urban areas.<sup>97</sup> These constituted the first wave of FIPs prepared under the Act. These initial FIPs shared a common feature: they required regulatory actions that would deeply intrude into state economies by, among other requirements, restricting traffic and limiting gasoline use.

The FIP for Southern California, promulgated in response to a court order, exemplifies this first generation of so-called "forced" FIPs. In May 1972, the EPA Administrator disapproved the California SIP for failing to demonstrate attainment.<sup>98</sup> After EPA thereafter failed to promulgate a FIP within six months, environmentalists secured a court order mandating EPA action.<sup>99</sup>

EPA responded by proposing a FIP that was plainly unrealistic and politically infeasible.<sup>100</sup> In Southern California, EPA's FIP included traffic-control measures that would have required a reduction of over 80 percent in miles traveled by motor vehicles.<sup>101</sup> EPA then revised the proposal into several options. One would have imposed 100% gas rationing, while another would have limited gasoline consumption to 1972–1973 levels and introduced additional transportation-control measures.<sup>102</sup> Yet a third proposal commandeered freeway lanes and surface streets exclusively for use by buses and carpools, and also surcharged parking spaces.

EPA simultaneously proclaimed the agency's opposition to its own plan. The EPA Administrator, William Ruckelshaus, stressed that the agency had been

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96. Clean Air Act § 304(a)(2), 42 U.S.C. § 7604(a)(2) (2014); see Roger A. Greenbaum & Anne S. Peterson, *The Clean Air Act Amendments of 1990: Citizen Suits and How They Work*, 2 FORDHAM ENVTL. L. REP. 79 (1991).

97. *City of Riverside v. Ruckelshaus*, 4 E.R.C. 1728 (C.D. Cal. 1972); see also *Texas v. EPA*, 499 F.2d 289 (5th Cir. 1974) (ordering Texas FIP); *S. Terminal Corp. v. EPA*, 504 F.2d 646 (1st Cir. 1974) (ordering Boston FIP).

98. Approval and Promulgation of Implementation Plans; California—South Coast Air Basin; Ozone and Carbon Monoxide Plans, 53 Fed. Reg. 49,497 (Dec. 7, 1988) (to be codified at 40 C.F.R. pt. 52) [hereinafter South Coast 1988 ANPRM] ("California submitted its SIP for ozone and CO to EPA in February 1972. In May of the same year, EPA Administrator William Ruckelshaus disapproved the plan because it failed to show attainment by the deadline stated in the Act 1975.").

99. *City of Riverside v. Ruckelshaus*, 4 E.R.C. 1728 (C.D. Cal. 1972). Interestingly, one of the plaintiffs was a city located east of Los Angeles and subject to smog blown from Los Angeles by the prevailing winds.

100. As EPA later stated in reviewing the history of the FIPs, "all but one of [the FIPs] contained extreme provisions . . ." Approval and Promulgation of Implementation Plans; California (South Coast Air Basin); Plans for Ozone and Carbon Monoxide, 55 Fed. Reg. 36,458, 36,465 (Sept. 5, 1990) (to be codified at 40 C.F.R. pts. 51 and 52) [hereinafter South Coast 1990 NPRM].

101. California Air Quality Standards—Approval and Promulgation of Implementation Plans, 38 Fed. Reg. 2,194, 2,195 (Jan. 22, 1973) (to be codified at 40 C.F.R. pt. 52); see also South Coast 1988 ANPRM, 53 Fed. Reg. at 49,498 (discussing the earlier plan).

102. South Coast 1988 ANPRM, 53 Fed. Reg. at 49,498.

forced to create the FIPs under legal duress.<sup>103</sup> He had to promulgate the plan because a court would hold him in contempt if he did not. As Ruckelshaus famously put it, “[f]aced with the choice between my freedom and your mobility, my freedom wins.”<sup>104</sup> Public hearings held by EPA on its proposed FIP focused public opposition on it, and that opposition was fierce.<sup>105</sup>

EPA’s adoption of the plans also sparked a barrage of litigation. EPA’s authority to impose gas rationing was upheld,<sup>106</sup> but Tenth Amendment objections to the plans reached the Supreme Court. These appeals, however, were ultimately dismissed as moot after EPA withdrew the plans and it became clear that Congress would amend the CAA. In withdrawing the FIPs, EPA cited the “seriously disruptive social and economic consequences of such regulations.”<sup>107</sup>

These forced FIPs played a critical role in the initial development of EPA’s FIP power. First, EPA became aware of both the knowledge of local conditions and the administrative resources that were needed to prepare and implement a large-scale FIP.<sup>108</sup> The agency concluded that it was ill-equipped for this undertaking and should avoid FIPs if at all possible in the future. Congress confirmed the agency’s conclusion in the Committee Report that led to the 1977 CAA Amendments: “The Federal Government does not have and will not have the resources to do an effective job of running the air pollution control programs of the State.”<sup>109</sup> These deficiencies in knowledge and resources were real,<sup>110</sup> and

103. In commenting on the final plan, the Administrator stated: “The EPA does not believe that massive gasoline rationing is either socially acceptable or enforceable, and will work toward alleviating the necessity for such drastic control in 1977.” California Transportation Control Plan, 38 Fed. Reg. 31,232, 31,237 (Nov. 12, 1973) (to be codified at 40 C.F.R. pt. 52).

104. R. SHEP MELNICK, *REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT* 321–22 (1983).

105. ROBERT V. PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE, POLICY* 511 (5th ed. 2006) (citing EPA’s “disastrous early experiences with FIPs” and noting that “State and public reaction to these plans was intensely hostile”).

106. *City of Santa Rosa v. EPA*, 534 F.2d 150, 153 (9th Cir. 1976), *vacated sub nom.* Pac. Legal Found. v. EPA, 429 U.S. 990 (1976).

107. *Revocation of Gasoline Rationing Regulations*, 41 Fed. Reg. 45,565 (Oct. 15, 1976) (to be codified at 40 C.F.R. pt. 52).

108. Howard A. Latin, *Climate Change Mitigation and Decarbonization*, 25 VILL. ENVTL. L.J. 1, 62 (2014) (explaining FIPs have “been a very rare occurrence for political, technical, and budgetary reasons”); Ashira Perlman Ostrow, *Land Law Federalism*, 62 EMORY L.J. 1397, 1407 (2012) (“Though states that refused or were unable to comply with this directive [to include land use and transportation controls] risked having their state plans preempted by a federal implementation plan (FIP), both the states and the EPA recognized that the threat was largely illusory. The EPA lacked the administrative resources and localized knowledge necessary to directly implement this program.”); see Anuradha Sivaram, *Why Citizen Suits Against States Would Ensure the Legitimacy of Cooperative Federalism Under the Clean Air Act*, 40 ECOLOGY L.Q. 443, 470–71 (2013) (“It is well-known that the EPA does not have sufficient resources to effectively implement air quality control measures in a state; since the 1970s, even legislators and officials have acknowledged that the federal government probably will never have the resources to unilaterally implement pollution control laws.”).

109. S. REP. NO. 95-127, at 10 (1977).

110. Reitze, Jr., *supra* note 11, at 11002 (even after the 1990 CAA Amendments, “EPA usually tries to avoid exercising this authority because the Agency has neither the money nor the staff to adequately develop an FIP for a major AQCR [Air Quality Control Region], and it is not experienced in dealing with local conditions.”).

FIPs would not play a major role in air quality regulation until the deficiencies were overcome or otherwise avoided.

Furthermore, the political shock to EPA from the reaction to the FIPs was substantial. Even though the Clean Air Act required the agency to adopt the FIPs, the public and politicians still blamed EPA for it. And Congress reinforced the political lesson in the 1977 CAA Amendments by repealing two parts of EPA's FIP authority: the use of transportation-control measures and indirect source-control measures.<sup>111</sup> The political backlash against these forced FIPs would color EPA's attitude toward FIPs for years to come.

In the aftermath of this debacle, states now understood that, while the Clean Air Act might require EPA to adopt FIPs, the agency desperately wished to avoid them. Thus, the actual "threat" of a FIP greatly diminished for a state that did not fulfill its statutory obligations under the Clean Air Act.<sup>112</sup> Further, to the extent that a state might risk being stigmatized as "anti-environmental" by failing to adopt a plan that would attain the air quality standards,<sup>113</sup> the potential economic and social disruption from the forced FIPs outweighed that risk.

Finally, in response to these forced FIPs, in 1977 Congress amended the Clean Air Act to extend the deadlines by which states must attain the NAAQS. By doing so, Congress ensured that the FIP issue would not arise again for a considerable time.<sup>114</sup> In short, the FIP process seemed dead, and the academic literature thereafter concluded that FIPs did not provide a useful tool in the battle for clean air.<sup>115</sup>

## 2. Resistance Plans

By 1989, EPA had fully institutionalized a culture of resisting large-scale FIPs. The issue arose again after a federal appeals court rejected EPA's approval of a California SIP because EPA could not find that the plan would attain the NAAQS.<sup>116</sup> In the aftermath of EPA's disapproval of the Southern California SIP,

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111. Clean Air Act § 110(c), 42 U.S.C. § 7410(c) (2014); see Christopher H. Schroeder, *Regulating Automobile Pollution: An Environmental Success Story for Democracy?*, 20 ST. LOUIS U. PUB. L. REV. 21, 41 (2001) ("EPA proposed a federal implementation plan (FIP) that utilized drastic gasoline rationing measures among its strategies . . . . The move proved so unpopular that Congress shortly stripped EPA of the authority to include TCMs [transportation control measures] as part of a FIP.").

112. See Thomas O. McGarity, *Missing Milestones: a Critical Look at the Clean Air Act's VOC Emissions Reduction Program in Nonattainment Areas*, 18 VA. ENVTL. L.J. 41, 49 (1999) ("[State officials] correctly surmised that the probability the EPA would write its own FIP for the states was vanishingly small.").

113. Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons from the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 289 (1999) ("The mere existence of the FIP card provides a strong incentive for states to avoid both the stigma and the intrusiveness of federal intervention.").

114. See McNiven, *supra* note 95, at 1266–67 (discussing deadline extensions in the 1977 CAA Amendments).

115. Daniels, *supra* note 11, at 1529–33 (describing a FIP as having become "politically taboo"); Reitze, Jr., *supra* note 11, at 11002 ("FIPs have not played a major role in protecting air quality.").

116. *Abramowitz v. EPA*, 832 F.2d 1071 (9th Cir. 1987).



citizens once again filed suit seeking the implementation of a FIP.<sup>117</sup> Suits were also filed in Arizona.<sup>118</sup>

EPA responded with a strategy of resisting the FIP process by criticizing it. EPA was remarkably candid in expressing its objections to FIPs at this point. EPA warned that a FIP seeking short-term attainment of the air quality standards “would wreak a level of economic and social disruption that is likely beyond anything Congress would have imagined would be imposed without some mitigation.”<sup>119</sup> Such a plan would “effectively prevent from operating within the Basin, in the fifth year, almost all reactive hydrocarbon-based fuel-powered vehicles; eliminate almost all aircraft and marine vessels from the Basin; [and] prohibit almost every industrial source from emitting any [volatile organic compounds] . . . .”<sup>120</sup>

EPA also complained about its difficulties in implementing FIPs “that require the compliance of thousands of sources or millions of residents.”<sup>121</sup> The FIP would generate “state and local opposition” rather than “enlist the level of support that is a prerequisite to successful implementation.”<sup>122</sup> Finally, EPA cited its “limited expertise in the specific approaches that would be used to control emissions in the Basin.”<sup>123</sup>

Two years later, when EPA proposed to promulgate a FIP for the South Coast Air Basin in Southern California,<sup>124</sup> EPA continued its vehement protests.<sup>125</sup> For example, it labeled the Clean Air Act “ill-designed to deal with the situation that besets the South Coast”<sup>126</sup> and termed the FIP “anachronistic” in light of ongoing efforts to amend the CAA.<sup>127</sup> At the same time, EPA similarly resisted promulgating a FIP in Arizona.<sup>128</sup>

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117. South Coast 1988 ANPRM, 53 Fed. Reg. at 49,501 (EPA admitted that it had a duty to promulgate a FIP, and the court entered an order dated Sept. 19, 1988).

118. *Id.*

119. *Id.* at 49,512. EPA also noted it would “no doubt encounter great practical difficulties in developing and implementing such a massive plan.” *Id.*

120. *Id.* at 49,512.

121. *Id.* at 49,516.

122. *Id.*

123. *Id.* at 49,518.

124. *See generally* South Coast 1990 NPRM, 55 Fed. Reg. at 36,458.

125. *See* Joseph M. Feller, *Non-Threshold Pollutants and Air Quality Standards*, 24 ENVTL. L. 821, 868 (1994) (“EPA . . . shared its woes in a remarkably candid rulemaking.”).

126. South Coast 1990 NPRM, 55 Fed. Reg. at 36,460.

127. *Id.* EPA also noted that its efforts, in light of the challenge in the South Coast, “may make Hercules’ labors in the Augean Stables seem light like housekeeping.” *Id.*

128. In *McCarthy v. Thomas*, No. 85–344 (D. Ariz. Aug. 10, 1987) a court ordered EPA to promulgate a FIP for carbon monoxide. EPA proposed a FIP for the Phoenix area on May 16, 1988. Approval and Promulgation of Implementation Plans; Arizona State Implementation Plan Revision, Maricopa and Pima Counties Carbon Monoxide Plan, 53 Fed. Reg. 17,378 (May 16, 1988) (to be codified at 40 C.F.R. pt. 52). In subsequent litigation, the Ninth Circuit vacated approval of the Arizona SIP for the Phoenix nonattainment area and directed EPA to promulgate a FIP. *Delaney v. EPA*, 898 F.2d 687 (9th Cir. 1990). After the 1990 amendments, EPA filed a motion to recall the mandate in the *Delaney* case, but the court denied the motion. Subsequently, EPA



Amid this deluge of resistance, however, certain important features of EPA's FIP power began to emerge. First, EPA proposed to supplement the SIPs with federal programs "such as clean motor vehicle fuels and vehicles and controls on marine vessel tanks."<sup>129</sup> EPA slowly began to recognize that a FIP could supplement state efforts at attaining the standards rather than merely replace those efforts.<sup>130</sup>

Second, EPA proposed a system of emission fees to help implement parts of the FIP.<sup>131</sup> This proposal suggests EPA's dawning realization that economic incentives might provide a mechanism to streamline the federal efforts needed to implement a FIP. That idea later evolved in other FIPs and proved critical to EPA's development of the FIP power.

Finally, Congress once again responded to EPA's resistance by amending the Clean Air Act in 1990 to extend the attainment dates.<sup>132</sup> But these amendments did not automatically end the battles over EPA's duty to promulgate a FIP. After the amendments, EPA predictably took the position that the 1990 CAA Amendments abrogated any prior duty that the agency had to promulgate a FIP, but the Ninth Circuit Court of Appeals held otherwise.<sup>133</sup>

In that litigation, the air quality agency for Southern California surprisingly supported the FIP's promulgation. The agency reasoned that attaining clean air in

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promulgated FIP contingency procedures. Approval and Promulgation of Implementation Plans; Arizona—Maricopa and Pima Nonattainment Areas; Carbon Monoxide Federal Implementation Plan, 56 Fed. Reg. 5458 (Feb. 11, 1991) (to be codified at 40 C.F.R. pt. 52). A subsequent round of litigation began in 1994, leading to a consent decree. A later Ninth Circuit opinion overturned EPA's approval of the Arizona plan, leading to another consent decree. *Ober v. Whitman*, 243 F.3d 1190 (9th Cir. 2001). A number of EPA regulatory documents discuss the lengthy history of the efforts to force EPA promulgation of FIPs for Arizona. *See, e.g.*, Approval and Promulgation of Implementation Plans; Arizona—Maricopa County CO Nonattainment Area, 62 Fed. Reg. 63,456 (Dec. 1, 1997) (to be codified at 40 C.F.R. pt. 52).

129. South Coast 1990 NPRM, 55 Fed. Reg. at 36,458.

130. In a later notice of proposed rulemaking for three air basins in California, EPA also stated that it saw the FIP as supporting local efforts rather than superseding them:

Although EPA is issuing this NPRM today because we are legally required to do so, EPA intends to use this opportunity to assist renewed state and local efforts to achieve clean, healthy air for the citizens of California. Therefore, the agency has tried to keep one central principle in mind as we fashioned our approach: EPA wants to do this in conjunction with the ongoing efforts of the local communities, not simply impose federal plans upon them.

Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,268.

131. South Coast 1990 NPRM, 55 Fed. Reg. at 36,484; *see also* Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,383–84 (discussing use of fees in the FIP).

132. *See Hall v. EPA*, 273 F.3d 1146, 1153–54 (9th Cir. 2001) ("In general, the 1990 Amendments contemplated that less serious nonattainment areas would attain NAAQS within five years of enactment and that more serious nonattainment areas would have 10 years to attain NAAQS. *See, e.g.*, CAA § 172(a)(2)(A), 42 U.S.C. § 7502(a)(2)(A) (setting default five and 10-year attainment deadlines); CAA § 186(a)(1), 42 U.S.C. § 7512(a)(1) (setting 1995 and 2000 deadlines for attainment of carbon monoxide NAAQS); CAA § 188(c), 42 U.S.C. § 7513(c) (setting various attainment dates for areas in moderate and serious nonattainment for PM-10, with an outside deadline of December 31, 2001, for serious nonattainment areas).").

133. *Coal. for Clean Air v. EPA*, 971 F.2d 219 (9th Cir. 1992).

Southern California would require measures that only EPA possessed authority to adopt under the Clean Air Act, and a FIP would compel EPA to undertake those measures. When EPA finally released its proposed FIP for Southern California, that FIP included regulations on sources such as airlines, ocean vessels, and railroads. These are all measures generally outside the power of states to regulate under the CAA.

Thus, as of 1990, EPA was adamantly opposed to the promulgation of FIPs. Even after losing the 1990 litigation, EPA ultimately managed to avoid adopting a FIP for Southern California.<sup>134</sup> Nonetheless, the evolution of the FIP process had begun to reveal the roles a FIP could play in improving air quality.

## B. TARGETED FIPS

### 1. Interstitial Plans

The 1990 CAA amendments clarified that a FIP was a plan to correct all or a portion of an inadequacy in a SIP.<sup>135</sup> Thus, a FIP could target specific inadequacies in a SIP submitted by a state. A FIP did not necessarily have to consist of the type of massive intervention needed for areas like Southern California, where until after 1990 the state-submitted plans came nowhere close to demonstrating future attainment of the air quality standards.

Reflecting its antipathy toward FIPs, EPA before 1990 had adopted smaller “gap-filling” or interstitial FIPs only on rare occasions. A principal example was a FIP regulating sulfur oxide emissions from a large smelter in Nevada.<sup>136</sup> After 1990, EPA began to use this type of FIP in instances where it had determined that a control measure in a SIP did not meet a technological standard mandated by the Clean Air Act, such as “reasonably available control technology.”<sup>137</sup> EPA gradually became comfortable employing this type of interstitial FIP.

For example, EPA proposed a FIP for taconite plants in Michigan and Minnesota based on those states’ failures to adopt the statutorily required “best available retrofit technology” (“BART”) for such plants.<sup>138</sup> In doing so, EPA used the FIP as leverage to incentivize the states to adopt SIPs that would contain more stringent technological controls. Similarly, EPA adopted a FIP controlling nitrogen oxide emissions from two units of a power-generating station in Nevada.<sup>139</sup>

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134. EPA did publish a proposed 1,700 page FIP for the Los Angeles area. *See* Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,264.

135. Clean Air Act § 302(y), 42 U.S.C. § 7602(y) (2014).

136. *See* Nevada SO<sub>2</sub> Control Strategy, 40 Fed. Reg. 5508 (Feb. 6, 1975) (to be codified at 40 C.F.R. pt. 52).

137. 42 U.S.C. § 7502(c)(1).

138. Approval and Promulgation of Air Quality Implementation Plans; States of Michigan and Minnesota; Regional Haze Implementation Plan; Federal Implementation Plan for Regional Haze, 78 Fed. Reg. 8706 (Feb. 6, 2013) (to be codified at 40 C.F.R. pt. 52).

139. Approval and Promulgation of Air Quality Implementation Plans; Nevada; Regional Haze State and Federal Implementation Plans; BART Determination for Reid Gardner Generating Station, 77 Fed. Reg. 50936 (Aug. 23, 2012) (to be codified at 40 C.F.R. pt. 52) [hereinafter Reid Gardner Generating Station].

Again, EPA “encourage[d] the State to submit a revised SIP to replace all portions of our FIP.”<sup>140</sup> Also falling into this category was EPA’s source-specific FIP for the so-called “Four Corners” power plant in New Mexico.<sup>141</sup> Under EPA’s Tribal Authority Rule—discussed below in section II.B.2—because the plant is located on an Indian reservation, the State of New Mexico could not regulate it.<sup>142</sup>

These interstitial FIPS—relatively few in number and often connected to EPA’s efforts to combat regional haze—intruded only modestly into the state’s regulatory domain. The interstitial FIPs involved few EPA resources, since the agency had already fully analyzed the control measures in the SIP and concluded that they were insufficient.<sup>143</sup> Enforcement of interstitial measures did not greatly burden EPA, although on occasion those measures posed the specter of dual implementation where a single source of air pollution would have to comply with both state and federal requirements for different pollutants.<sup>144</sup> Finally, EPA saw the measures as temporary, repeatedly inviting states to submit SIPs to replace the FIPs. Nonetheless, the use of interstitial FIPs demonstrates EPA’s increased comfort both with targeted interference in the state’s autonomy over its air pollution sources and with the use of FIPs to spur greater state regulation.

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140. *Id.* See also Approval and Promulgation of Implementation Plans; Oklahoma; Federal Implementation Plan for Interstate Transport of Pollution Affecting Visibility and Best Available Retrofit Technology Determinations, 76 Fed. Reg. 81,728 (Dec. 28, 2011) (to be codified at 40 C.F.R. pt. 52) (FIP establishing emissions limitations based on BART for two units of Oklahoma power plant).

141. Source-Specific Federal Implementation Plan for Four Corners Power Plant; Navajo Nation, 72 Fed. Reg. 25,698 (May 7, 2007) (to be codified at 40 C.F.R. pt. 49) (upheld in *WildEarth Guardians v. EPA*, 759 F.3d 1196 (10th Cir. 2014)).

142. See also Approval and Promulgation of Implementation Plans; State of Washington; Regional Haze State Implementation Plan; Federal Implementation Plan for Best Available Retrofit Technology for Alcoa Intalco Operations, Tesoro Refining and Marketing, and Alcoa Wenatchee, 79 Fed. Reg. 33,438 (June 11, 2014) (to be codified at 40 C.F.R. pt. 52) (disapproving state’s BART determination for a refinery and aluminum facilities and imposing a FIP for the pertinent emission units at these facilities).

143. See *Reid Gardner Generating Station*, 77 Fed. Reg. at 50,938 (to be codified at 40 C.F.R. pt. 52) (“EPA and the states generally consider the same factors in the initial BART determination but may weigh those factors differently provided the determination in each case is reasonable. BART determinations are case by case analyses.”).

144. This situation arose most recently when EPA disapproved the Texas SIP for failing to address how it would regulate GHGs and imposed a FIP. Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas Prevention of Significant Deterioration Program; Proposed Rule, 75 Fed. Reg. 82,365 (proposed Dec. 30, 2010) (to be codified at 40 C.F.R. pt. 52). EPA responded to criticism regarding dual implementation by pointing out that split authority had existed previously in both the PSD program and in some nonattainment areas. Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Federal Implementation Plan, 75 Fed. Reg. 82,246, 82,251 (Dec. 30, 2010) (to be codified at 40 C.F.R. pt. 52). Despite opposing GHG regulation, Texas approved legislation requiring it to develop a state GHG permitting program, “with broad support from industry interests concerned with the additional requirements and permitting delays associated with the federal program.” Alex Ritchie, *Scattered and Dissonant: The Clean Air Act, Greenhouse Gases, and Implications for the Oil and Gas Industry*, 43 ENVTL. L. 461, 480–81 (2013).

## 2. Gap Plans

After the 1990 CAA Amendments, EPA gradually expanded use of other types of FIPs. The expansion originated in EPA's need to fill larger gaps in the coverage of state air-pollution control systems. EPA's initial experience with this broader type of FIP had accrued earlier when it adopted a regulatory program to prevent significant deterioration of air quality in areas that had not attained the national ambient air quality standards.<sup>145</sup> A court order had forced EPA to promulgate this "prevention of significant deterioration" ("PSD") program.<sup>146</sup> However, while EPA continued to administer the program for states without approved PSD provisions in their SIPs,<sup>147</sup> it remained an idiosyncratic exercise of EPA's FIP authority.

In 2006, however, EPA promulgated rules for regulating air quality on Indian reservations, and these rules constituted a much more significant milestone in the development of EPA's authority to fill larger regulatory gaps. Responding to uncertainty about regulatory jurisdiction over sources of air pollution on Indian lands, the 1990 CAA Amendments authorized EPA to treat tribes in the same manner as it treats states.<sup>148</sup> The Amendments also required EPA to draft procedures governing tribal air implementation plans.<sup>149</sup> Thus, like states, tribes could submit implementation plans to EPA for its approval.<sup>150</sup>

EPA's so-called "Tribal Authority Rule,"<sup>151</sup> which was adopted to comply with these 1990 amendments, committed EPA to treating tribes in the same manner as states for most air regulation purposes, with the exception of some statutory deadlines. Notably, the rules provided that if a tribe did not submit a tribal implementation plan—the tribal equivalent of a SIP—EPA then may promulgate

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145. Prevention of Significant Air Quality Deterioration, 39 Fed. Reg. 42,510 (Dec. 5, 1974) (to be codified at 40 C.F.R. pt. 52).

146. See, e.g., Approval and Promulgation of Implementation Plans; Prevention of Significant Deterioration (PSD), 68 Fed. Reg. 11,316 (Mar. 10, 2003) (to be codified at 40 C.F.R. pt. 52). The history of the PSD program is discussed in Craig N. Oren, *Prevention of Significant Deterioration: Control-Compelling Versus Site-Shifting*, 74 IOWA L. REV. 1 (1988).

147. Approval and Promulgation of Implementation Plans; Prevention of Significant Deterioration (PSD), 68 Fed. Reg. at 11,316 (incorporating newly promulgated paragraphs of the federal PSD rule into the FIP portion of state implementation plans where states had not previously submitted approved PSD plans).

148. Clean Air Act § 110(o), 42 U.S.C. § 7410(o) (2014) (authorizing tribal implementation plans for all areas within a tribe's reservation.).

149. *Id.* § 7601(d)(2).

150. See, e.g., David F. Coursen, *EPA's New Tribal Strategy*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10643 (2008); Richard G. McAllister & Richard K. Eichstaedt, *Federal Implementation of the Clean Air Act in Indian Country in the Northwest*, 46 ADVOCATE 16, 18 (2003); Jana B. Milford, *Tribal Authority Under the Clean Air Act: How Is It Working?*, 44 NAT. RESOURCES J. 213 (2004); Vanessa Baehr-Jones & Christina Cheung, *An Exercise of Sovereignty: Attaining Attainment for Indian Tribes Under the Clean Air Act*, 34 ENVIRONS ENVTL. L. & POL'Y J., 189 (2011).

151. Indian Tribes: Air Quality Planning and Management, 63 Fed. Reg. 7254 (Feb. 12, 1998) (to be codified at 40 C.F.R. pts. 9, 35, 49, 50, 81). See *Ariz. Pub. Serv. Co. v. EPA*, 211 F.3d 1280, 1285 (D.C. Cir. 2000) (rejecting challenges to parts of the rule).

“without unreasonable delay such Federal implementation plan provisions as are necessary or appropriate to protect air quality.”<sup>152</sup> The agency would act “pursuant to its ‘gap-filling’ authority under the [CAA] as a whole.”<sup>153</sup> The rules also recognized that tribes could request that EPA adopt a FIP for a tribal region.<sup>154</sup>

In 2005, EPA finalized FIPs for air pollution sources on Indian reservations in Idaho, Oregon, and Washington.<sup>155</sup> These plans covered 200,000 people on 39 reservations.<sup>156</sup> Unlike the narrow interstitial FIPs,<sup>157</sup> these FIPs included a wide range of measures limiting emissions on various existing stationary sources, including limits on visible emissions,<sup>158</sup> fugitive particulate matter,<sup>159</sup> and open burning.<sup>160</sup>

EPA’s tribal FIPs originated in a concern for regulatory consistency. The 1990 CAA Amendments put an end to the jurisdictional dispute over regulatory authority on Indian lands by confirming that states lacked this authority. Accordingly, in adopting the tribal FIPs, EPA explained that the rules “fill a regulatory gap” and cited “the need to establish requirements in all areas to maintain CAA standards.”<sup>161</sup> The goal was to fill voids in regulatory coverage throughout the country.

The tribal FIPs initiated a new stage in EPA’s use of FIPs, albeit one forced upon the agency by a lack of tribal resources or by tribal unwillingness to

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152. 40 C.F.R. § 49.11(a). EPA, however, decided not to apply the FIP provisions to Indian country in exactly the same manner as the states. In particular, the EPA tribal implementation plan regulations do not apply the 2-year deadline to tribes as it applies to states. EPA reasoned: “[T]ribes in general are in the early stages of developing air planning and implementation expertise. Accordingly, EPA determined that it would be infeasible and inappropriate to subject tribes to the mandatory submittal deadlines imposed by the Act on states . . . .” Indian Tribes: Air Quality Planning and Management, 63 Fed. Reg. at 7265.

153. 63 Fed. Reg. at 7265.

154. ENVTL. PROT. AGENCY, DEVELOPING A TRIBAL IMPLEMENTATION PLAN 12 (2002), <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00002SIS.TXT>.

155. Federal Implementation Plans Under the Clean Air Act for Indian Reservations in Idaho, Oregon and Washington, 70 Fed. Reg. 18,074 (Apr. 8, 2005) (to be codified at 40 C.F.R. pts. 9 and 49) [hereinafter FIPs for Indian Reservations] (upheld in *Safe Air for Everyone v. EPA*, 2006 WL 3697684 (9th Cir. Dec. 15, 2006)). EPA also had issued a guidance on Direct Implementation of Tribal Cooperative Agreements. Notice of Guidance Issuance: Direct Implementation Tribal Cooperative Agreements (DITCAs) Guidance, 70 Fed. Reg. 1440 (Jan. 7, 2005).

156. See McAllister & Eichstaedt, *supra* note 150, at 16.

157. Before these more comprehensive FIPs, EPA had issued narrow, interstitial FIPs that addressed air pollution concerns at specific facilities located in Indian country. See Federal Implementation Plan for Tri-Cities Landfill, Salt River Pima-Maricopa Indian Community, 64 Fed. Reg. 65,660 (Nov. 23, 1999) (to be codified at 40 C.F.R. pts. 49 and 52); Federal Implementation Plan for the Astaris-Idaho LLC Facility in the Fort Hall PM10 Nonattainment Area, 65 Fed. Reg. 51,412 (Aug. 23, 2000) (to be codified at 40 C.F.R. pt. 49).

158. 40 C.F.R. § 49.124.

159. *Id.* § 49.126.

160. *Id.* § 49.131.

161. FIPs for Indian Reservations, 70 Fed. Reg. at 18,076.

complete planning efforts for air quality.<sup>162</sup> But while some individual tribal FIPs were quite broad in scope, they were not ground-breaking, instead employing air quality control measures found in other SIPs.<sup>163</sup> The tribal plans also regulated relatively few sources of air pollution, and EPA was able to use similar control measures in all of the tribal FIPs, thus minimizing EPA's administrative burden.<sup>164</sup>

In short, while the tribal FIPs were broader in scope, the measures in them were not innovative. At the same time, adopting these FIPs forced EPA to consider the source of its authority for the specific requirements included in them,<sup>165</sup> and thus to evaluate the scope of its legal authority in promulgating FIPs more generally. It also gave the agency additional experience in implementing FIPs after the plans' adoption.

In 2011, EPA issued a FIP adopting two extensive rules governing new sources in tribal areas,<sup>166</sup> thereby extending the agency's authority over additional sources of air pollution that tribes had not previously regulated.<sup>167</sup> Once again, the agency was largely able to accomplish its goal by incorporating control measures already included in existing SIPs.<sup>168</sup>

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162. EPA's regulations allow a tribe, instead of creating its own plan, to request that EPA adopt a FIP that regulates air pollution sources on a reservation. *See* ENVTL. PROT. AGENCY, *supra* note 154, at 12.

163. FIPs for Indian Reservations, 70 Fed. Reg. at 18,074:

The gap-filling rules EPA proposed in March 2002 were generally based upon the aspects of neighboring State and local rules most relevant to the air polluting activities on reservations in the Pacific Northwest, and follow a level of control of a typical air quality control program. EPA does not intend, nor does it expect, these gap-filling regulations to impose significantly different regulatory burdens upon industry or residents within reservations than those imposed by the rules of State and local air agencies in the surrounding areas.

*Id.* For example, the FIP regulated visible emissions, particulate matter, sulfur in fuels, and open burning. 40 C.F.R. §§ 49.124, 49.125, 49.130, and 49.131.

164. *See* FIPs for Indian Reservations, 70 Fed. Reg. at 18,086 ("As described above, EPA is developing an Implementation Framework to guide how EPA and the affected Tribes will implement the rules on each reservation. To the extent practicable, these regulations minimize the implementation burdens upon EPA and the regulated community while establishing requirements that are unambiguous and enforceable.").

165. EPA explained that the FIPs "also can rely on other authorities in the CAA to regulate and obtain information about sources of pollutants other than NAAQS, such as our authority to require reporting and recording keeping under section 114 of the CAA." FIPs for Indian Reservations, 70 Fed. Reg. at 18,078.

166. Review of New Sources and Modifications in Indian Country, 76 Fed. Reg. 38,748 (July 1, 2011) (to be codified at 40 C.F.R. pts. 49 and 51). EPA previously regulated new sources in Indian country in attainment areas through the PSD program. *Id.* at 38,753 ("EPA has been implementing a FIP for major sources in attainment areas and has been issuing PSD permits in Indian country."). However, in *Oklahoma Dept. of Environmental Quality v. EPA*, 740 F.3d 185 (D.C. Cir. 2014), the court held that EPA had no jurisdiction to issue a FIP for non-reservation Indian country lands unless the tribe had demonstrated that it had jurisdiction over such lands.

167. *See* Robert Gruenig, *EPA's New Air Rules Mean Monumental Changes for Emissions in Indian Country*, 43 ABA TRENDS, no. 6, July/Aug. 2012, at 4. ("The rules mean monumental changes to how facilities in Indian country must operate in the future.")

168. *Id.* ("Facilities affected by the two new rules will be required to follow an NSR [New Source Review] program process similar to the one in place for non-tribal lands.").



### 3. Agreement Plans

As EPA increased the use of its FIP authority, states began to identify advantages that could accrue to them from FIPs in specific instances. A loss of state control would occur, but countervailing considerations existed. For example, resource constraints might make it difficult for smaller states to complete certain parts of the full SIP process, and a FIP meant that EPA, rather than the states, would largely do the work.

Thus, in a relatively low number of situations involving smaller states, EPA promulgated FIPs with some degree of agreement from the particular states affected.<sup>169</sup> For example, before EPA promulgated a FIP for Hawaii to address regional haze, it first obtained a measure of agreement from that state. The rulemaking emphasized that EPA had “worked closely with the State of Hawaii in the development of this plan”<sup>170</sup> and that the state “has agreed to incorporate the control requirements into the relevant permits.”<sup>171</sup> Similarly, EPA later promulgated FIPs for states that refused to submit corrective SIP revisions that included greenhouse gas (“GHG”) emissions in their PSD programs. The agency noted that each of the seven states affected by the rulemaking had at least partially agreed to EPA’s action, “specifically indicat[ing] to EPA that it preferred that EPA promulgate a FIP to take effect by January 2, 2011.”<sup>172</sup> While these states did not accept the idea of GHG regulation, they wanted to ensure that a complete permit program was in place by the date when sources in the state became subject to PSD provisions applying to GHG emissions.

These “agreement” FIPs, though few in number, highlight a larger issue: If EPA promulgates a FIP for a state, is that state obligated to implement the FIP through its permit system and to enforce the FIP when violations occur? During the initial years of FIP development, EPA assumed that once it put the FIP into

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169. An antecedent of these agreement plans was the parking provision in the Massachusetts SIP. EPA had initially developed a parking freeze at Logan International Airport as part of its FIP for the Boston Region in 1975. In its 1979 and 1982 SIPs, Massachusetts incorporated the FIP’s parking freeze provisions by reference, thereby committing the state to implement and enforce it “as a state regulation as well as a Federal law.” Approval and Promulgation of Air Quality Implementation Plans; Massachusetts; Amendment to the Massachusetts Port Authority/Logan Airport Parking Freeze and City of Boston/East Boston Parking Freeze, 65 Fed. Reg. 70,676 (Nov. 27, 2000) (to be codified at 40 C.F.R. pt. 52).

170. Approval and Promulgation of Implementation Plans; State of Hawaii; Regional Haze Federal Implementation Plan, 77 Fed. Reg. 61,478 (Oct. 9, 2012) (to be codified at 40 C.F.R. pt. 52). The Hawaii Department of Health did not comment on the draft rule. *Id.* at 61,479.

171. *Id.* at 61,478. *See also* Approval and Promulgation of Air Quality Implementation Plans; United States Virgin Islands; Regional Haze Federal Implementation Plan, 77 Fed. Reg. 64,414 (Oct. 22, 2012) (to be codified at 40 C.F.R. pt. 52) (“The Virgin Islands Department of Planning and Natural Resources has indicated that the Government of the Virgin Islands agrees with EPA’s moving forward to prepare this FIP.”).

172. Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Federal Implementation Plan, 75 Fed. Reg. 82,246, 82,248 (Dec. 30, 2010) (to be codified at 40 C.F.R. pt. 52). EPA also stated that it was immediately promulgating FIPs to avoid situations where larger sources might be obligated to obtain PSD permits for greenhouse gases but no permitting authority was authorized to issue those permits. *Id.* at 82,249.



place, the state would administer its provisions. However, as the Supreme Court issued a series of decisions expanding the constraints imposed by the Tenth Amendment, EPA recognized that it could no longer automatically rely upon state administrative mechanisms to implement FIPs.<sup>173</sup> This limitation meant that EPA would find it more difficult to use FIPs even as the agency's attitude warmed over the years toward the usefulness of its FIP power.

Consequently, in some instances, the agency sought agreement from states to voluntarily implement their FIPs. EPA decided that it had authority to delegate implementation and enforcement of a FIP if EPA found that the state had the legal enforcement authority under state law and had committed the necessary staff and resources. EPA first instituted this practice in implementing PSD programs<sup>174</sup> and later adopted a similar policy that allowed Indian tribes subject to FIPs to assist in implementing those plans.<sup>175</sup>

These developments marked an important step in the evolution of EPA's thinking about FIPs. EPA recognized that FIPs such as those for PSD areas were likely to remain in place for lengthy periods of time. In some instances, states either did not have the resources needed to reclaim their authority from EPA through a SIP submittal or were simply content to let EPA regulate. Given these state attitudes, EPA had to consider the effect of FIP implementation on EPA's own resources.

Adopting a FIP was onerous for EPA, but assuming the agency was not in "avoidance" mode, its expertise equipped it to decide the actual emission controls for sources. The agency possessed considerable technical expertise that it could bring to bear on this specific task, for it constantly undertook reviews of control measures in deciding whether to approve SIPs, and it also evaluated technology in issuing performance standards for new sources of air pollution. However, EPA was less capable of day-to-day implementation and enforcement of a permit system, an area in which states had considerable expertise and had a continuing

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173. See *supra* section I.D.1.

174. 42 C.F.R. §52.21(u)(1) ("The Administrator shall have the authority to delegate his responsibility for conducting source review pursuant to this section . . ."); Approval and Promulgation of Implementation Plans; Prevention of Significant Deterioration (PSD), 68 Fed. Reg. 11,315, 11,318 (Mar. 10, 2003) (to be codified at 40 C.F.R. pt. 52) ("As of December 31, 2002, a number of State and local agencies did not have approved PSD programs in their SIPs . . . . In most of those jurisdictions, the State or local agency administers the federal PSD program pursuant to a delegation of authority under § 52.21 (u).")

175. Notice of Guidance Issuance: Direct Implementation Tribal Cooperative Agreements (DITCAs) Guidance, 70 Fed. Reg. 1440 (Jan. 7, 2005):

EPA believes that the DITCA authority makes available an important tool for tribes who wish to work with EPA in the implementation of environmental programs in Indian country by allowing tribes to be involved in assisting EPA as EPA implements federal programs for tribes. DITCAs are intended to provide a method to accomplish program implementation that is in addition to the Federal delegation of authority method, also referred to as the "treatment in a manner similar to states" or "TAS" approach to implementation.

*Id.*

interest in administering. Accordingly, an agreement delegating FIP enforcement to the state accommodated the primary expertise and interests of both EPA and the state.

### C. AFFIRMATIVE FIPS

#### 1. Partnership Plans

In 1988, EPA slowly began to recognize that a judicious use of the FIP power could play a significant role in improving air quality. Thus, in that year EPA published an advanced notice of proposed rulemaking for a California FIP that tentatively began to explore a new role for FIPs. The notice declared that “EPA could promulgate in the FIP, at least in theory, other types of federal initiatives that might expedite emission reduction progress . . . .”<sup>176</sup> The FIP “would supplement the existing and proposed state and local measures.”<sup>177</sup> EPA solicited comment on various measures that exceeded state authority, such as lower emission standards for aircraft engines and tighter controls on emissions from petroleum exploration and development on the Outer Continental Shelf.<sup>178</sup>

By 1994, when EPA issued a notice of rulemaking for yet another Southern California FIP, its attitude toward the FIP had changed. The agency now declared that its goals in promulgating the FIP “compel EPA to go beyond normal boundaries of rule development and implementation.”<sup>179</sup> It characterized the FIP in a positive light as presenting an opportunity “to assist renewed state and local efforts”<sup>180</sup> that could “make real progress towards clean air on a variety of fronts.”<sup>181</sup> And it saw its role in promulgating a FIP as “moving beyond the mere fulfillment of our legal responsibilities toward the establishment of a full working partnership among all parties.”<sup>182</sup>

While EPA still repeated its hope that the FIPs “will become obsolete as a regulatory matter,”<sup>183</sup> the era of “evasion” FIPs had receded for several reasons. First, the implementation of SIPs was nearing the twenty-year mark. EPA recognized that states had seriously attempted to adopt SIPs that would meet the air quality standards, and those efforts had resulted in substantial progress in improving air quality. Nonetheless, state efforts alone were unlikely to successfully meet the air quality standards in heavily polluted areas.

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176. South Coast 1988 ANPRM, 53 Fed. Reg. at 49,515.

177. *Id.* at 49,516.

178. *Id.* The notice went on to discuss a variety of other measures that strengthened existing controls already in the state plan, such as an enhanced motor vehicle inspection and maintenance program. *Id.* at 49,517.

179. Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,269.

180. *Id.* at 23,268.

181. *Id.* at 23,269.

182. *Id.*

183. *Id.* at 23,270.

Second, EPA now viewed the FIP as a supplementary regulatory device rather than as a total replacement for a SIP. An EPA FIP could regulate pollution sources that a state could not, and EPA could adopt measures that complemented what states were doing. Thus, a FIP rulemaking for Southern California proposed controls for sources like airports, locomotives, ships, and ports—sources largely outside the reach of states under the Clean Air Act.<sup>184</sup>

EPA's warming attitude toward FIPs, however, required the agency to confront new issues. Some of those were administrative in nature: EPA proposed to regulate area sources, which are non-discrete sources of pollution such as architectural coatings or emissions from pesticide use.<sup>185</sup> In contrast to regulation of discrete stationary sources, regulation of these types of mobile consumer products affected larger markets. Consumer products from outside the regulated jurisdiction, which are subject to less-stringent emission controls, could be used inside the regulated jurisdiction. For example, consumers might buy paints from outside of a nonattainment area and then bring them in for use. In response, EPA proposed to regulate these types of consumer products on a statewide basis rather than just in the nonattainment area.<sup>186</sup>

A more significant problem posed by the expanded use of FIPs was how EPA would allocate emissions reductions among the various sources. A FIP necessarily required further reductions from sources beyond those secured by readily available control technology. In its 1990 SIP for the South Coast Air Basin, EPA had proposed the use of market-based incentives as control measures. Its initial rationale at that time was defensive: these measures “will be especially important to mitigate the harshness of the measures that EPA has no choice but to impose.”<sup>187</sup> EPA later began to view market-based measures positively, proposing a cap on sources requiring annual reductions in emissions of between 4 and 9 percent.<sup>188</sup> EPA sought comment on whether a trading component “should be added to increase compliance options.”<sup>189</sup>

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184. *Id.* at 23,264 (“The proposed FIP includes innovative control programs to reduce emissions associated with airports and, particularly within the South Coast, emissions from locomotives, ships, and ports.”).

185. *See* ENVTL. PROT. AGENCY, EPA'S REPORT ON THE ENVIRONMENT (ROE)—GLOSSARY, <https://cfpub.epa.gov/roe/glossary.cfm> (last visited Feb. 6, 2016) (“Area sources can include vehicles and other small engines, small businesses and household activities, or biogenic sources such as a forest that releases hydrocarbons.”).

186. Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,316. The problem was one of source mobility:

If, for example, the architectural coating rule applied only in the narrow FIP areas, house painters in southern Sutter County (part of the nonattainment area) might drive to northern Sutter (outside the nonattainment area) to purchase cheaper paints, or lemon growers in Ventura might cross into Santa Barbara for a pesticide formulation they had used the year before.

*Id.* The agency proposed to solve the mobility problem by regulating on a statewide basis. *Id.*

187. South Coast 1990 NPRM, 55 Fed. Reg. at 36,461.

188. Sacramento and Ventura Ozone, 59 Fed. Reg. at 23,274.

189. *Id.*

This proposal marked a turning point in the development of FIPs. Market incentive programs create additional pathways for compliance by the regulated sources, and such programs are easier for EPA to implement.<sup>190</sup> The agency no longer focuses narrowly on whether individual sources are meeting a specific emission limitation. Instead, the agency totals the emissions from a particular facility and then ensures that the facility has sufficient credits to cover those emissions. The use of market systems promised to lighten the resource demands on EPA in implementing and enforcing FIPs, a vitally important consideration in the agency's attitude toward them.

## 2. Hybrid Plans

The most important milestone in this evolution of EPA's FIP authority was the agency's program to control sulfur dioxide ("SO<sub>2</sub>") emissions causing acid rain.<sup>191</sup> Title IV of the 1990 CAA Amendments<sup>192</sup> required EPA to adopt a multi-state approach that controlled SO<sub>2</sub> emissions from power plants. The program was unique at the time in that it instituted a market-based cap-and-trade program. Under the program's first phase, implemented in 1995, EPA set a nationwide cap on SO<sub>2</sub> emissions of 9.5 million tons per year.<sup>193</sup> A second phase, which took effect in 2000, targeted large coal-burning power plants and established a final annual emissions cap of 8.95 million tons.<sup>194</sup> Ultimately, the plan limited total SO<sub>2</sub> releases from power plants to about 50% of the levels emitted in 1980.<sup>195</sup>

EPA proclaimed the program successful, estimating that it reduced annual emissions of SO<sub>2</sub> from 17.3 million tons to 10.2 million tons, and that nitrogen oxide and mercury emissions also were reduced significantly.<sup>196</sup> But the program had also affected EPA's attitude toward its FIP authority, as EPA gained signifi-

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190. Richard B. Stewart, *Environmental Regulation and International Competitiveness*, 102 YALE L.J. 2039, 2093–94 (1993) (“[T]ransferable pollution permits require each source to hold permits corresponding to the amount of pollution that it emits . . . . Accordingly, the ultimate allocation of pollution rights, and hence of pollution control, among sources is determined by the market, rather than by government regulation.”).

191. See, e.g., Paul L. Joskow & Richard Schmalensee, *The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program*, 41 J.L. & ECON. 37, 38 (1998); Joseph Goffman, *Title IV of the Clean Air Act: Lessons for Success of the Acid Rain Emissions Trading Program*, 14 PENN ST. ENVTL. L. REV. 177, 178–79 (2006).

192. Clean Air Act § 401, 42 U.S.C. § 7651 (2014).

193. Air and Noise Pollution Abatement Services: An Examination of U.S. and Foreign Markets, Inv. No. 332-461, USITC Pub. 3761, 5-4 (Apr. 2005), <https://usitc.gov/publications/docs/pubs/332/pub3761.pdf>; *Clean Air Markets: Acid Rain Program—SO<sub>2</sub> Reductions*, ENVTL. PROT. AGENCY, <https://www.epa.gov/airmarkets/acid-rain-program> (last updated June 16, 2016).

194. USITC Pub. 3761, *supra* note 193, at 5-4; ENVTL. PROT. AGENCY, *supra* note 193.

195. *Clean Air Markets: Acid Rain Program—Overview*, ENVTL. PROT. AGENCY, <https://www.epa.gov/airmarkets/acid-rain-program> (last updated June 16, 2016).

196. *Acid Rain and Related Programs: 2009 Emission, Compliance, and Market Analyses*, ENVTL. PROT. AGENCY (Sept. 2010), [https://www.epa.gov/sites/production/files/2015-08/documents/arp\\_2009\\_ecm\\_analyses.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/arp_2009_ecm_analyses.pdf).

cant experience in administering a multi-state cap-and-trade program. The agency learned that the administrative resources needed for the program were significantly smaller than resources needed to implement FIPs with “command-and-control” features imposing technology-based controls on individual sources.

EPA put this knowledge to use. In 2006, EPA responded to a petition filed by North Carolina under section 126 of the Clean Air Act, which addresses emissions from states that affect the ability of other, downwind states to achieve the NAAQS.<sup>197</sup> EPA’s response, the so-called “Clean Air Interstate Rule” (“CAIR”), originally called upon states to implement reductions through their SIPs.<sup>198</sup> Later, however, the agency imposed a FIP to give states additional compliance options,<sup>199</sup> and EPA based the FIP on the acid rain trading program.<sup>200</sup>

The FIP instituted three separate cap-and-trade programs covering SO<sub>2</sub> and nitrogen oxide (“NO<sub>x</sub>”) emissions from electric utilities.<sup>201</sup> Notably, EPA designed the FIP to offer states a range of options.<sup>202</sup> States could accept the FIP and allow EPA to administer the cap-and-trade programs or adopt model SO<sub>2</sub> and NO<sub>x</sub> trading programs provided by EPA for EGUs.<sup>203</sup>

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197. 42 U.S.C. § 7426.

198. Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO<sub>x</sub> SIP Call, 70 Fed. Reg. 25,162 (May 12, 2005) (to be codified at 40 C.F.R. pts. 51, 72, 73, 74, 77, 78 and 96). This rule determined that 28 states and the District of Columbia contribute significantly to nonattainment of the national ambient air quality standards for NO<sub>x</sub>, SO<sub>2</sub>, one type of particulate matter (PM<sub>2.5</sub>), and the 8-hour standard for ozone in downwind states. *Id.* EPA stated that it “intends the CAIR FIPs to address the requirements of section 110(a)(2)(D)(i) to prevent interstate transport that contributes significantly to nonattainment or interferes with maintenance in downwind areas and to provide a Federal backstop for CAIR.” *Id.*

199. Rulemaking on Section 126 Petition From North Carolina to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Revisions to the Clean Air Interstate Rule; Revisions to the Acid Rain Program, 71 Fed. Reg. 25,328, 25,330 (Apr. 28, 2006) (to be codified at 40 C.F.R. pts. 51, 52, 72, 73, 74, 78, 96, and 97) [hereinafter Section 126 Petition]. EPA stated: “EPA is denying the petition because, concurrently with the section 126 response, EPA is promulgating FIPs that require elimination of the significant contribution [to nonattainment].” The rulemaking also discusses the complex procedural history that preceded EPA’s adoption of the FIP. *Id.* at 25,332–33.

200. The CAIR FIP implemented its cap-and-trade program by changing the value of SO<sub>2</sub> allowances under the Acid Rain Program. *Federal Plan Issued to Implement the Clean Air Interstate Rule*, 16 AIR POLLUTION CONSULTANT 4.1 (2006).

201. In earlier action in response to the Section 126 Petition, EPA had also instituted a trading scheme across the entire region as a remedy under section 126. Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 56,292, 56,309 (Oct. 21, 1998) (to be codified at 40 C.F.R. pts. 52 and 97); *see also* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 64 Fed. Reg. 28,250, 28,307 (May 25, 1999) (to be codified at 40 C.F.R. pt. 52) (discussing trading as a section 126 remedy).

202. Section 126 Petition, 71 Fed. Reg. at 25,330 (“The EPA is providing FIP approaches that are flexible and intended to provide States options for getting their SIPs in place.”).

203. *Id.* at 25,339 (“States planning to adopt the model trading programs contained in the CAIR rule, can accept the FIP and significantly reduce the State resources needed to establish a program to implement the CAIR.”).

Another alternative was that states could submit what EPA termed “abbreviated SIPs” under which states could take over some individual aspects of the FIP program.<sup>204</sup> The abbreviated SIPs would automatically replace the corresponding sections of the FIP imposed upon that state.<sup>205</sup> For example, a state could seek EPA approval to administer the distribution of pollutant allowances under the program’s overall cap or “emission budget,” rather than accepting the allowance methodology in EPA’s rules.<sup>206</sup> Indeed, EPA expressed its preference that states do so.<sup>207</sup> States also could opt to expand the program by including other industrial sources in it.<sup>208</sup>

CAIR envisioned a kind of “hybrid” FIP. This type of FIP assumed a long-term, synergistic interaction between the FIP and state programs, rather than a unilateral federal takeover. For example, EPA’s rulemaking addressed the interaction between the trading program in the EPA-administered CAIR FIP and state trading programs that met the requirements of CAIR.<sup>209</sup> Consistency between the CAIR programs administered by states and those administered by

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204. *Id.*:

The EPA is finalizing . . . the approach that a State can choose to modify the application of the CAIR FIP through abbreviated SIP revisions. The abbreviated SIP revisions approach covers specific elements of the FIP trading programs without submitting full SIP revisions to meet the requirements of CAIR. By accepting such abbreviated SIP revisions, EPA is providing additional options for States to comply with CAIR. A State can choose to retain control of these specific elements of the trading programs, without submitting a full SIP revision to meet the requirements of CAIR. As there are no sanctions associated with the FIP, EPA anticipates that some States will prefer to avoid spending the time and money necessary to submit a full SIP revision.

*Id.*

205. EPA stated that it would accept abbreviated SIP revisions for any of the following elements of a FIP trading program:

(1) Provisions for otherwise unaffected units to opt-in to the FIP trading programs, (2) allocating annual and/or ozone season NO<sub>x</sub>, (3) allocating allowances from the annual NO<sub>x</sub> Compliance Supplement Pool (CSP), and (4) including NO<sub>x</sub> SIP Call trading sources that are not EGUs under CAIR in the Federal CAIR ozone season NO<sub>x</sub> cap-and-trade program.

*Id.*

206. *Id.* (“In offering a framework for abbreviated SIP revisions, the Agency anticipates that many States will wish to retain control over the allocation of allowances.”); *see, e.g.*, Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Clean Air Interstate Rule, 72 Fed. Reg. 52,289 (Sept. 13, 2007) (to be codified at 40 C.F.R. pts. 52 and 97) (approving West Virginia’s methodology for allocating NO<sub>x</sub> allowances for the NO<sub>x</sub> annual and NO<sub>x</sub> ozone season trading programs put in place by the Clean Air Interstate Rule FIPs).

207. Section 126 Petition, 71 Fed. Reg. at 25,352 (“The Agency’s preference is for States to make decisions about NO<sub>x</sub> allocations for their sources.”).

208. *Id.* at 25,339 (EPA will accept abbreviated SIP revisions that include “[p]rovisions for otherwise unaffected units to opt-in to the FIP trading programs.”).

209. *Id.* at 25,328 (“Today’s action also revises CAIR SIP model trading rules in order to address the interaction between the EPA-administered CAIR FIP trading programs being promulgated today and the EPA-administered CAIR State trading programs that will be created by any State that elects to submit a SIP establishing such a trading program to meet the requirements of the CAIR.”).



EPA for states would benefit individual sources in both types of states.<sup>210</sup> Accordingly, the CAIR FIP incentivized states to adopt trading programs whose features were consistent with those in EPA's FIP.

To provide that incentive, EPA adopted the FIP early in the two-year period during which the Clean Air Act required EPA to adopt it.<sup>211</sup> Adopting the FIP early gave EPA the opportunity to influence the contents of SIPs while simultaneously respecting parochial state preferences, thereby encouraging innovation and adaptation to local conditions. At the same time, EPA's ability to incentivize states meant that EPA possessed considerable discretion to design the FIP in a way that would further its own policy goals.

EPA's FIP also emphasized the importance of the data that the agency had compiled on both air-pollution transport and the cost of control mechanisms. Without that data, declared EPA, states "would face great difficulties in developing transport SIPs" to meet the interstate transport requirements of section 110(a)(2)(D) of the CAA.<sup>212</sup> The emphasis on EPA's data-collection role supported EPA's new approach to affirmative FIPs. EPA now recognized an additional role that the FIP process could play in helping states meet the NAAQS.<sup>213</sup>

Additionally, EPA's CAIR FIP capitalized on the appeal of a trading system to operators of large EGUs subject to the rule. If so allowed, of course, those sources would have opted for no new rule at all. But if EPA was going to impose new controls, these sources much preferred a trading regime to command-and-control regulations.<sup>214</sup> Further, the interstate nature of the trading program promised additional opportunities to reduce costs. In short, the political dynamics of the sources' response to the FIP at this point differed dramatically from the response of sources to the evasion FIPs of the early 1970s.

Finally, EPA's new strategic use of its FIP authority moved implementation of the Clean Air Act out of its narrow focus on intra-state compliance by imposing FIPs with identical trading systems in twenty-eight states and incentivizing states to accept that system.<sup>215</sup> Two benefits of this change also were particularly

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210. *Id.* at 25,330 ("The CAIR FIP trading programs are integrated with the EPA-administered State CAIR trading programs that are based on the model rules so that sources can trade with one another under the respective emissions caps.").

211. *Id.* at 25,339 ("[H]aving the FIP in place early provides for a transition to a CAIR trading program with the greatest continuity, administrative ease, and cost savings for States . . .").

212. *Id.*

213. EPA followed the same pattern five years later for the Cross-State Air Pollution Rule, promulgating FIPs that implemented cap-and-trade programs for 27 states. Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48,208 (Aug. 8, 2011) (to be codified at 40 C.F.R. pts. 51, 52, 72, 78, and 97) [hereinafter Transport Rule FIPs].

214. EPA emphasized the support for the trading regime: "The great majority of public comments supported the preferred trading remedy. Most of these commenters voiced their support for the broadest possible trading mechanism because it allows the most cost-effective implementation of any emission controls." *Id.* at 48,272.

215. The incentives in the EPA FIP proved attractive. In 2008, EPA withdrew the CAIR FIPs for twelve states that submitted full SIPs meeting the CAIR requirements by participating in EPA's trading programs. Withdrawal



important: administrative efficiency in EPA's implementation of the program, and greater compliance-cost savings as the cap-and-trade market expanded.<sup>216</sup>

### 3. Merged Plans

As EPA gained confidence in using FIPs as an affirmative tool to improve air quality, the agency was forced to consider the consequences of imposing multiple FIPs containing trading programs that governed separate pollutants but applied to an overlapping set of states and sources. The possibility existed of inconsistent federal requirements, an outcome that could easily generate considerable opposition to FIPs. At the same time, however, overlapping FIPs offered the promise of increased efficiency in pollution reduction. If the FIPs established trading markets that were compatible rather than conflicting, those markets would afford sources enhanced flexibility in fashioning responses. Sources could choose an optimal mix of pollution controls and selling or buying pollution trading rights.

Ultimately, EPA determined that it could meld the features of FIPs imposed for pollutants in different trading programs. EPA's 2006 CAIR finalized three separate cap-and-trade programs: SO<sub>2</sub> annual, NO<sub>x</sub> annual, and NO<sub>x</sub> ozone season.<sup>217</sup> EPA stated that the integration of the cap-and-trade programs "means that these trading programs will work together to create effectively a single trading program for each regulated pollutant."<sup>218</sup> It argued that "integration of the trading programs reduces the possibility of inconsistent or conflicting deadlines or requirements, increases the potential cost savings for sources, and streamlines program administration."<sup>219</sup> The incentives provided by region-wide cap and trade programs, declared EPA, "encourage economically efficient compliance

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of Federal Implementation Plans for the Clean Air Interstate Rule in 12 States, 73 Fed. Reg. 22,818, 22,820 (Apr. 28, 2008) (to be codified at 40 C.F.R. pt. 52). However, in July 2008, the Court of Appeals for the District of Columbia Circuit vacated the rule. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), *modified on reh'g*, 550 F.3d 1176. (D.C. Cir. 2008). The court granted EPA's petition to remand the case without vacating the CAIR, thus leaving the CAIR and the related FIP in place while EPA remedied the legal problems. *North Carolina v. EPA*, 550 F.3d at 1178. Thereafter, requirements remained in place while EPA developed the so-called "Transport Rule." See Transport Rule FIPs, 76 Fed. Reg. at 48,208.

216. Section 126 Petition, 71 Fed. Reg. at 25,344:

Sources subject to trading programs under the FIP and sources in States choosing to participate in the EPA-administered CAIR SIP trading programs will be able to trade allowances with one another under common emissions caps across participating States. Integration of the trading programs reduces the possibility of inconsistent or conflicting deadlines or requirements, increases the potential cost savings for sources, and streamlines program administration. Unnecessary inconsistency in trading programs could hamper sources' ability to plan and achieve the needed reductions as cost effectively as possible.

*Id.*

217. *Id.* at 25,343.

218. Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Clean Air Interstate Rule, 72 Fed. Reg. 52,289, 52,290 (Sept. 13, 2007) (to be codified at 40 C.F.R. pts. 52 and 97).

219. Section 126 Petition, 71 Fed. Reg. at 25,344.

over the entire region.”<sup>220</sup>

Similarly, when EPA proposed a FIP in 2006 to implement mercury standards of performance for steam-fired EGUs that use coal, the agency again addressed how this FIP would meld with other previously imposed FIPs. It noted, “[an] added benefit of the cap-and-trade approach is that it dovetails well with the sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) emission caps under CAIR.”<sup>221</sup>

#### 4. Preclusive Plans

EPA’s initial reluctance to implement FIPs meant that it would adopt a FIP only if compelled by court order. As FIPs became more common, the agency regularized its procedures for issuing them. It would often adopt formal findings disapproving parts of SIPs. The findings would inform the state that the disapproval triggered a two-year “clock” for EPA to promulgate a FIP under the 1990 CAA Amendments, and that promulgation would occur unless the state resolved its plan deficiency during this period.<sup>222</sup> The two-year clock afforded states a significant amount of time in which to correct the SIP deficiency and signaled EPA’s recognition that states could not be expected to immediately comply with complex federal mandates.<sup>223</sup>

In its recent FIP rulemaking on the Cross-State Air Pollution Rule (“CSAPR” or “Transport Rule”)—which is the CAIR-replacement rule—EPA altered its approach.<sup>224</sup> The agency began issuing FIPs much earlier in the two-year period,

220. *Id.* at 25,341.

221. Revisions of Standards of Performance for New and Existing Stationary Sources; Electric Utility Steam Generating Units; Federal Plan Requirements for Clean Air Mercury Rule; and Revisions of Acid Rain Program Rules, 71 Fed. Reg. 77,100, 77,105 (proposed Dec. 22, 2006) (to be codified at 40 C.F.R. pts. 60, 62, 72, and 78).

222. *See, e.g.*, Finding of Failure to Submit a Revised State Implementation Plan (SIP) for Lead; Missouri; Doe Run-Herculaneum Lead Nonattainment Area, 64 Fed. Reg. 40,767, 40,767 (July 28, 1999) (to be codified at 40 C.F.R. pt. 52) (“The failure-to-submit finding triggers the 18-month time clock for the mandatory application of sanctions and a 2-year time clock for a Federal Implementation Plan (FIP) under the Clean Air Act (CAA).”); Finding of Failure To Submit a Required State Implementation Plan Revision for 1-Hour Ozone Standard, California—San Joaquin Valley—Reasonably Available Control Technology, 74 Fed. Reg. 3442, 3443 (Jan. 21, 2009) (to be codified at 40 C.F.R. pt. 52) (“CAA section 110(c)(1) provides that EPA must promulgate a federal implementation plan addressing the 1-hour ozone RACT requirements in the SJV no later than 2 years after today’s finding unless we approve the State’s RACT submittal within that time.”). Typically, such notices would also inform the state of the timetable for the imposition of other sanctions under the CAA, such as a cutoff in highway funding. *Id.*

223. *See* Babich, *supra* note 13, at 32 (“It would be unrealistic . . . to expect sovereigns to instantaneously enact or promulgate needed legislative or regulatory changes to keep pace with federal programs. After all, states do not have a clear target for needed changes until revisions to the federal programs are final. And state legislative and administrative processes—like federal processes—take time.”).

224. Ryland Li, Case 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, 308 (2015) (“[T]he Agency’s new policy—of issuing the FIPs contemporaneously with quantifying [Good Neighbor Provision (GNP)] obligations in the Transport Rule—was a departure from its prior policies in the NO<sub>x</sub> SIP Call and CAIR, where the Agency had given states an opportunity to submit SIPs after it quantified GNP obligations.”).

giving states far less time to correct the problems and submit a reformulated SIP.<sup>225</sup> EPA cited a need for uniformity as justifying this change in position. In a situation where the Clean Air Act required multiple states to comply with a requirement by a single deadline, delaying FIPs for noncomplying states would unfairly disadvantage sources in those states that had already submitted complying SIPs.<sup>226</sup> Sources in the complying states would have to act earlier to meet the SIP's emissions standards than sources in the recalcitrant states. This situation competitively penalized sources in states that affirmatively complied with the Act's mandate.

EPA also justified the change on public health grounds, observing that delaying a FIP proposal meant delaying reductions in pollution and therefore “unnecessarily jeopardiz[ing] public health.”<sup>227</sup> That position, of course, starkly contrasts with EPA's view at the time of the evasion FIPs in which the agency repeatedly resisted adopting FIPs for the most polluted areas of the country.<sup>228</sup> The agency's attitude had, indeed, changed over time.

### III. THE MODIFIED FEDERALISM OF AIR PLANNING

As the discussion in Part II of this Article has shown, EPA has now gained substantial experience with FIPs, and its view of them has evolved considerably. As part of that process, EPA's use of FIPs modified the relationship between states and the federal government in air quality regulation. This change embodies six important features. Three of them involve shifts in regulatory authority or activity, while the other three concern the use of incentives.

#### A. SHIFTING THE REGULATORY CENTER

##### 1. The Subordination of Political Geography

First, in using FIPs, EPA has moved the focus of regulatory efforts for controlling some important pollutants from state-based regulation to airshed-

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225. States challenged this provision in the Transport Rule, arguing that because the provision of the CAA in question—the so-called “good neighbor” provision—did not present a clear numerical target, EPA was required to give states time to comply before implementing a FIP. A majority of the panel in the District of Columbia Circuit agreed, declaring that the Transport Rule represented an impermissible “FIP-first” approach. *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7, 33 (D.C. Cir. 2012), *rev'd*, 134 S. Ct. 1584 (2014). The Supreme Court reversed, finding that the plain meaning of section 110 authorized EPA to impose the FIP immediately. *EME Homer*, 134 S. Ct. at 1601. The Court also reasoned that where Congress intended for EPA action to be a prerequisite for states to act, it expressly stated such a requirement. *Id.*

226. Federal Implementation Plans to Reduce the Regional Transport of Ozone, 63 Fed. Reg. 56,394, 56,399 (proposed Oct. 21, 1998) (to be codified at 40 C.F.R. pts. 40 and 98) (“Under a delayed FIP proposal approach, industry in the non-complying States might experience an unfair competitive advantage over industry in States which elected to reduce their NO<sub>x</sub> emissions and reduce interstate transport of ozone and ozone precursors in an earlier timeframe . . .”).

227. *Id.*

228. *See supra* section II.A.2.

based regulation. The 1970 CAA Amendments required EPA to set ambient air quality standards but relied on state efforts to implement those standards.<sup>229</sup> As the Supreme Court put it, Congress was “taking a stick” to the states<sup>230</sup> by requiring them to adopt SIPs that would attain the air quality standards. The Act emphasized a state’s wide discretion in designing the mix of emission limitations that suited it, and EPA merely played a backup role in the event that states failed in their responsibilities.<sup>231</sup>

State-based regulation, however, conflicted with the interstate nature of some air pollution, particularly ozone transport in the East and formation of regional haze in the West. While the Act contained provisions addressing interstate air pollution,<sup>232</sup> those provisions initially proved relatively ineffectual.<sup>233</sup> States demonstrated little enthusiasm for bearing the economic costs of controlling sources in their states to benefit the air quality in other states.

EPA ultimately responded to this situation by recognizing that interstate pollution required federal regulation or, at a minimum, an enlarged federal framework for regulation.<sup>234</sup> EPA implemented its new viewpoint through its regulation of acid rain and then through a series of FIPs addressing interstate transport of ozone and other pollutants. It became increasingly evident from this evolution that the original state-centric approach of FIPs was unrealistic in important ways. EPA’s recognition of the multi-state nature of air pollution ultimately forced the agency to respond by sponsoring an interstate regulatory system that emphasized trading. In short, EPA’s regulatory approach changed to reflect the actual physical operation of pollutants rather than reflecting an artificial reality anchored in state boundaries.

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229. David Schoenbrod et al., *Air Pollution: Building on the Successes*, 17 N.Y.U. ENVTL. L.J. 284, 284 (2008) (“In the Clean Air Act Amendments of 1970, Congress required the states to regulate air pollution according to federal specifications.”).

230. *Train v. Nat. Res. Def. Council*, 421 U.S. 60, 64 (1975).

231. See Erin Ryan, *Negotiating Federalism*, 52 B.C. L. REV. 1, 79–80 (2011) (environmental programs of cooperative federalism “would implode without the good faith participation of state environmental agencies”).

232. Clean Air Act § 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D) (2014) (states must prohibit emission levels that will contribute significantly to nonattainment or interference with maintenance of the air quality standards in downwind states); *id.* § 7426(a)–(b) (downwind states could petition EPA to control interstate pollution); *Id.* § 7511c(a) (establishing ozone transport region composed of eastern states); *id.* § 7506(a) (authorizing EPA to establish interstate transport regions for particular pollutants).

233. See Karl James Simon, *The Application and Adequacy of the Clean Air Act in Addressing Interstate Ozone Transport*, 5 ENVTL. L. 120, 134 (1998).

234. See Kurt G. Kastorf, *Cooperative Federalism: Is there a Trend Towards Uniform National Standards Under the Clean Air Act?*, 45 ABA TRENDS, no. 5, May/June 2014, at 6. (two recent court decisions regarding SIPs “suggest a trend away from reliance on cooperative federalism and towards more uniform and stringent national standards.”).

## 2. Uniformity and Impartiality

The move from purely state-centered regulation also resulted in a second change: a new emphasis on regulatory uniformity. As discussed above,<sup>235</sup> EPA FIPs now imposed multi-state trading systems upon sources and urged states to adopt model trading rules. The Clean Air Act allows states to reject these systems by placing their own mix of regulatory programs into a SIP, but the FIP programs were attractive. To the extent that the FIPs remained in place, they brought a much greater degree of uniformity and consistency to regulation of sources among the states than in the SIP's state-centered regulation.<sup>236</sup>

In crafting these FIPs, EPA was necessarily concerned with regulating impartially.<sup>237</sup> It could not be seen as favoring sources in one state over another; instead, EPA needed to build a level interstate playing field in which all sources were treated fairly.<sup>238</sup> Thus, while the FIPs certainly were regulatory in nature, at the same time they established EPA as a kind of referee to ensure that sources could compete fairly in the new interstate system.<sup>239</sup>

The uniformity wrought by the new FIPs modified an important feature of the federalism underpinnings of the CAA. A traditional rationale for federalism cites the forecasted benefits of diversity: the separate efforts of states would produce new solutions to air-pollution problems.<sup>240</sup> At the same time, states could make diverse choices about which industries should bear the most stringent emission controls. Now, however, diversity is demoted to a secondary role, subordinated to the goal of interstate uniformity.

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235. See *supra* section II.C.2.

236. In other actions EPA has recognized the need that it act consistently on a national basis in making judgments about technology. See, e.g., Reid Gardner Generating Station, 77 Fed. Reg. at 50,938, ("Here, contrary to the commenter's assertion, we are exercising judgment within the parameters laid out in the CAA and consistent with other actions nationally applying our regional haze regulations.").

237. Shi-Ling Hsu, *Fairness and Impartiality in Environmental Law Versus Efficiency in Environmental Law*, 31 *ECOLOGY L.Q.* 303, 313 (2004) ("Perhaps the most familiar notion of fairness pertains to equality. In environmental law, it often takes the form of a sense that the burdens and benefits of environmental protection should be distributed equally among all polluters and all members of the public. This notion has been pervasive in environmental law, not so much as a tool for engineering social change, but for ensuring that the burdens of environmental problems are distributed equally.").

238. Section 126 Petition, 71 Fed. Reg. at 25,339 ("This provides a level playing field, giving assurance to all the affected downwind States that the upwind emissions reductions required under CAIR will be achieved on time.").

239. For example, EPA's CAIR set variability limits which placed a cap on total emissions from EGUs in individual states. Without those limits, total emissions from EGUs in a state could exceed the state's emission budget for that year. Transport Rule FIPs, 76 Fed. Reg. at 48,212.

240. See Weiser, *supra* note 7, at 1698 (noting that "the cooperative federalism regulatory strategy makes sense where the benefits of allowing for diversity in federal regulatory programs outweigh the benefits of demanding uniformity in all situations.").

### 3. The Site of Technical Expertise

Another change concerns the application of technical expertise. Since 1970, the CAA has partially relied on EPA's expertise in analyzing methods of controlling certain air pollutants. For example, the Act requires EPA to set performance standards for new sources of air pollution,<sup>241</sup> and EPA regulates emissions from new automobiles.<sup>242</sup> However, the Act assigned to the states the task of regulating existing stationary sources. EPA was to play only a secondary role here through its supervision of SIPs.<sup>243</sup>

The FIPs imposing interstate trading systems on existing sources, however, enhance EPA's role in the technical review of pollution control of stationary sources. To implement these systems, EPA has to allocate initial trading rights to individual sources in the trading market.<sup>244</sup> The agency has generally chosen to base that allocation on the types of reductions that individual sources could make using reasonably available technological controls. EPA would estimate the reductions that were feasible and then assign initial emission rights at levels reflecting those controls. EPA's expertise in pollution-control technology for existing sources thus became central to this task.<sup>245</sup>

States do not have to accept EPA's allocations; they can make their own allocation choices and adopt a SIP based upon them. But rejecting EPA's conclusions would require considerable effort, and in that effort states were unlikely to directly challenge EPA's technical conclusions about the level of pollution control available. Instead, states re-allocating initial trading rights would just decide to favor certain sources over others. But whether an EPA or a state allocation prevailed, the critical technological evaluations now occur at the federal level for important categories of air pollution sources, such as power plants.<sup>246</sup>

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241. Clean Air Act § 111(a)(1), 42 U.S.C. § 7411(a)(1) (2014) (requiring standards for categories of stationary sources that "reflect[] the degree of emission limitation achievable through the application of the best system of emission reduction").

242. *Id.* § 7521. The Administrator, however, may, under some circumstances, waive preemption to allow state regulations to go into effect. *Id.* § 7543. Most waivers have concerned California regulations of automobile emissions.

243. *Hall v. EPA*, 273 F.3d 1146, 1159 (9th Cir. 2001) (reviewing a SIP, "EPA must determine the extent of pollution reductions that are required and determine whether the emissions reductions effected by the proposed revisions will be adequate to the task.").

244. B. Victor B. Flatt, *Federal Climate Change Legislation - The Perspective from 2008*, 3 ENVTL. & ENERGY L. & POL'Y J. 195, 195 (2008) ("Cap-and-trade is a system whereby the total amount of the pollutant . . . is capped, the total allocation is distributed in some way, and those who own these allocations (the rights to emit the gases) can trade them."); B. Timothy Heinmiller, *The Politics of "Cap and Trade" Policies*, 47 NAT. RESOURCES J. 445, 450 (2007) ("The allocation process involves the assignment of resource access and use rights to individuals within the boundaries of the established cap.").

245. See generally Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 613 (1996) (discussing which level of government is best equipped to develop technology standards).

246. Clean Power Plan, 80 Fed. Reg. at 64,665 ("[I]n making its BSER determination, the EPA examined not only actions, technologies and measures already in use by EGUs and states, but also deliberately incorporated in



## B. THE PREVALENCE OF INCENTIVES

### 1. The Primacy of Market-Based Systems

The most important consequence of the FIPs has undoubtedly been the change from command-and-control regulation to use of market-based trading systems. Beginning with its acid rain program, EPA's FIPs have imposed a series of gradually broadened trading markets. Those markets exhibit several important features and cause a number of significant consequences.

To begin with, the market-based trading systems partly alleviate the most important consequences previously associated with FIPs: the prospect of intrusive, heavy-handed federal regulation. The cap-and-trade system circumvents many of the bureaucratic problems inherent in the evasion plans, which imposed and enforced controls on a wide variety of individual sources. Instead, once EPA establishes the initial allocation of emissions and trading begins, market decisions dictate the responses by sources in the system.

Second, only EPA is well-positioned to create these types of interstate markets by ensuring uniformity in the market-based systems imposed in individual FIPs for different states. This market uniformity promises cost-savings to participants by widening the number of potential trading partners. The Act does not prevent states from participating in the creation of interstate markets without EPA assistance, and some states have taken advantage of this possibility.<sup>247</sup> Nonetheless, EPA can impose uniform markets in its FIPs and is better situated to manage interstate trading as the market-runner.

Third, EPA is also positioned to coordinate the FIPs it has imposed for different pollutants coming from a common group of sources. In effect, EPA can meld the FIPs into a single, multi-pollutant market. By doing so, it unifies the system, simplifies compliance by sources, and avoids duplicative bureaucracy.

In short, EPA's position under the CAA has situated it to create uniform, efficient trading markets. These markets place economic incentives at the center of state efforts to comply.

### 2. Incentivizing Participation

As originally conceived, FIPs were viewed as temporary solutions that would merely fill gaps where state participation had faltered. States remained the primary regulators, and the Clean Air Act assumed that states would move to regain their regulatory authority by remedying the SIP's deficiency that led to the FIP. Individual pollution sources would merely follow the dictates of either the

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its identification of the BSER the unique way in which affected EGUs actually operate in providing electricity services.”).

247. The primary example is the Regional Greenhouse Gas Initiative in the Northeast. See REGIONAL GREENHOUSE GAS INITIATIVE, <https://www.rggi.org> (last visited Feb. 6, 2016).

SIP or the FIP, depending on which plan was in force at a particular time. EPA's initial reluctance to use its FIP authority in part reflected this limited view of a FIP's function.<sup>248</sup>

Now, in contrast, EPA sees FIPs as important affirmative tools for achieving environmental improvement. Indeed, at least in the case of pollutants with significant interstate effects, the agency employs FIPs as the primary tool for effecting change and has crafted them to at least partially supersede the role of SIPs in addressing those effects. As a result, EPA no longer views the FIP as a temporary device but as implementing a long term, economically based, and more efficient regulatory system.<sup>249</sup> It now prefers the FIP-based program and actively seeks both to implement it and to incentivize its permanence.

To do so, the agency employs several measures. One is the use of model trading rules that EPA has made available to states.<sup>250</sup> Rather than expend the extensive resources needed to craft an alternative set of regulations in a SIP<sup>251</sup> that could contain traditional command-and-control requirements, states can simply adopt and implement EPA's model trading rule. In the event states so act, EPA also advances another of its goals, regulatory uniformity.

A second, more coercive incentivizing device is the "FIP-first" preclusive approach. Rather than utilize the full two-year period authorized by the CAA to adopt a FIP, EPA now moves expeditiously to impose FIPs. Indeed, it has done so even when states had no real opportunity to craft a complying SIP after a finding that a state plan violated the Act.<sup>252</sup> Once the FIP is installed, states then must choose whether to replace it with a separate system or take the administratively easier route of leaving the FIP wholly or partially in place as the governing system.

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248. See Alan C. Waltner, *Paradise Delayed—The Continuing Saga of the Los Angeles Basin Federal Clean Air Implementation Plan*, 14 UCLA J. ENVTL. L. & POL'Y 247 (1995–1996) (detailing EPA's reluctance to impose a FIP in Southern California).

249. See Joshua D. Sarnoff, *The Continuing Imperative (But Only From a National Perspective) For Federal Environmental Protection*, 7 DUKE ENVTL. L. & POL'Y F. 225, 261 (1997) ("State implementation of federal policy, or 'cooperative federalism,' may reduce the costs of dual regulation when federal regulation is imposed.").

250. Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO<sub>x</sub> SIP Call, 70 Fed. Reg. 25,162, 25,289 (May 12, 2005) (to be codified at 40 C.F.R. pts. 51, 72, 73, 74, 77, 78 and 96) ("The CAIR ozone-season NO<sub>x</sub> model rule provides incentive for early emissions reductions by allowing the banking of pre-2009 NO<sub>x</sub> SIP Call allowances into the CAIR ozone-season program.").

251. Paul D. Brown, *Lofty Goals, Questioned Motives, and Proffered Justifications: Regional Transport of Ground-Level Ozone, and the EPA's NO<sub>x</sub> SIP Call*, 60 U. PITT. L. REV. 923, 930 (Spring 1999) (FIPs "can benefit a state that does not have the resources and/or the inclination to draft or revise a SIP.").

252. See Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Federal Implementation Plan, 75 Fed. Reg. 82,246, 82,249 (Dec. 30, 2010) (to be codified at 40 C.F.R. pt. 52) (commenter stating that the FIP implicitly encourages states to surrender sovereign position as responsible regulators under the dual federal-state system of the PSD program).

The FIP-first approach also substantially alters the incentives of the regulated industry. Traditional environmental regulation for the most part assumed that regulated industry prefers state to federal regulation. The Supreme Court's 1976 decision in *Union Electric v. EPA*<sup>253</sup> reflects this premise about the Act's regulatory structure. Sources will have to compete for allowed pollution emissions at the state level during the drafting of SIPs. A state's choice of emission levels can be politically driven; it is free to favor certain industries over others in allocating pollution reductions.

Now, however, if EPA finds a deficiency, it can impose a FIP before a state can complete the process of addressing that deficiency. Emission sources then may adapt to the federal trading system, and the economic efficiency of that system in turn confers benefits on those sources and, most importantly, promises reductions in pollution-control costs. Moreover, if the FIP's system authorizes trading across state lines, sources have additional compliance options available to them that can lower their costs. And the trading system lightens the regulatory burdens on sources. Primarily, the sources need only concern themselves with measuring their emissions and ensuring that they have sufficient credits to cover those allotted emissions at the end of the trading system's accounting period.

In short, sources may well prefer to continue under the federal trading system rather than suffer the dislocation of adapting to a new set of controls imposed by a state in its SIP. For example, by the time the Supreme Court overturned EPA's mercury rule,<sup>254</sup> sources had largely implemented the rule, and some sought to have the rule's trading system remain in effect while EPA remedied any defect.<sup>255</sup> The consistency and the stability of the FIP system appeal to sources and incentivize them to advocate that the FIP remain in place.

### 3. Stimulating Private Innovation

Finally, EPA's use of market-based trading systems in its FIPs has altered the location of innovation in complying with the Act. Traditionally, the Act placed the center of innovation for existing sources at the state government level.<sup>256</sup> Congress thought that, as states crafted implementation plans to attain the air

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253. 427 U.S. 246 (1976).

254. *Michigan v. EPA*, 135 S. Ct. 2699, 2711 (2015). The court found that EPA should have considered compliance costs at the first stage of the agency's regulatory analysis.

255. See Daniel Moore & Chris Potter, *Pa. Impact May be 'Minimal' as Supreme Court Overturns EPA's Mercury Rule*, PITT. POST-GAZETTE (June 29, 2015, 11:50 PM), <http://powersource.post-gazette.com/powersource/policy-powersource/2015/06/29/Supreme-Court-overturns-EPA-mercury-power-plant-regulations-MATS-emissions/stories/201506300088> ("The implications of the court's ruling, analysts agreed, are unclear, and it's expected to have little immediate effect on current mix of power generation. The rule was finalized in December 2011 and took effect over a three-year compliance period beginning April 2012. Because most coal plants were subject to comply with the rule by April 16 of this year, many of the plants have already closed.").

256. See Babich, *supra* note 13, at 27 ("One policy justification for this system is that it allows for state experimentation and variety within federal mandates' ambit.").

quality standards, the Act would spur innovation and creativity in formulating control methods. The Act thus drew on the postulate of federalism that sees states serving as “laboratories” of experimentation in seeking solutions to social problems,<sup>257</sup> and the Act did produce some state-led innovation. However, states often proved recalcitrant when facing the kind of economic burdens associated with pollution controls that would be necessary to attain the air quality standards.

EPA’s use of FIPs has altered the center of innovation. The market trading systems favored by EPA in FIPs do not rely on state innovation; instead, those systems establish economic incentives that drive sources of pollution to innovate. Indeed, the creation of incentives to produce least-cost pollution control is the signature feature of such systems.<sup>258</sup> In short, sources in that market, not states, stimulate innovation.<sup>259</sup>

With this altered federal framework from FIPs in mind, we now examine how its features will affect the FIP proposed for the Clean Power Plan.

#### IV. PATHWAYS FOR FEDERAL CLEAN POWER IMPLEMENTATION PLANS

On October 23, 2015, EPA finalized its rules that establish emission guidelines regulating carbon emissions from power plants, the CPP.<sup>260</sup> A large number of states had previously signaled opposition to the plan,<sup>261</sup> and 27 states responded to the rules by initiating litigation challenging them.<sup>262</sup> Anticipating that such states would “just say no” to the rules and refuse to comply, EPA also released its

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257. *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) (“It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”); *United States v. Lopez*, 514 U.S. 549, 581 (1995) (Kennedy, J., concurring) (as states address the issue of gun policies on campuses, “the theory and utility of our federalism are revealed, for the States may perform their role as laboratories for experimentation to devise various solutions where the best solution is far from clear.”).

258. Alice Kaswan, *Centralizing Cap-and-Trade? State Controls Within a Federal Greenhouse Gas Cap-and-Trade Program*, 28 VA. ENVTL. L.J. 343, 351 (2010) (“Cap-and-trade programs are intended to achieve administrative efficiency by relieving government agencies of the administrative burdens associated with developing regulatory standards, imposing them in permits, and enforcing permit requirements.”).

259. *See* Esty, *supra* note 245, at 622 (“The use of economic-incentive-based regulatory tools can further loosen the grip of federal regulators and give broad scope to private actors to determine how best to meet environmental goals.”).

260. Clean Power Plan, 80 Fed. Reg. at 64,662.

261. *See* Peter S. Glaser et al., *EPA’s Section 111(d) Carbon Rule: What if States Just Said No?* 15 ENGAGE: J. FEDERALIST SOC’Y PRAC. GROUPS 4 at 5, 6 (2014).

262. *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed Oct. 23, 2015). Twenty seven states ultimately challenged the Clean Power Plan: Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, Nebraska, New Jersey, North Carolina, Ohio, Oklahoma, South Carolina, South Dakota, Texas, Utah, West Virginia, Wisconsin, and Wyoming. *See* Petition for Review, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed Oct. 23, 2015), [https://www.edf.org/sites/default/files/content/2015.10.23\\_states\\_111d\\_petition\\_for\\_review.pdf](https://www.edf.org/sites/default/files/content/2015.10.23_states_111d_petition_for_review.pdf). One state, North Dakota, filed a separate suit. *See* Petition for Review, *North Dakota v. EPA*, No 15-1381 (D.C. Cir. filed Oct. 23, 2015), [https://www.edf.org/sites/default/files/content/2015.10.23\\_nd\\_petition\\_for\\_review.pdf](https://www.edf.org/sites/default/files/content/2015.10.23_nd_petition_for_review.pdf).

proposal for a FIP to effectuate the rules if states remained opposed.<sup>263</sup> EPA stated that it would implement a FIP if a state missed a deadline for responding to the rules.<sup>264</sup>

The FIP for the CPP is a challenging undertaking that would alter the traditional patterns of electricity generation in the United States. The proposed FIP has generated thousands of public comments and raised numerous design issues about the FIP's regulatory system.<sup>265</sup> The proposed FIP, however, is not a *sui generis* document; instead, it derives from EPA's earlier efforts to implement FIPs that this Article has analyzed. The evolution of FIPs offers a lens through which to evaluate at least some features of the proposed CPP FIP at a macro-level. Examining the CPP FIP in light of that evolution illuminates certain pathways that EPA is likely to take in finalizing its FIP program and identifies several important tradeoffs that EPA must make in accomplishing the FIP's goal.

#### A. THE PAST OF FEDERAL PLANNING AS PROLOGUE

The evolution of the FIP process leads to three general conclusions about the CPP FIP proposal. First, the FIP proceeds logically from EPA's earlier FIPs that regulated power plants. For example, it largely regulates the same sources affected by EPA's mercury rule and CSAPR.<sup>266</sup> The FIP also proposes to use the same tracking system that EPA has employed in the past beginning with its acid rain regulations,<sup>267</sup> a system generally recognized as effective and workable.

Second, some observers had suggested that EPA might propose a draconian FIP as a means of coercing states into adopting implementation plans and thereby avoiding the FIP.<sup>268</sup> Consistent with its earlier affirmative FIPs, however, EPA rejected that path. Instead, it proposed a FIP that embodies the same structure and themes found in its recent hybrid and melded FIPs. The CPP FIP centers on creating trading markets and incentivizing participation by both states and power

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263. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,966.

264. *Id.* at 64,974 (“If a state does not submit a final state plan or initial plan submittal, or if either a final state plan or an initial plan submittal does not meet the requirements . . . the agency will take the appropriate steps to finalize and implement a federal plan for that state’s EGUs.”).

265. The design issues include concerns over the reliability of the electricity generating and transmitting system, methods of market oversight, “leakage” of emissions to outside of the regulatory system, set-asides for renewable energy, banking of credits, and borrowing of credits from future periods.

266. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,985 (“Existing fossil fuel-fired EGUs, such as those covered in this proposal, are or will be potentially impacted by several other rules recently finalized or proposed by the EPA. These rules include the Mercury and Air Toxics Standards (MATS) [and] the CSAPR . . .”).

267. *Tracking Systems in the Clean Power Plan*, CTR. FOR CLIMATE AND ENERGY SOL. (Feb. 2016), <http://www.c2es.org/publications/tracking-systems-clean-power-plan>.

268. Nathan Richardson and Arthur G. Fraas, *What to Watch For in EPA's Final Clean Power Plan: What Will EPA Do If States Won't Play Ball?*, RES. FOR THE FUTURE (July 20, 2015), <http://www.rff.org/blog/2015/what-watch-epa-s-final-clean-power-plan-what-will-epa-do-if-states-won-t-play-ball> (“Some have argued that EPA should develop a draconian federal plan—by, for example, including no or only limited ability to trade emissions credits . . .”).

companies. In that sense, it also draws upon the success of the state-created Regional Greenhouse Gas Initiative (“RGGI”), whose trading system produced a forty percent reduction in carbon pollution from the power sector since 2005.<sup>269</sup>

Third, the lessons from the evolution of the FIPs can only carry EPA so far, for the CPP FIP involves more complexity than EPA’s earlier FIP efforts. To take just one example, EPA must confront whether and how carbon savings from renewable power, energy efficiency, and biomass can be calculated and then factored into the trading system. More generally, EPA faces a situation in which it must balance conflicting goals. On the one hand, EPA seeks to create a trading system that is simple and transparent so as to facilitate the agency’s implementation of it. At the same time, however, it also wants to fashion a trading system that will minimize compliance costs and afford sources a wide array of compliance options. Here, the features of the CPP FIP will inevitably increase the FIP’s complexity and thus render it more difficult to administer.

## B. TRADEOFFS IN THE PLAN’S DESIGN

In creating a Clean Power Plan FIP, EPA faces the difficult challenge of balancing these conflicting factors. Important tradeoffs will occur in five areas.

### 1. Structuring the Trading System

The most important tradeoffs arise out of the design of the trading system. Two general types of systems are possible. The first is a “mass-based” system in which a FIP would impose a single cap on total emissions from a state.<sup>270</sup> Sources would then receive allowances that can be used or traded. The second system, a “rate-based” system, requires sources of emissions in a state to meet individual emission limits assigned to each source.<sup>271</sup>

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269. David Gahl et al., *The Clean Power Plan Puzzle: The Future of Efforts to Control Climate Pollution in the Northeast*, PACE ENERGY AND CLIMATE CTR. 2 (2015), <http://energy.pace.edu/sites/default/files/publications/Pace%20Energy%20and%20Climate%20Center%20CPP-RGGI-Policy-Brief%20Nov%202015.pdf>.

270. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,971 (“In a mass-based program, the EPA would create a state emissions budget equal to the total tons of CO<sub>2</sub> allowed to be emitted by the affected EGUs in each state, consistent with the mass goals established in the EGs [Emission Guidelines]. The EPA would initially distribute the allowances within each state budget—less three proposed allowance set-asides—to the affected EGUs based on their historical generation. Allowances may then be transferred, bought, and sold on the open market, or banked for future use. The compliance obligation on each of the affected EGUs is to surrender the number of allowances sufficient to cover the EGU’s respective emissions at the end of a given compliance period.”).

271. *Id.* at 64,970 (“In a rate-based program, affected EGUs must meet an emission standard, derived from the EGs, expressed as a rate of pounds of CO<sub>2</sub> per megawatt hour (lbs/MWh). If sources emit above their assigned rate, they must acquire a sufficient number of emission rate credits (ERC), each representing a zero-emitting megawatt hour (MWh), to bring their rate of emissions into compliance. Emission rate credits (ERCs) may be generated by affected EGUs or by other entities that supply zero- or low-emitting electricity . . .”).



From an administrative standpoint, the mass-based system is EPA's more attractive option. The agency has accumulated considerable experience with this type of system in its acid rain program, as well as with several of the more recent FIP trading programs, including CSAPR.<sup>272</sup> Furthermore, both RGGI and the California GHG trading program have successfully implemented this type of system.<sup>273</sup> The mass-based system also is simpler than the rate-based system for a number of reasons. For example, allowances under a mass-based system issue at the beginning of any compliance period. In contrast, Emission Rate Credits in a rate-based system issue only after the savings in emissions have been accomplished and verified.

EPA has stated that it will choose between the two trading systems and implement only one of them in its CPP FIP.<sup>274</sup> Given the complexities of the rate-based system, the choice of a mass-based system seems the more likely outcome. That system offers both familiarity and ease of implementation, two important factors in the FIP undertaking. Even if EPA so chooses, however, for several reasons the system still will trend toward increased complexity and corresponding difficulty of administration.

First, in its Clean Power Plan, EPA included both a mass-based system and a rate-based system as two model systems that it encouraged states to adopt. If both systems are in place in different states, a single unified system becomes difficult to create.

Moreover, EGUs will press for the broadest array of trading opportunities possible, a goal that EPA will share. In doing so, however, those sources are not concerned with the administrative difficulties that a more complex system will pose for EPA. Thus, a number of them have urged that EPA should take steps to unify the mass-based and rate-based systems by allowing inter-system trading,<sup>275</sup> a step EPA has so far resisted. Some have also argued that a state subject to a FIP should be able to choose between two types of system.<sup>276</sup> Still others want EPA to

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272. *Id.* (“The EPA has more than two decades of experience implementing federally-administered mass-based emissions budget trading programs including the Acid Rain Program (ARP) sulfur dioxide (SO<sub>2</sub>) trading program, the Nitrogen Oxides (NO<sub>x</sub>) Budget Trading Program, CAIR, and CSAPR.”).

273. McKinstry & Varnum, *supra* note 53, at 11008 (“Mass-based trading programs have been employed by California and the nine states in the Regional Greenhouse Gas Initiative (RGGI).”).

274. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,970 (“The EPA currently intends to finalize a single approach—i.e., either a rate-based or a mass-based approach—in all promulgated federal plans for particular states in order to enhance the consistency of the federal trading program, achieve economies of scale through a single, broad trading program, ensure efficient administration of the program, and simplify compliance planning for affected EGUs.”).

275. Lee Logan, *Many Seek Broad GHG Market Under FIP, But Split on Approach, Leakage*, INSIDE EPA/CLIMATE (Jan. 25, 2016) (Electric Reliability Coordinating Council stating that EPA should develop a methodology that would allow trading between rate-and mass-based states and noting that other stakeholders are developing such methodologies).

276. *See* Comments of the Am. Pub. Power Ass'n on the U.S. Environmental Protection Agency's "Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations" Proposed Rule, at 38

finalize both systems and then impose one or the other in a particular state's FIP depending on local circumstances.<sup>277</sup>

EPA's history with FIPs suggests that it will favor a mass-based FIP and likely reject inter-system trading. The agency's past experience lies with that type of system, and it will try to minimize the implementation risks as it embarks on the CPP FIPs. This choice will limit the options available to complying sources but will simplify EPA's administration of the FIPs. Of course, the trading world created by EPA will still have two types of systems if at least some states choose to implement a rate-based system. But that world will be less complex than if EPA endorses both systems and tries to meld them.

## 2. Enticing State Participation

As discussed above in this Article,<sup>278</sup> EPA has designed its recent FIPs to incentivize states to adopt the system in the FIP. Unsurprisingly, it has followed this same pattern in its proposed Clean Power Plan FIP. EPA has proposed model trading systems that will be finalized before states must inform EPA of how they will comply with the Clean Power Plan rules.<sup>279</sup> EPA has incentivized state adoption of these trading systems: if a state adopts one of these model trading systems, then its SIP would be "presumptively approvable" by EPA.<sup>280</sup> EPA also has proposed that states use its tested "Allowance Tracking and Compliance System" for tracking, rather than inventing a new tracking system.<sup>281</sup> Overall, EPA's proposal contains incentives that would smooth state compliance with the CPP rules.

The nature and depth of the state opposition to the entire Clean Power Plan enterprise, however, is reminiscent of the evasion-FIP era. Numerous state officials have vehemently objected to the objectives of the CPP and, thus, to all attempts to implement it. One state, for example, has allegedly decided to deliberately submit an inadequate SIP so as to test EPA's basic authority under

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(Jan. 21, 2016) ("EPA should allow states that are to become subject to a federal plan to choose which type of emission trading scheme best suits their individual circumstances and the circumstances facing their EGUs.").

277. See Comments of the Edison Elec. Inst. on Federal Plan Requirements for Greenhouse Gas Emissions from Electric Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations, at 6 (Jan. 21, 2016) (encouraging EPA to finalize both rate- and mass-based plans and "carefully assess the totality of the circumstances when deciding whether to impose a rate- or mass-based plan.").

278. See *supra* text accompanying note 215.

279. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,970 (proposed mass-based and rate-based systems "serve as two proposed model trading rules that states may adopt or tailor in designing their own plans.").

280. *Id.* at 64,969 ("A state program that adheres to the model trading rule provisions . . . would be presumptively approvable.").

281. *Id.* at 64,997 ("The EPA proposes that the rate-based federal trading program use the agency's already-existing Allowance Tracking and Compliance System (ATCS)."); *id.* at 65,029 ("The EPA proposes that the mass-based trading program use an ATCS operated essentially the same way as the existing systems that are currently in use for CSAPR . . .").

section 111 to regulate power sources.<sup>282</sup> Under these circumstances, the incentives in EPA's FIP may well prove insufficient to overcome the state opposition.

Nonetheless, one countervailing factor may operate to undercut this wall of state opposition. The EGUs are caught between EPA's Clean Power Plan and the state political actors who object to that plan. If the courts uphold the CPP, it is those sources that ultimately must comply with the emission limits established by the Plan and that are subject to enforcement action for failing to do so.<sup>283</sup> Accordingly, a primary concern of those sources will be securing compliance options that, to the extent possible, reduce uncertainty.

Furthermore, utility companies employ long time horizons in planning to meet predicted power needs.<sup>284</sup> If state opposition begins to foreclose the time needed for that planning, utilities will likely use their considerable political influence in states to push back and avoid that result. They may actually favor either a FIP or a state plan that adopts an EPA model trading rule, both of which are avenues that may offer a surer road to compliance.

### 3. The Distributive Consequences of Allocating Rights

There remains the fundamental issue of whether, in the end, the oppositional states will actually prove willing to cede to EPA the authority to allocate emissions at the outset of the trading market. Trading systems require an initial allocation of trading rights to those entities that will participate in the market. This allocation has important distributional consequences, for the individual allocations confer significant economic value upon recipients.<sup>285</sup> Furthermore, the allocations shape the operation of the trading market by assigning "starting places" to participants. States that refuse to comply with the CPP would opt out of

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282. *States: A Roundup of ESPs Compliance News*, INSIDE EPA/CLIMATE (Feb. 4, 2016) (North Carolina is "commit[ted] to submit an inadequate plan with the goal of testing EPA's legal authority—though the state's largest utility, Duke Energy, recently called on the Tar Heel State to take a less confrontational approach.").

283. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,984 ("Under the proposed federal plan, title V permits for sources with affected EGUs will need to include any new applicable requirements that the plan places on the affected EGUs. The EPA, however, is not proposing any permitting requirements independent of those that would be required under title V of the CAA and the regulations implementing title V . . .").

284. Rachel Wilson & Bruce Biewald, *Best Practices in Electric Utility Integrated Resource Planning*, REGULATORY ASSISTANCE PROJECT (June 21, 2013), <http://www.raonline.org/wpcontent/uploads/2016/05/rapsynapse-wilsonbiewald-bestpracticesinirp-2013-jun-21.pdf> (Integrated resource planning "has been an accepted way in which utilities can create long-term resource plans.").

285. See Julie DeMeester & Sarah Adair, *EPA's Clean Power Plan: Understanding and Evaluating the Proposed Federal Plan and Model Rules*, 45 ENVTL. L. REP. NEWS & ANALYSIS 11155, 11158 (2015) ("Allowance allocation is a key design consideration for any allowance trading system because allowances represent an asset with monetary value (equal to the market price of an allowance)"); Robert N. Stavins, *A Meaningful U.S. Cap-and-Trade System to Address Climate Change*, 32 HARV. ENVTL. L. REV. 293, 316 (2008) ("The cap-and-trade system will create a new commodity, a CO<sub>2</sub> allowance, which has value because of its scarcity (fostered by the cap on allowable emissions).").

this allocation process. The FIP that EPA would then promulgate will deeply intrude into state prerogatives in establishing the trading market.

EPA theoretically can employ a number of allocation methods. For example, allocations could be based on heat (i.e., fuel use) rates, historical emission rates, or historic generation.<sup>286</sup> Allocations also could occur through auctions to the highest bidder,<sup>287</sup> and these auctions would raise considerable revenue. EPA has raised the possibility of auctions but quickly noted that it would have to deposit the proceeds in the federal Treasury.<sup>288</sup> In the end, the proposed CPP FIP tracks EPA's past practice of using historical generation as the allocation method for a mass-based system.<sup>289</sup> EPA has generally viewed historical allocations as fair and likely to minimize objections to the allocation method.

More than other issues, the allocation question will force objecting states to think hard before absolutely refusing to comply and subjecting themselves to a FIP. Traditionally, states found that one of the most appealing aspects of SIPs under the Clean Air Act was the states' discretion to allocate emissions limitations. This was an important, jealously guarded prerogative of the states.

Recognizing this history and seeking to minimize the political fallout from a CPP FIP, EPA has strongly suggested that states may wish to take back the allocation process from EPA even while allowing the remainder of the FIP to stay in place.<sup>290</sup> Given the distributional significance of the allocation process, even states adamantly opposed to FIPs may be unable to resist this offer. However, they will have to make that choice quickly. Once the initial allocations by EPA take effect, a later effort by a state to rearrange the allocations would prove quite difficult and upset the now-settled economic expectations of sources relying upon those allocations.

#### 4. Coercion and Timing

EPA's evolution in using FIPs included a practice of forcing FIPs upon states even when, as a practical matter, they had little chance to comply.<sup>291</sup> The Supreme Court affirmed this practice in *EPA v. EME Homer City Generation, L.P.*,<sup>292</sup> finding that the "cooperative federalism" of the CAA did not require EPA

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286. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 65,017. See also DeMeester & Adair, *supra* note 285, at 11158 ("The EPA recognizes that there are many other ways to distribute allowances, such as allocations to affected EGUs based on heat rates, emissions rates, and future generation; allocations to load-serving entities; or auctions.").

287. *Auction Information*, CA. AIR RES. BD., *Auction and Reserve Sale Information*, <http://www.arb.ca.gov/cc/capandtrade/auction/auction.htm> (last visited Feb. 4, 2016).

288. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 65,018.

289. *Id.* at 65,015.

290. *Id.* at 64,971 ("The EPA is also proposing that a jurisdiction may choose to replace the federal plan allocation provisions with its own allowance allocation provisions.").

291. See *supra* section III.C.4.

292. 134 S. Ct. 1584 (2014).

to offer states a period of time to comply through preparation of their own SIPs before EPA imposed a federal plan.

In addition to positive efforts to incentivize state participation, EPA also included this form of timing coercion in its proposed CPP FIP. First, it did not promise to provide states with an opportunity to comment on the content of a FIP before imposing it. Second, EPA's proposed FIP rules declared that if a state did not meet the initial submittal deadline of September 6, 2016, EPA would immediately impose its FIP.<sup>293</sup>

The short deadline imposed by EPA seems somewhat inconsistent with EPA's other attempts to entice state participation through more positive incentives. However, subsequent events ultimately robbed the CPP of the effectiveness of this initial coercive timeline. On February 9, 2016, the Supreme Court unexpectedly granted a stay of the implementation of the Clean Power Plan.<sup>294</sup> That stay will remain in effect until the challenges to the plan are decided, which renders moot the CPP's original deadlines for compliance. As such, states no longer had to be concerned about the September 2016 SIP deadline and the immediate promulgation of a FIP. Additionally, the recent presidential election casts a cloud of uncertainty over the future of the CPP should it survive the ongoing legal challenges.<sup>295</sup>

## 5. Administering the System

Ample evidence exists that EPA can effectively administer a trading market without overly taxing agency resources.<sup>296</sup> However, the level of state opposition to the CPP raises the question of whether EPA will be able to effectively administer a FIP after adopting it. The potential administrative problems with the CPP FIP lie in at least two areas.

First, the FIP adds complexity by requiring EPA to evaluate energy-saving methods, calculate the savings, and then incorporate those savings into the market. Rate-based systems present additional challenges in their implementation, particularly the concerns about validating Emission Rate Credits. EPA might avoid some of those difficulties by opting only for a mass-based system in its FIP.

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293. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,975 ("It is the agency's intention to promulgate federal plans promptly for states who do not submit plans or initial submittals by September 6, 2016.").

294. *West Virginia v. EPA*, 136 S. Ct. 1000 (2016) (mem.) (order issuing stay of Clean Power Plan).

295. Chelsea Harvey, *Trump has Vowed to Kill the Clean Power Plan. Here's How He Might—and Might Not—Succeed*, WASH. POST (Nov. 11, 2016), <https://www.washingtonpost.com/news/energy-environment/wp/2016/11/11/trump-has-vowed-to-kill-the-clean-power-plan-heres-how-he-might-and-might-not-succeed>.

296. William F. Pedersen, *Should EPA Use Emissions Averaging or Cap and Trade to Implement § 111(d) of the Clean Air Act?*, 43 ENVTL. L. REP. NEWS & ANALYSIS 10731, 10734 (2013) ("The acid rain program has reduced emissions at far less cost than predicted, with minimal enforcement problems, and with an EPA implementing staff of 50 people.").

Even here, however, the agency must deal with the possibility of “leakage”<sup>297</sup> in the regulatory system, i.e., how to prevent utilities from complying by simply building new sources of energy production that use natural gas and, as new sources, are not subject to the FIP under section 111.<sup>298</sup> The CPP will then perversely incentivize utilities to comply by building new natural gas sources that would result in an increase in GHG emissions instead of a decrease. These additional implementation challenges are substantial.

Second, EPA must actually operate the permit system if a state completely opts out, and here the Tenth Amendment constraints present a significant barrier. As discussed above,<sup>299</sup> the Supreme Court’s recent Tenth Amendment decisions go far toward applying a strict anti-commandeering principle. If, as the *Printz* case holds, federal law cannot even require local law enforcement authorities to accept materials relating to gun purchases,<sup>300</sup> it is hard to see how EPA could command state governments to administer parts of its FIP.

EPA proposes to modify the pre-existing permits issued under Title V of the Clean Air Act to include emission limits imposed through the Clean Power Plan FIP.<sup>301</sup> This step should help smooth the transition of the FIP’s requirements into the current system. But can EPA require states to undertake even this limited step? The answer under *Printz* may well be no, and the oppositional states can be counted on to litigate the question.

EPA has subtly recognized this lurking issue. The CPP FIP suggests that states may wish to accept delegation of the administrative aspects of the plan and become the primary implementers of it. In other words, the substantive aspects of EPA’s plan would remain in effect, but the states would administer them. Normally, states should find that offer attractive. Many states already administer the Title V permit system, and those states would generally prefer that permits governing critical sources of state electricity remain in the hands of state rather than federal officials. But the high level of political resistance to FIPs may cause states to refuse even this limited delegation. If so, the refusal would leave EPA to ponder how it can administer the day-to-day permit functions of its trading system in a large number of states.

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297. See DeMeester & Adair, *supra* note 285, at 11156 (“‘Leakage’ occurs when an environmental policy causes an increase of pollution outside its scope, a phenomenon that effectively reduces its environmental benefits. Under the Clean Power Plan, the EPA is concerned about the possibility of leakage of carbon emissions from affected units to new sources that would not be covered [by the Plan].”).

298. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,977 (“The final [Emission Guidelines] specify the concern of leakage, which is defined . . . as the potential of an alternative form of implementation of the BSER (e.g., the rate-based and mass-based state goals) to create a larger incentive for affected EGUs to shift generation to new fossil fuel-fired EGUs relative to what would occur when the implementation of the BSER took the form of standards of performance . . .”).

299. See *supra* section I.D.1.

300. *Printz v. United States*, 521 U.S. 898, 935 (1997).

301. Proposed Clean Power Plan FIP, 80 Fed. Reg. at 64,984 (discussing how new requirements will be inserted into Title V permits and how allowances may be traded without permit revisions).



## CONCLUSION

EPA's Clean Power Plan FIP draws on a long history of FIPs adopted by EPA, and as shown in this Article, this history reveals that EPA's use of FIPs has evolved considerably. EPA has now used FIPs as affirmative vehicles to implement the Clean Air Act, and the history of EPA's use of FIPs offers one means of evaluating some of the choices available under the proposed Clean Power Plan FIP. It reveals points at which the FIP's implementation presents tradeoffs between policies that the program attempts to promote and difficult issues of administration. In short, despite EPA's success with affirmative FIPs, in important respects the Clean Power Plan FIP will enter significant stretches of uncharted regulatory territory.