

C O M M E N T

# The Clean Air Act, Pigouvian Pricing, and Climate Governance

by Ross Astoria

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Two carbon pricing bills were introduced during the 115th Congress. Reps. Carlos Curbelo (R-Fla.) and Brian Fitzpatrick (R-Pa.) introduced the MARKET CHOICE Act (MCA) during the summer of 2018.<sup>1</sup> Reps. Ted Deutch (D-Fla.) and Francis Rooney (R-Fla.) introduced the Energy Innovation and Carbon Dividend Act (Energy Innovation Act) in November 2018,<sup>2</sup> and reintroduced it early in the 116th Congress, where it presently has more than 65 cosponsors.<sup>3</sup> By different methods and with different comprehensiveness, both of these bills place a Pigouvian tax on greenhouse gas (GHG) emissions. Among other things, they are notable for attracting Republican cosponsors and amending the Clean Air Act (CAA)<sup>4</sup> to temporarily suspend certain of the U.S. Environmental Protection Agency's (EPA's) authority over GHGs.

Many climate advocates (including this author) would prefer that climate legislation leave the CAA unaltered. The urgency of coalition-forming across political parties, however, has brought the CAA into the policy discussion. In this context, to prevent against the accidental inclusion of overly expansive and damaging language, climate advocates should attend closely to the legal and policy implications of any language amending the CAA. Once the legal implications are accurately assessed, suspension of CAA programs vis-à-vis a Pigouvian price on carbon can be eval-

uated and, further, can be evaluated in the context of other state and federal policies that attend climate governance.

The first part of this Comment analyzes the legal implications of the CAA amendments found in the Energy Innovation Act.<sup>5</sup> The goal here is to specify which existing EPA GHG programs would be retained and suspended, as well as which prospective GHG programs would be precluded. Drawing out these legal and policy implications allows climate advocates to alter the language of any proposed CAA amendments so as to avoid unintended consequences. The first solicitation of this piece, then, is the correction and expansion of this legal analysis.

With the legal analysis as a basis, the second part of this Comment conducts a comparative evaluation of a selection of CAA programs vis-à-vis Pigouvian pricing. Part II.A. summarizes how independent economic analysis concludes that the Energy Innovation Act's choice of which regulations to suspend aligns with prescriptions of economic efficiency: the suspended CAA programs are redundant to sufficiently stringent Pigouvian pricing and those retained complement Pigouvian pricing.

However, besides efficient mitigation, a variety of other climate governance values might be pursued with legislation, and these values are introduced in Part II.B. and brought into the evaluative framework. The CAA programs and Pigouvian pricing are briefly compared with these additional values and considerations. The second solicitation of this Comment, then, is the further development of the comparative analysis of the relationship of the CAA, Pigouvian pricing, and other climate policies, in anticipation of the formulation of a federal climate bill.

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*Author's Note: All views expressed herein are solely the author's and not necessarily those of any of his institutional affiliations.*

1. Modernizing America With Rebuilding to Kickstart the Economy of the Twenty-First Century With a Historic Infrastructure-Centered Expansion Act, or the MARKET CHOICE Act, H.R. 6463, 115th Cong. (2018). Cosponsored by Reps. Brian Fitzpatrick (R-Pa.) and Francis Rooney (R-Fla.). Representative Fitzpatrick reintroduced the MCA at the end of September 2019 (H.R. 4520, 116th Cong. (2019)).
2. Energy Innovation and Carbon Dividend Act of 2018, H.R. 7173, 115th Cong. (2018). Sens. Chris Coons (D-Del.) and Jeff Flake (R-Ariz.) introduced a companion bill to the Energy Innovation and Carbon Dividend Act during the closing days of the 115th Congress. S. 3791, 115th Cong. (2018).
3. Energy Innovation and Carbon Dividend Act of 2019, H.R. 763, 116th Cong. (2019).
4. 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

5. The CAA-amending language in the Energy Innovation Act and the MCA are substantially the same. However, at this time, the Energy Innovation Act is "in play" and thus is the subject of analysis. Throughout this Comment, however, some of the important differences between the MCA and Energy Innovation Act are flagged in footnotes.

## I. Legal Analysis of Energy Innovation Act Amendments

Section 8 of the Energy Innovation Act would amend the CAA by adding language at §330.<sup>6</sup> The amending language is a general but conditional prohibition on the EPA Administrator's authority to enforce rules limiting GHG emissions unless otherwise specifically authorized to do so:

(a) Fuels.—Unless specifically authorized in section 202, 211, 213, or 231 . . . if a carbon fee is imposed by section 9902 or 9908 on the Internal Revenue Code of 1986 with respect to a covered fuel, the Administrator shall not enforce any rule limiting the emissions of greenhouse gases from the combustion of that fuel under this Act (or impose any requirement on any State to limit such emission) on the basis of the emission's greenhouse gas effects.<sup>7</sup>

The §8 language would suspend some EPA GHG programs, specifically retain others, and have no impact whatsoever upon others. To begin, Part I.A. identifies some salient programs unaffected.

### A. CAA Programs Unaffected

First, the Energy Innovation Act does not affect EPA's power to regulate air pollutants based upon their conventional deleterious impacts on human health or welfare. The Energy Innovation Act defines "greenhouse gas effect" as "the adverse effects of greenhouse gases on health or welfare caused by the greenhouse gas's heat-trapping potential or its effect on ocean acidification."<sup>8</sup> EPA authority over pollutants such as nitrogen oxide (NO<sub>x</sub>), sulfur oxide, lead, volatile organic compounds, ozone, and particulate matter remains unaltered. Similarly, EPA's CAA §112 authority over hazardous air pollutants remains unaltered.

Further, the definition of greenhouse gas effect allows for the regulation of GHGs based upon their non-GHG effects, which the Energy Innovation Act makes explicit at proposed §330(c):

Authorized Regulation.—Notwithstanding subsections (a) and (b), nothing in this section limits the Administrator's authority pursuant to any other provision of this Act—(1) to limit the emission of any greenhouse gas because of any adverse impact on health or welfare other than its greenhouse gas effects; (2) in limiting emissions as described in paragraph (1), to consider the

collateral benefits of limiting the emissions because of greenhouse effects . . .<sup>9</sup>

NO<sub>x</sub>, for instance, is both a GHG and a conventional pollutant. Under the proposed CAA amendments, EPA may continue to regulate NO<sub>x</sub> on the basis of its non-GHG effects. Further, under proposed §330(c)(2), when EPA does regulate NO<sub>x</sub> based upon its non-GHG effects, it may account for the climate co-benefits associated with that regulation. The EPA Administrator may also continue to regulate nongaseous heat-trapping air pollutants, such as black carbon.<sup>10</sup>

Second, the suspension is conditional: "if a carbon fee is imposed by section 9902 or 9908 . . . with respect to a covered fuel, the Administrator shall not enforce any rule limiting the emissions of greenhouse gases from the combustion of that fuel."<sup>11</sup> If the GHG emissions of a covered fuel are not priced, then the Administrator may enforce rules limiting the emission of GHGs based upon their greenhouse gas effect.<sup>12</sup> The conditionality helps ensure that as the scope of Pigouvian pricing might alter, the scope of EPA's CAA authority makes complementary adjustments. For instance, the Energy Innovation Act does not price the GHGs from biofuels, and since the suspension of enforcement authority is conditional, the CAA's renewable fuel standard (RFS) is unsuspended.<sup>13</sup>

Third, neither the MCA nor the Energy Innovation Act abandons a regulatory strategy for an unexamined "market" strategy. In an innovation on carbon taxing, both the MCA and the Energy Innovation Act evaluate the success of carbon pricing against a legislated mitigation schedule—an environmental integrity mechanism (EIM). An EIM is a process for evaluating the success of carbon pricing at inducing mitigation and responsively calibrating the carbon price. Under the Energy Innovation Act, the effectiveness of the carbon fee is measured against annual mitigation targets. When total emissions from priced fuels fail to meet the scheduled targets, the annual rate of increase on the carbon fee increases from \$10 per year to \$15 for the subsequent year.<sup>14</sup> Besides annual evaluations, an EIM also provides a baseline for evaluating the success of carbon pricing, identifying shortcomings, and reinstating CAA regulatory action, ideally with clarified authority. The Energy Innovation Act does not abandon a regulatory

6. H.R. 763, §8 (2019).

7. *Id.* §8(a). The proposed CAA amendments in the Energy Innovation Act also prohibit the regulation of greenhouse gas "emissions" at §330(b) if they have been priced. In the context of the Energy Innovation Act, "emissions" include only fluorinated gases. In contrast, the MCA also prices industrial emissions and the "emissions" in the MCA's CAA amendments also refers to those industrial emissions. H.R. 6463, §2 (2018).

8. H.R. 763, §3 (proposed §9901(p)) (2019).

9. *Id.* §8(a) (proposed §330(c)).

10. *Id.* (proposed §330(c)(3)).

11. *Id.* (proposed §330(a)).

12. One worry that has arisen is that in a hostile U.S. Congress, the U.S. Senate may use its reconciliation authority, in conjunction with the support of the U.S. House of Representatives and the president, to remove the carbon fee or substantially reduce it, leaving the CAA amendments in place while negating the carbon pricing. This worry can be alleviated by also amending the Congressional Budget Act so as to expand the Byrd Rule and identify matters concerning the carbon fee to be extraneous, as is already done, for instance, with matters concerning Social Security. *See* Congressional Budget and Impoundment Control Act of 1974, §313(b)(1) (referencing §310(g)), 88 Stat. 297.

13. The MCA does price biofuel emissions (H.R. 6463, proposed §9903). For analysis of the RFS, see *infra* note 26.

14. H.R. 763 (proposed §9903(a)(2)). The MCA articulates its abatement targets against a total carbon budget (H.R. 6463, proposed §9901(b)(3)).

approach for an unrestrained market approach, but subjects carbon pricing to evaluation and calibration.

Fourth, the Energy Innovation Act removes from the Administrator the power to “enforce” any rule limiting the emissions of GHGs on the basis of the emission’s greenhouse gas effect.<sup>15</sup> In the Energy Innovation Act, the test period for the regulatory suspension is up to 2030, and the word “enforce” allows the EPA Administrator to develop GHG emission standards in preparation for immediate implementation at the end of the test period. Proposed §330(f)(2) requires the Administrator to promulgate regulations within two years of the final determination that emission targets have been exceeded. The two-year deadline is not an excuse for delay, but a compulsion for a reticent Administrator.

Fifth, the Energy Innovation Act also does not alter EPA’s present CAA authority over fluorinated gases (f-gases). Through its definition of “fluorinated greenhouse gases,” the Energy Innovation Act retains the status quo under the Montreal Protocol.<sup>16</sup> CAA §601 implements the Montreal Protocol’s regulation of ozone-depleting substances (ODS). The substitutes for ODS are themselves GHGs but not ODS, so they are not regulated under either the Montreal Protocol or CAA §601, as confirmed in *Mexichem Fluor, Inc. v. Environmental Protection Agency*.<sup>17</sup> The Energy Innovation Act elects to price these f-gases.<sup>18</sup> However, the Kigali Amendment to the Montreal Protocol, an international agreement to regulate non-ODS f-gases, went into force in early 2019.<sup>19</sup> Congress’ first climate bill might join the Kigali Amendment, but the Energy Innovation Act does not alter EPA’s current authority over f-gases or ODS.

Sixth, the Energy Innovation Act leaves *Massachusetts v. Environmental Protection Agency* undisturbed, so that GHGs remain air pollutants for purposes of the CAA.<sup>20</sup> The §202 endangerment and cause or contribute finding and the §231 endangerment finding for aviation emis-

sions are similarly unaltered.<sup>21</sup> EPA’s power to monitor and investigate GHG emissions is explicitly retained.<sup>22</sup>

Seventh, §211(o) of the CAA establishes an RFS program. The RFS program requires transportation fuel suppliers to blend a specified volume of renewable fuel with the fossil fuel-based gasoline and diesel they sell.<sup>23</sup> The program instructs EPA to calculate the “baseline” life-cycle GHG emissions of the U.S. gasoline and diesel fuel supply.<sup>24</sup> The renewable fuels blended with that supply must have lower life-cycle GHG emissions than this baseline.<sup>25</sup> Because the regulatory suspension language is conditional upon pricing and because the Energy Innovation Act does not price biofuels, the RFS program is retained.<sup>26</sup>

Finally, the Energy Innovation Act explicitly announces that it does not preempt state authority over GHGs.<sup>27</sup>

## B. CAA Programs Specifically Authorized

The general suspension language to be included at §330 of the CAA allows for the Administrator to limit GHGs when the CAA statute specifically authorizes the Administrator to do so. The Energy Innovation Act makes five such amendments to the CAA.

First, the Administrator may continue to regulate the GHG emissions originating from those natural gas and petroleum systems subject to 40 C.F.R. Subpart OOOO (quad-O regulations).<sup>28</sup> The quad-O regulations are aimed at detecting and minimizing methane leaks from “upstream” natural gas and petroleum production facilities.<sup>29</sup>

15. *Id.* (proposed §330(a)).

16. H.R. 7173 proposed §9901(j) reads:

Fluorinated Greenhouse Gas.—The term “fluorinated greenhouse gas” means sulfur hexafluoride (SF<sub>6</sub>), nitrogen trifluoride (NF<sub>3</sub>), and any fluorocarbon except for controlled substances as defined in subpart A of part 82 of title 40, Code of Federal Regulations, and substances with vapor pressure of less than 1 mm of [mercury] Hg absolute at 25 degrees. With these exceptions, “fluorinated greenhouse gas” includes but is not limited to any hydrofluorocarbon, any perfluorocarbon, any fully fluorinated linear, branched or cyclic alkane, ether, tertiary amine or aminoether, any perfluoropolyether, and any hydrofluoropolyether.

17. 866 F.3d 451 (D.C. Cir. 2017).

18. H.R. 7173 (proposed §9904).

19. Kigali Amendment to the Montreal Protocol on Substances That Deplete the Ozone Layer, Oct. 15, 2016.

20. 549 U.S. 497, 37 ELR 20075 (2007) (holding that for purposes of §202 of the CAA, greenhouse gases are an “air pollutant”).

21. Endangerment and Cause or Contribute Findings for Greenhouse Gas Under Section 202(a), 74 Fed. Reg. 66495 (Jan. 14, 2010); Finding That Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated to Endanger Public Health and Welfare, 81 Fed. Reg. 54421 (Sept. 14, 2016).

22. H.R. 763 (proposed §330(c)(4)).

23. CAA §211(o).

24. *Id.* §211(o)(1)(C).

25. *See id.* §211(o)(1)(D), (1)(E), §211(o)(2)(A)(i), §211(o)(4).

26. The MCA takes a different approach and prices the full-fuel cycle emissions of biofuels. Thus, under the MCA, the RFS program seems to be suspended. However, there is a question as to whether the RFS program is a “limit” on GHG emissions. Because the renewable fuels must have lower life-cycle GHG emissions, the RFS could be conceived of displacing higher-emitting fuels with lower-emitting renewable fuels and thus as “limiting” GHG emissions, which would subject it to the Energy Innovation Act §303 regulatory rollback language. The last subsection of the RFS statutory language has a “saving” clause that might prohibit this interpretation:

Nothing in the subsection, or regulations issued pursuant to this subsection, shall affect or be construed to affect the regulatory status of carbon dioxide or any other greenhouse gas, or to expand or to limit regulatory authority regarding carbon dioxide or any other greenhouse gas, for purposes of other provisions (including section 7475) of this chapter. The previous sentence shall not affect implementation and enforcement of this subsection.

CAA §211(o)(12). The §211(o) RFS, then, appears not to be a GHG program at all, and therefore not a “limit” on GHG emissions. Should biofuels be priced in any final legislation, that legislation might include a specification of the status of the RFS program.

27. H.R. 763, §11 (“Nothing in this legislation shall preempt or supersede, or be interpreted to preempt or supersede, any State law or regulation.”).

28. *Id.* §8 (proposed §330(d)(1)).

29. 40 C.F.R. §§60.5360 et seq. (77 Fed. Reg. 49542 (Aug. 16, 2012)).

Second, the Administrator may continue to regulate the GHG emissions from publicly owned treatment works.<sup>30</sup>

Third, the Energy Innovation Act adds new language at §202(b) of the CAA specifically allowing the Administrator to issue GHG regulations for new motor vehicles and new motor vehicle engines. EPA issues such standards in coordination with the National Highway Transportation Safety Administration's (NHTSA's) issuance of Corporate Average Fuel Economy (CAFE) standards. The Energy Innovation Act does not alter NHTSA authority, which is found at 49 U.S.C. Chapter 329 (Automobile Fuel Economy). Thus, EPA and NHTSA may continue to issue GHG tailpipe standards and CAFE standards. The Energy Innovation Act also specifically allows the Administrator to grant a §209 waiver to California.<sup>31</sup>

Fourth, the Energy Innovation Act allows the Administrator to regulate the GHG emissions from nonroad engines and nonroad vehicles.<sup>32</sup>

Fifth, the Energy Innovation Act amends CAA §231 to allow the Administrator to limit the emissions of GHGs from aircraft engines, "so long as any such limitation is not more stringent than the standards adopted by the International Civil Aviation Organization."<sup>33</sup>

### C. CAA Programs Suspended

The Energy Innovation Act would suspend the statutory authorities that support the following existing programs: the Title V/Prevention of Significant Deterioration (PSD) program, the §111(b) new source performance standards, and the §111(d) existing source performance standards. It also prevents the enforcement of a §110 national ambient air quality standard (NAAQS) for GHGs and the implementation of §115 (concerning international air pollution). Both §110 and §115 are implemented through state implementation plans (SIP), so a SIP call under those statutory authorities is precluded. The Energy Innovation Act also amends the CAA language that might provide the authorization for a low-carbon fuel standard.

#### I. Suspension of Authority to Enforce Existing Regulations

Under its PSD and Title V program, EPA requires states to include in the PSD/Title V portion of their SIPs a requirement that new or modified sources of GHGs use best available control technology (BACT).<sup>34</sup> The Energy Innovation Act would suspend the PSD/Title V permitting requirements for priced GHGs.<sup>35</sup> EPA's guidance

on BACT focused on facility-level efficiency.<sup>36</sup> Hence, under the Energy Innovation Act's pricing structure, the CAA amendments would suspend the inclusion of on-site carbon dioxide (CO<sub>2</sub>) emissions from combustion originating from new or modified sources in a state PSD/Title V program.

CAA §111(b) directs the Administrator to issue "standards of performance" for emissions from new stationary sources. The standards must reflect "the degree of emission reduction achievable through the application of the best system of continuous emission reduction which . . . the Administrator determines has been adequately demonstrated" (the BSER standard).<sup>37</sup> EPA has set the new source performance standards in terms of an emission rate of CO<sub>2</sub> per unit of energy (lbs CO<sub>2</sub>/MWh-g) for identified classes of electrical power facilities.

For natural gas plants, it set the standard at 1,030 lbs CO<sub>2</sub>/MWh-g for baseload natural gas-fired units.<sup>38</sup> For newly constructed coal-fired plants, it set the standard at 1,400 lbs CO<sub>2</sub>/MWh-g, a standard that can only be met with the deployment of partial carbon capture and sequestration (CCS) technology.<sup>39</sup> It is largely agreed that the policy impact of the §111(b) rule is the prohibition of new coal-fired plants in favor of new gas-fired plants, an environmental result already in trend with the economics of these two technologies.

Section 111(d) provides that once EPA has issued standards for new sources, it is to require states to revise their SIPs so as to include performance standards for existing plants in the same category as those regulated under §111(b).<sup>40</sup> State SIPs for these existing source performance standards follow the BSER standard. The Barack Obama EPA §111(d) standards—the Clean Power Plan, or CPP—relied upon three building blocks for determining the BSER: (1) production-side efficiency at coal plants (heat-rate intensity, or the ratio of energy produced per unit of chemical energy in the coal); (2) generation-shifting away from coal-fired plant and to natural gas-fired plant; and (3) generation-shifting away from coal-fired plant and to renewables.<sup>41</sup> EPA's initial proposal included user-side efficiency as a fourth potential building block, but EPA discarded it because of its ultra vires vulnerability.<sup>42</sup>

Of the EPA GHG regulations proposed, the CPP was projected to have produced the greatest amount of

30. H.R. 763, §8(a) (proposed §330(d)(2)).

31. *Id.* §8(b).

32. *Id.* §8(d).

33. *Id.* §8(e).

34. 75 Fed. Reg. 31513 (June 3, 2010), *amended by* 81 Fed. Reg. 68110 (Oct. 3, 2016) (codified at 40 C.F.R. §§51, 52, 60, 70, 71).

35. The MCA and the Energy Innovation Act differ in this respect, as the MCA prices industrial emissions.

36. U.S. EPA, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES (2011) (EPA-457/B-11-001), *available at* <https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf>.

37. CAA §111(a) (defining the term "standards of performance").

38. Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electrical Utility Generating Units, 80 Fed. Reg. 64510, 64513 (Oct. 23, 2015).

39. 80 Fed. Reg. at 64512-13 (Table 1). EPA's proposed revision of the new source performance standard for GHGs removes CCS from the BSER standard. Review of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, 83 Fed. Reg. 65424, 65437 (Table 1) (Dec. 20, 2018).

40. CAA §111(d)(1)(ii).

41. 80 Fed. Reg. 64661, 64718-36 (Oct. 23, 2015).

42. 80 Fed. Reg. at 64738.

carbon pollution abatement through 2050. It was also subjected to the most vigorous legal challenges and was never implemented before revision by the Donald Trump Administration.<sup>43</sup>

## 2. Suspension of Authority for Other Prospective GHG Rules

The Energy Innovation Act also suspends the CAA authority that EPA might have relied upon to promulgate other programs, including a low-carbon fuel standard, a §110 NAAQS for GHGs, and a SIP call under §115 (concerning international air pollution).

First, the Energy Innovation Act amends the section of the CAA most likely to have been relied upon as authority for the implementation of a national low-carbon fuel standard—§211(c).<sup>44</sup> As implemented in California, a low-carbon fuel standard identifies the carbon intensity of transportation fuels and then requires annual reductions in the carbon intensity in the fuel supply. Carbon intensity is the ratio of GHG emissions embedded in a fuel against the energy content of that fuel (designated in grams CO<sub>2</sub> per mega joule).<sup>45</sup> Embedded carbon includes the full-fuel cycle GHG emissions, so that fuels with higher carbon intensities (such as tar sands) should be squeezed out of the wholesale market. The greenhouse gases, regulated emissions, and energy use in transportation model (GREET) from Argonne National Laboratory provides the foundational method for making such evaluations.<sup>46</sup>

Second, Howard Crystal et al. have recently re-proposed that EPA classify CO<sub>2</sub> as a criteria pollutant under CAA §110 and then issue an NAAQS.<sup>47</sup> Once EPA has established an NAAQS for CO<sub>2</sub>, “each state must prepare—within three years—a SIP to obtain ‘implementation, maintenance, and enforcement’ of the standards.”<sup>48</sup> “For nonattainment areas, these plans must include, *inter alia*, ‘the implementation of all reasonably available control measures as expeditiously as practical . . .’”<sup>49</sup> Crystal et al. note the insufficiency of the Obama-era §111 sector-by-sector approach for meeting the 1.5 degrees Celsius (°C) mitigation goal and prefer the NAAQS approach for its comprehensiveness.<sup>50</sup> Crystal et al. focus on the legality of implementing an NAAQS for CO<sub>2</sub>, leaving the characterization of a GHG SIP call for a future project.

Third, CAA §115 requires that, so long as certain other conditions are met, when an air pollutant emitted in the

United States endangers the public health or welfare in a foreign country, the EPA Administrator shall notify the governor of the state originating those pollutants.<sup>51</sup> The governor is then obliged to revise the state SIP to prevent or eliminate the endangerment. Under the §115 strategy, an Administrator, relying upon the fact that GHG emissions originating in the United States endanger the public welfare in other countries, would issue a notification to each of the 50 states requiring them to modify their SIPs so as to prevent or eliminate the endangerment from the GHGs emitted in their jurisdiction.<sup>52</sup>

Advocates of the §115 SIP call note that the language in §115 appears quite general, so that the Administrator and the states “could use the provision to establish an economy-wide, cross-sectoral GHG emissions trading program that incorporates both stationary and mobile sources. In so doing, section 115 could provide one of the most effective and efficient means for addressing climate change pollution in the United States.”<sup>53</sup> If so, the §115 strategy allows for comprehensive, state-level mitigation across various source categories.

As described by Michael Burger et al., such a SIP call can be quite broad and flexible. EPA would allocate a GHG reduction requirement and concurrent emission allowances to each state. The state would then have the opportunity “to allocate to sources in whatever manner the state deems most appropriate, supported by a backstop of a federal auction of the allowances if a state is unwilling to do so.”<sup>54</sup> Burger et al. believe that the SIP is flexible enough that states would be able to meet some of their mitigation obligations through transportation planning, such as California’s S.B. 375.<sup>55</sup> Since both the §115 strategy and the §110 strategy rely upon a SIP call for GHGs, the remainder of this Comment assumes that the policy implications of the two strategies are the same.

## II. Evaluation

Supposing that amending the CAA is part of the discussion and design of the United States’ first federal GHG mitigation legislation, how might climate advocates evaluate the trade offs between Pigouvian pricing, CAA regulations, and other mitigation policies? First, canonical economic theory indicates that most of the CAA programs suspended by the Energy Innovation Act are those made redundant by a sufficiently stringent carbon price (see Part II.A. below). However, climate advocates should seek additional granularity on the interaction of Pigouvian pricing with particular CAA strategies, and, further, that evaluation should be done in the context of other prospective state and federal policies that might accompany a federal climate bill.

43. For further discussion of §110, see *infra* Part II.

44. H.R. 763, §8(c).

45. CAL. CODE REGS. tit. 17, §§95480-95503 (2010).

46. Argonne National Laboratory, *GREET Model*, <https://greet.es.anl.gov/> (last visited Oct. 10, 2019). GREET would also be the foundation for identifying the amount of carbon tax to be paid and the amount of the border carbon fee adjustment to be paid under the Energy Innovation Act.

47. Howard M. Crystal et al., *Returning to Clean Air Act Fundamentals: A Renewed Call to Regulate Greenhouse Gases Under the National Ambient Air Quality Standards (NAAQS) Program*, 31 GEO. ENVTL. L. REV. 233 (2019).

48. *Id.* at 257.

49. *Id.* (citing §7410(a) and §7502(c)(1)).

50. *Id.* at 236-37.

51. For further discussion of §115, see *infra* Part II.

52. Michael Burger et al., *Legal Pathways to Reducing Greenhouse Gas Emissions Under Section 115 of the Clean Air Act*, 28 GEO. ENVTL. L. REV. 359 (2016).

53. *Id.* at 361.

54. *Id.* at 406.

55. *Id.* at 417-18.

To start this discussion, Part II.B. compares the §111, §110, and §115 regulatory strategies along their time-risk, litigation-risk, political-risk, and prospective policy outcomes. In this regard, the §115 comprehensive GHG SIP call seems to be the preferential strategy, prospectively accomplishing the most comprehensive policy outcome with the least litigation risk. The Comment concludes by sketching how a §115 SIP call might interact with other climate governance values and infrastructure policy, beginning the effort to produce some granularity on the interaction between Pigouvian pricing, particular CAA programs, and other state and federal policies that might accompany a climate bill.

### A. Canonical Economic Theory

In a spring 2019 paper, Justin Gundlach et al. evaluate prominent CAA GHG programs against a Pigouvian price on carbon. They categorize CAA programs on a spectrum from “complementary” to “redundant” in the presence of a sufficiently stringent Pigouvian price.<sup>56</sup> In their evaluation, a policy is complementary “if it enables more cost-effective reductions of CO<sub>2</sub> emissions than a carbon tax could achieve on its own.”<sup>57</sup> Generally, Gundlach et al. think that while carbon pricing corrects one type of market failure, complementary policies will “address other market failures.”<sup>58</sup> A policy can also be complementary if it “achieves a separate policy objective (e.g., reducing local air pollution) more cost-effectively than a federal carbon tax would on its own.”<sup>59</sup> A policy is redundant with federal Pigouvian pricing when “it leads to additional costs to society without achieving additional emissions reductions.”<sup>60</sup>

From this evaluative frame, Gundlach et al. find that the §111(b) program, the §111(d) program, and the PSD/Title V permitting program are “mostly redundant” in the presence of a sufficiently stringent carbon price.<sup>61</sup> They also

conclude that the §115 strategy is mostly redundant.<sup>62</sup> They find vehicle “tailpipe” and CAFE standards to be “partly complementary, partly redundant.”<sup>63</sup> California’s low-carbon fuel standard is partly complementary, partly redundant, but they do not evaluate either a federal low-carbon fuel standard or a linking of California’s low-carbon fuel standard to other states.<sup>64</sup> They also do not discuss aviation emissions or the §110 NAAQS strategy. However, to the extent that §§110 and 115 have the same policy aim (a comprehensive GHG SIP call), the conclusion would seem to be that §110 would be mostly redundant.

As a first evaluation then, the regulatory suspensions in the Energy Innovation Act largely align with the prescriptions of canonical economic theory: the proposed suspensions are those that are to one extent or another redundant to a sufficiently stringent carbon price, while those CAA GHG programs that are not redundant are retained.

### B. Evaluative Granularity: Climate Governance, Values, and Infrastructure

To extend from the economic evaluation of the relationship between Pigouvian pricing and particular CAA regulatory strategies, this section first compares the relative ability of the §111, §110, and §115 strategies to induce mitigation against their time-risk, litigation-risk, political-risk, and prospective policy objectives. From this comparison, the §115 SIP call is the preferred strategy, although its litigation risk remains substantial.

The policy aim of the §115 SIP call is the development of legally enforceable, comprehensive state-level mitigation obligations. To expand the comparison between Pigouvian pricing and CAA regulatory strategies, other values besides efficient mitigation are introduced and the importance of infrastructure is foregrounded. From this perspective, states appear to be the correct level of governance to pursue many of these desirable climate governance objectives, but the SIP call might not be the most appropriate instrument to achieve those objectives.

56. JUSTIN GUNDLACH ET AL., COLUMBIA UNIVERSITY, INTERACTIONS BETWEEN A FEDERAL CARBON TAX AND OTHER CLIMATE POLICIES (2019), available at [https://energypolicy.columbia.edu/sites/default/files/file-uploads/Carbon-TaxPolicyInteractions-CGEP\\_Report\\_031119.pdf](https://energypolicy.columbia.edu/sites/default/files/file-uploads/Carbon-TaxPolicyInteractions-CGEP_Report_031119.pdf). See also Justin Gundlach, *To Negotiate a Carbon Tax: A Rough Map of Interactions, Tradeoffs, and Risks*, 43 COLUM. J. ENVTL. L. 269 (2018). In this article, Gundlach uses different evaluative categories: policies are complementary if they “(i) bring pressure or incentives to bear on actors and interactions by removing buffers that would absorb or deflect the pressure or informational signals created by a carbon tax; or (ii) intensify the effects or informational signals of a carbon tax to a material degree.” *Id.* at 301. Concurrent policies “apply more than one instrument not only to the same ultimate goal but to the same impediment.” *Id.* at 302. Conflicting policies “push in directly opposing directions on the same price or incentive.” *Id.* at 303.

57. GUNDLACH ET AL., *supra* note 56, at 22.

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.* at 27 (concerning §111(b)), *id.* (concerning §111(d)), *id.* (concerning PSD/Title V). In *To Negotiate a Carbon Tax*, Gundlach concludes that so long as the carbon tax rate is high enough to push all new fossil fuel-fired electricity-generating units to use CCS, a new source performance standard is either concurrent or conflicting (if the performance standards recommended technology that pushes facilities away from using promising non-BACT technologies). Gundlach, *supra* note 56, at 305-06. In the article, Gundlach concludes that the CPP is concurrent with a sufficient carbon

tax. “The Clean Power Plan addresses the same climate change externality as would be addressed by a carbon tax, but not in a way that would amplify the price signal sent by the carbon tax.” *Id.* at 306. Gundlach also concludes that the PSD program is complementary if “the tax is set low enough not to prompt inclusion of CCS/U [carbon capture and storage/utilisation] in the design of new facilities in attainment areas, and EPA identifies CCS/U as BACT for those facilities.” *Id.* at 307.

62. GUNDLACH ET AL., *supra* note 56, at 27. In *To Negotiate a Carbon Tax*, Gundlach characterizes §115 as concurrent, but this is partially because of, at the time, lack of specifics as to the characteristics of a §115 SIP call. Gundlach, *supra* note 56, at 307.

63. GUNDLACH ET AL., *supra* note 56, at 228-29. In *To Negotiate a Carbon Tax*, Gundlach concludes that CAFE standards are partly complementary, partly concurrent. In particular, the tailpipe and CAFE standards compensate for the “rebound” effect and help schedule capital formation for the new plant required to manufacture the new vehicles. Gundlach, *supra* note 56, at 308-12.

64. GUNDLACH ET AL., *supra* note 56, at 36-37. In *To Negotiate a Carbon Tax*, Gundlach concludes that California’s low-carbon fuel standard is complementary because it is “directed at impediments to low-emission ethanol production, distribution, and use in a more targeted way that [sic] a carbon tax would be.” Gundlach, *supra* note 56, at 322.

## I. Comparison of the §111, §110, and §115 Strategies

All CAA regulatory strategies involve time risks, litigation risks, and political risks, which combine into a carbon risk. As for time risks, the CAA strategies depend upon the appointment of an Administrator willing to implement any of these strategies. Those strategies must then survive legal challenge before a likely hostile U.S. Supreme Court. The year 2024 then appears to be the earliest date of first implementation for any of the regulatory approaches prospectively suspended by the Energy Innovation Act's CAA amendments. Delay of any sort could extend the implementation period into a second presidential term, increasing the political risk. The carbon risk associated with any of the proposed regulatory strategies is then between 7 parts per million (ppm) and 14 ppm increase in atmospheric concentration of CO<sub>2</sub> before the commencement of implementation (i.e., between three and six years).

The CPP exemplifies these time and litigation risks. The main legal challenge to the CPP centered on the meaning of the word “system” in the BSER standard.<sup>65</sup> Opponents argued that “system” was limited to particular, discrete facilities, so that the BSER standard allowed EPA to rely only upon the first of the three building blocks.<sup>66</sup> This was branded the “fence line” argument, a framing that cleverly entrenched the discourse in the ideology of the home and the sort of private property associated therewith. Defenses of the CPP argued that individual coal-fired plants interacted with other plants on the grid in such a way that elements of the second and third building blocks could reasonably be considered parts of a system.<sup>67</sup>

The Trump Administration has just revised the §111(d) regulations to limit them to the first building block (the Affordable Clean Energy rule, or ACE rule), essentially developing the position of the petitioners in *West Virginia v. Environmental Protection Agency*.<sup>68</sup> The ACE rule will satisfy the legal requirement of *Massachusetts* while also precluding federal common lawsuits. If a new Administrator revised the §111(d) performance standards to include the second two building blocks while enhancing the mitigation targets, it would presumably induce litigation identical to *West Virginia*. The litigation would likely proceed over the course of two presidential administrations, would be conducted before what is likely a now-hostile judiciary, and would thus not be certain to produce a favorable result. From the point of view of climate, the worst-case result is

that in 2025 or so, the Supreme Court interprets the word “system” in the BSER standard to prohibit the second and third building blocks.

Generally, the architecture of the CAA authorizing a sector-by-sector approach to GHG mitigation seems prone to a characteristic type of litigation risk: for EPA to develop a standard of emissions for particular sectors that is robust enough to have climate benefits, it must extend the emission standard “beyond” the technologies regulated in that sector or class. Consequently, the regulation's exposure to ultra vires challenges increases. Besides the §111(d) litigation, the contentiousness of including CCS in the new source performance requirements for coal-fired plants manifested this feature. The same contention also seems likely to arise were EPA to set a §111(b) emission standard for natural gas-fired plants that could only be met with CCS.

The CAA architecture of the sector approach also makes “offsetting” a challenge to develop, as exemplified by aviation emissions. Under CAA §231, EPA shall “issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines.”<sup>69</sup> The Energy Innovation Act amends §231, specifying that EPA may limit GHG emissions from aircraft engines, but only to the stringency of those regulations undertaken by the International Civil Aviation Organization (ICAO).<sup>70</sup> The ICAO has developed efficiency standards for jet engines.<sup>71</sup> While increased efficiency reduces GHG emissions per unit energy used, air flight is not thereby made carbon-neutral, the needed goal.

Carbon neutrality in the aviation sector can be achieved either through an “off-site” CO<sub>2</sub> removal program that “offsets” the flight's emissions (and paid for on the traveler's bill) or through the development of liquid fuels with carbon-neutral life-cycle emissions.<sup>72</sup> Neither of these two mitigation techniques seems to be an “emission standard” for a “class” of aircraft engines. The potential legal challenge would have a character, it seems, analogous to that brought against the CPP: the off-site sinking of CO<sub>2</sub>, like generation-shifting in the CPP, occurs beyond the classes of technologies that the CAA authorizes EPA to regulate and therefore, it might be concluded, is ultra vires.

65. Opening Brief of Petitioners on Core Legal Issues, *W. Va. v. Envtl. Prot. Agency*, No. 15-1363 (D.C. Cir. filed Oct. 23, 2015).

66. *Id.* at 115-35.

67. See, e.g., Brief of Amici Curiae Grid Experts Benjamin F. Hobbs, Brendan Kirby, Kenneth J. Lutz, James D. McCalley, and Brian Parsons in Support of Respondents, *W. Va. v. Envtl. Prot. Agency*, No. 15-1363 (D.C. Cir. filed Oct. 23, 2015).

68. Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32520-84 (July 8, 2019).

69. CAA §213(a)(2)(a).

70. H.R. 763, §8(e). This amending language is an apparent attempt to ensure the regulation of GHG emissions from the aviation sector without inviting political friction.

71. Annex 16 to the Convention on International Civil Aviation—Environmental Protection Volume III, CO<sub>2</sub> Certification Requirement, Mar. 6, 2017, [https://www.fzt.haw-hamburg.de/pers/Scholz/materialFM1/ICAO-2017\\_Annex16\\_Volume3\\_CO2CertificationRequirement.pdf](https://www.fzt.haw-hamburg.de/pers/Scholz/materialFM1/ICAO-2017_Annex16_Volume3_CO2CertificationRequirement.pdf).

72. The ICAO has also developed the voluntary Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). Annex 16 to the Convention on International Civil Aviation—Environmental Protection Volume IV, Carbon Offsetting and Reduction Scheme for International Aviation (CORSA), June 27, 2018, <https://www.unitingaviation.com/publications/Annex-16-Vol-04/>. According to the ICAO website, 81 states representing about 77% of international aviation activity will participate in CORSA. See ICAO, *CORSA States for Chapter 3 State Pairs*, <https://www.icao.int/environmental-protection/CORSA/Pages/state-pairs.aspx> (last visited Oct. 10, 2019).

Since they have not been implemented, the time risks, litigation risks, political risks, and attendant carbon risks associated with the §110 and the §115 strategies are less discernible. Of the two, the §110 strategy would seem to take the longest to implement, as it would require the development of a NAAQS for CO<sub>2</sub> prior to the promulgation of SIP requirements. The §110 strategy would also be undertaken with a dense set of precedent from which courts could cull the verbiage supportive of their favored position. In contrast, the §115 strategy has almost no precedent, suggesting it could be developed more quickly but with a less predictable legal outcome.<sup>73</sup> Both the §110 and §115 strategies rely upon the Court's continued adherence to the *Chevron* deference standard, specifically as used in *Environmental Protection Agency v. EME Homer City Generation L.P.*<sup>74</sup>

As compared to the §111 strategy, advocates of both the §110 and §115 strategies note that a SIP call for GHGs can induce comprehensive state-level planning.<sup>75</sup> The language of §111 requires a sector-by-sector approach to GHG mitigation and is thus inhibited or even prevented from considering the interactions between sectors. For instance, there seems to be no way for states to incorporate the potential mitigation from electric vehicles into their CPP mitigation obligations.<sup>76</sup> The SIP strategy, as outlined in Burger et al., would allow for the trading of mitigation obligations between sectors, seemingly remedying this situation. The state would assign the allocated allowances and annual allowance reductions to each sector. Participants in each sector could then trade emission reductions.<sup>77</sup> Burger et al. also believe EPA could use the SIP call to establish rules for offsetting.<sup>78</sup>

Climate governance is an international effort. As part of the criteria for triggering a SIP revision under §115, the Administrator must receive either a request from the Secretary of State or a report from a "duly constituted international agency" that an air pollutant emitted in the United States is endangering the public health or welfare in a foreign country.<sup>79</sup> The Administrator may request the SIP revision only when the foreign country in question has reciprocated.<sup>80</sup> The §115 strategy then has the potential to facilitate international mitigation efforts. In contrast, both the §110 and §111 strategies can be a part of a nationally determined contribution, but do not otherwise seem to facilitate climate diplomacy.

As between §§110, 111, and 115, along the axis of time risk, litigation risk, and political risk, if forced to choose

between these three CAA strategies in the context of federal Pigouvian pricing, §115 seems the preferred statutory authority. It seems to have the quickest implementation time, have the least litigation risks (although those still seem extensive), and result in mitigation policy at least as comprehensive as the other two strategies. It also has the potential to facilitate international climate diplomacy. If the CAA needed to be amended to secure a durable climate coalition during the passage of a federal GHG mitigation bill, climate advocates might revise §115 so as to clear it of litigation risks.

The SIP operates at the state level in the context of cooperative federalism. While the state seems to be the appropriate level of governance for undertaking many aspects of climate governance, the SIP does not seem to be the most effective instrument for doing so. The next section examines how the SIP might support or conflict with these other aspects of climate governance.

## 2. Infrastructure and Values Other Than Efficient Mitigation

The economic comparison between Pigouvian pricing and the CAA is usually limited to the value of efficient mitigation. As in the discussion above, the question is which of the two can induce the most GHG mitigation at the least cost. Besides the value of efficient mitigation, however, a robust set of values is circulating the climate governance discourse.

Without developing the content or priority of these values here, prominent examples include a just transition, the prioritization of the mitigation of "conventional" air pollutants in minority communities, the rejuvenation of local economies, energy democracy, the enhancement of civic capacity, and the promotion of domestic manufacturing. Additionally, the physical configuration of infrastructure locks in GHG emissions for decades,<sup>81</sup> so that any further development of hydrocarbon infrastructure is incompatible with a 1.5°C pathway.<sup>82</sup> All new infrastructure must be aligned with and support the biophysical and technological attributes of renewable energy resources.<sup>83</sup>

While a comprehensive GHG §115 SIP call might be able to induce, as Burger et al. suggest, a cross-sector and multisector price on GHGs, a SIP seems ill-suited to achieve values other than mitigation. The SIP seems unable to include support for a just transition, prioritize the mitigation of conventional pollutants in minority communi-

73. As identified in Burger et al., two cases pertain: *New York v. Thomas*, 613 F. Supp. 1472, 15 ELR 20748 (D.D.C. 1985), *rev'd*, 802 F.2d 1443, 16 ELR 20925 (D.C. Cir. 1986), and *Her Majesty the Queen in Right of Ontario v. Environmental Protection Agency*, 912 F.2d 1525, 20 ELR 21354 (D.C. Cir. 1990).

74. 134 S. Ct. 1584, 44 ELR 20094 (2014); Burger et al., *supra* note 52, at 371-72; Crystal et al., *supra* note 47, at 242.

75. Crystal et al., *supra* note 47, at 237; Burger et al., *supra* note 52, at 401-08.

76. See Burger et al., *supra* note 52, at 413.

77. *Id.* at 401-08.

78. *Id.* at 418-22.

79. CAA §115(a).

80. *Id.* §115(c).

81. Gregory C. Unruh, *Understanding Carbon Lock-In*, 28 ENERGY POL'Y 817 (2000).

82. See recently OIL CHANGE INTERNATIONAL, BURNING THE GAS "BRIDGE FUEL" MYTH: WHY GAS IS NOT CLEAN, CHEAP, OR NECESSARY (2019), available at [http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth\\_web-FINAL.pdf](http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth_web-FINAL.pdf).

83. Ross Astoria, *Incumbency and the Legal Configuration of Hydrocarbon Infrastructure*, in THE POLITICAL ECONOMY OF CLEAN ENERGY TRANSITIONS 313 (Douglas Arent et al. eds., Oxford Univ. Press 2017), available at <https://www.wider.unu.edu/publication/incumbency-and-legal-configuration-hydrocarbon-infrastructure>.



ties, support domestic manufacturing, or promote energy democracy. The obligations of such a SIP might instigate the emergence of state-level legislation and politics that manifest those values (as seemed to have happened in Illinois in response to the CPP).<sup>84</sup> However, states prepared to manifest such climate policy and politics are already doing so in the absence of federal policy (and partially because of that absence). A §115 SIP call would not seem to offer those states any additional reason to proceed with climate governance, but it could induce a retrograde backlash among other states.

A SIP call also does not seem suited to induce climate-appropriate infrastructure decisions. Some infrastructure decisions occur at the federal level and can be accomplished only through federal legislation or by a climate-conscious administration, but states have authority over many of those decisions. Revisions to building codes, zoning law, land use law, and utility law are all under state jurisdiction. As with the values discussed above, a §115 SIP call might induce state policy changes that realign these policy areas with the biophysical and technological characteristics of renewable energy resources. However, a SIP that pushes into those policy areas through, say, aggressive mitigation requirements seems to increase its litigation risk.

States, however, do seem to be the right level of governance for manifesting values other than mitigation and many climate-appropriate decisions about infrastructure. For instance, public service commissions (PSCs) structure the decision about electrical power infrastructure, patterning where, when, and which type of electrical power infrastructure is built by and owned by whom. Through those decisions, PSCs determine which communities and individuals bear the benefits and harms of that infrastructure. They have authority to ensure electrical prices are “just and reasonable,” and through this authority pattern the allocative benefits of any surplus value generated in the various exchanges between capital, utility, and customer.

As any carbon pricing courses through the electrical power sector, PSCs will determine which customer classes pay it and which will have access to programs that enable them to mitigate their emissions. PSCs, for instance, often have authority to require or approve solar gardens, which make available both an abatement opportunity and an opportunity for a wider demographic to own generative assets (energy democracy). PSCs often have the authority to realign the pricing structure with the technological attributes of renewable technologies. Conversely, when “captured” by incumbent utilities, PSCs can retard the development of a state’s renewable power industry and inhibit municipalities from achieving their clean energy goals.

For instance, New York’s Reforming the Energy Vision (REV) is realigning its pricing structure away from the technological attributes of fossil fuel plants and toward

the technological attributes of renewable technologies.<sup>85</sup> In the process, the state’s PSC has introduced energy democracy into its low- and moderate-income docket.<sup>86</sup> This REV docket supports municipal efforts to build solar gardens (community choice aggregation) and is attempting to reconfigure its federal grants under the Low-Income Home Energy Assistance Program into low-income ownership of generative assets.<sup>87</sup> In this way, existing public money and programs are repurposed toward ensuring that a wider demographic has an ownership stake in generative energy resources, and thus a commitment to the transition to renewables.

States also have authority over renewable portfolio standards, which allow capital to schedule its investments in energy assets to ensure their profitability along the scheduled mitigation pathway. Colorado’s recent climate bill creates an Office of Just Transition to support coal miners.<sup>88</sup> States have authority over zoning and building codes that pattern the emission profile of the building sector and mobility of its citizens vis-à-vis vehicle miles traveled.<sup>89</sup> States can also support transportation infrastructure that frees citizens from dependency upon the internal combustion engine, as did Colorado in its recent climate governance bills.<sup>90</sup> States can further ensure that the development of renewable energy projects are channeled toward the rejuvenation of local economies, as New York did in its recent climate bill.<sup>91</sup>

In short, besides efficient mitigation, state policy can achieve many of the other values presently a part of the climate discussion, but a GHG SIP call does not appear to be quite the right policy instrument to induce robust, state-level climate governance. Climate advocates might consider whether a different instrument and implementing governance institution might better achieve the same policy goals. Both the Energy Innovation Act and the MCA, for instance, include a schedule of national mitigation for evaluating the success of the carbon price. Those mitigation targets could be federated and made subject to

84. David Roberts, *Illinois Passes Huge, Bipartisan Energy Bill, Proves Democracy Still Works*, Vox, Dec. 8, 2016, <https://www.vox.com/energy-and-environment/2016/12/8/13852856/illinois-energy-bill>.

85. Ross Astoria, *On the Radicality of New York’s Reforming the Energy Vision*, 30 ELECTRICITY J. 54 (2017).

86. Ross Astoria, *Low-Income Households in New York’s Reforming the Energy Vision*, in INNOVATION ADDRESSING CLIMATE CHANGE CHALLENGES: MARKET-BASED PERSPECTIVES 187 (Mona Hymel et al. eds., Edward Elgar Publishing 2018).

87. *Id.*

88. Just Transition From Coal-Based Electrical Energy Economy, COLO. REV. STAT. §§8-83-506 et seq. (2019) (H.B. 19-1314).

89. Sustainable Communities and Climate Protection Act of 2008, S.B. 375, ch. 728 (Cal. 2008).

90. Public Utility Implementation of an Electric Vehicle (EV) Infrastructure Program, S.B. 19-077, 72d Gen. Assemb., 1st Reg. Sess. (Colo. 2019) (amending various sections of COLO. REV. STAT. §40); Addressing Impacts of Changes Related to Commercial Vehicles, S.B. 19-239, 2019 Reg. Sess. (Colo. 2019) (amending COLO. REV. STAT. §43); Modifications to the Income Tax Credits for Innovative Motor Vehicles, H.B. 19-1159, 72d Gen. Assemb., 1st Reg. Sess. (Colo. 2019) (amending COLO. REV. STAT. §39); Powers and Duties of the Electric Vehicle Grant Fund, H.B. 19-1198, 2019 Reg. Sess. (Colo. 2019) (amending COLO. REV. STAT. §24); Electric Motor Vehicle Charging Station Parking, H.B. 19-1298, 2019 Reg. Sess. (Colo. 2019) (amending COLO. REV. STAT. §42).

91. New York State Climate Leadership and Community Protection Act, S. 6599, A. 8429, 2019-2020 Leg. Sess. (N.Y. 2019) (creating art. 75 and amending various parts of New York law).

supervision. A variety of existing and prospective federal state grant programs could support state climate governance while, for instance, opening up the electrical grid to energy democracy.

Not limited to the criteria of a SIP call, the criteria for supervision might extend beyond mitigation while respecting differences in political economy and supporting states' efforts at climate governance. Done properly, federating the mitigation schedule would also remove the time risk and litigation risk associated with CAA strategies from the docket of worries. It could diffuse the political risk away from the federal government generally and federal executive branch specifically while enabling local civic participation, supporting the development of local civil capacity.

### III. Conclusion

Both the MCA and the Energy Innovation Act amend the CAA to suspend EPA authority over certain of its GHG mitigation programs. If such amending is needed to form a durable climate coalition, climate advocates should nonetheless be alert to the specifics of CAA-amending language to ensure that it has only those legal and policy implications intended and needed to form the coalition. The first

part of this Comment conducts that legal analysis, and its first solicitation is the correction and refinement of that analysis. Largely, the Energy Innovation Act suspends only those CAA programs that, from the point of view of canonical economics, are redundant in the presence of a sufficiently stringent Pigouvian price.

One suggestion resulting from this economic comparison is that climate advocates include other programs and values in their evaluation of the interaction of CAA programs with Pigouvian pricing. In this case, the sector-by-sector approach exemplified by §111 seems vulnerable to ultra vires challenges while the §110 and §115 approaches have the same policy objective, the use of a SIP to establish comprehensive, state-level mitigation obligations. While states are the correct level of governance for making many climate-appropriate infrastructure decisions and governing toward values other than efficient mitigation, the SIP call does not seem to be quite the right policy instrument for achieving those climate governance objectives. The second solicitation of this Comment, then, is the further analysis of the interaction of various climate governance policies and values with an eye toward identifying strategies for achieving them while building a durable climate coalition.