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**SUMMARY:**

***COMBATING CLIMATE CHANGE WITH  
SECTION 115 OF THE CLEAN AIR ACT***

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## 1. INTRODUCTION

The scale and scope of the climate crisis calls for comprehensive nationwide efforts to reduce greenhouse gas emissions. New legislation, passed by Congress and signed by the President, is the first and best option for climate action at the federal level. This could be a version of the Green New Deal, a carbon tax, sectoral limits, an emissions cap with compliance trading, or another approach. What matters most is that the legislation effectively cut the greenhouse gas emissions driving the world's temperatures ever higher. Unfortunately, the prospect for federal legislation is uncertain, while strong and decisive action is needed now. A president committed to tackling climate change will need a backup plan in case Congress remains gridlocked, one that relies on existing statutes to achieve the deep emission reductions the science says we need.

Our forthcoming book, *Combating Climate Change with Section 115 of the Clean Air Act: Law and Policy Rationales*, describes what could be the backbone of such a plan.<sup>1</sup> The book describes how the Clean Air Act's international air pollution provision -- Section 115 -- could be the basis for a federal climate policy that allows the executive branch to synchronize the nation's domestic emission reduction efforts with its international climate commitments; authorizes the use of a broad range of regulatory approaches, including market-based mechanisms; respects cooperative federalism by giving EPA the responsibility to set emission reduction targets and states the authority to decide how to achieve them; and is administratively simple.

Section 115 is triggered when EPA both finds that emissions in the United States contribute to air pollution that endangers public health or welfare in another country (the "endangerment finding") and determines that the other country provides "essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country" by Section 115 (the "reciprocity determination"). In the case of climate change, both of these prerequisites can be met.

Once triggered, Section 115 operates through state implementation plans (SIPs), the state air pollution control programs that are the heart of the Clean Air Act. EPA's role is to require the states to revise their SIPs to the extent they are "inadequate to prevent or eliminate the endangerment." EPA can use Section 115 to set greenhouse gas (GHG) emission reduction targets for the states, and the states can work together with EPA and other states to build upon their

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<sup>1</sup> The book, like this paper, is the result of years of collaborative efforts by scholars and lawyers at some of the nation's most respected centers for climate change and environmental law, with contributions from other outstanding legal scholars, experienced lawyers from the Environmental Protection Agency and the State Department, leading state regulators, and veterans of congressional climate battles. The authors' biographies are included at the end of the paper.

existing initiatives to achieve these emission reductions in a cost effective manner. If a state refuses to revise its SIP, EPA can promulgate a federal implementation plan (FIP) for the state.

In a 2016 article, many of the book's authors examined how Section 115 could be invoked to help achieve the country's climate change goals.<sup>2</sup> Our updated analysis makes important adjustments to the thinking in that article to reflect all that has happened in the intervening years – including developments in the United Nations Framework Convention on Climate Change (UNFCCC), the U.S. Supreme Court, and U.S. politics. We dive deeper into the key implementation issues that would face EPA and the states, and we explore ways to address the various legal and policy issues that would arise. We show that the statutory language is robust enough to empower EPA and the states to reduce U.S. emissions in line with our international commitments, while providing sufficient guardrails to constrain and direct agency discretion. Although Section 115 is not the only existing authority a future president and EPA administrator can, should, or will rely on to address climate change, it is a powerful one, which provides the authority and flexibility necessary to design a climate change program that can produce deep emission reductions in an efficient and equitable manner.

## 2. WHY CONSIDER SECTION 115?

The world's leading climate scientists warn that nations must reduce emissions of carbon dioxide to net zero (and achieve steep reductions in other GHGs) by mid-century to avoid catastrophic climate change.<sup>3</sup> The United States must play a leading role in the global effort to achieve this science-based target, starting with ambitious action at home. Yet this call to action has been stymied by four primary arguments: (1) the science is unreliable; (2) unilateral U.S. action will be ineffective and unfair to the United States; (3) combating climate change will cost too much; and (4) a one-size-fits-all federal approach will hamstring the states. Section 115 provides a pathway for achieving the necessary emission reductions while offering a compelling answer to each of these objections.

Section 115's prerequisites address the first two concerns. First, to invoke Section 115, EPA will need to demonstrate that U.S. emissions are endangering other nations. Thus, a Section 115 climate program must rest on a reliable and robust scientific foundation. As described further in

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<sup>2</sup> Michael Burger, Ann Carlson, Michael Gerrard, Jayni Foley Hein, Jason Schwartz, Keith Benes, *Legal Pathways to Reducing Greenhouse Gas Emissions under Section 115 of the Clean Air Act*, 28 *Georgetown Environmental Law Journal* 359 (2016).

<sup>3</sup> Intergovernmental Panel on Climate Change, *Special Report on 1.5 Celsius of Global Warming, Summary for Policymakers* at 12 (2018) (online at: <https://www.ipcc.ch/sr15/>).

Part 6, the global scientific consensus leaves no doubt that domestic emissions endanger the health and welfare of people in foreign countries. Second, the requirement for a reciprocity determination prevents unilateralism because it forces the United States to act in concert with other nations. Reciprocity necessitates, as the drafters of Section 115 envisioned, “[i]nternational negotiations ... to provide reciprocal benefits for U.S. citizens.”<sup>4</sup> This feature of Section 115 recognizes the need for coordinated action and would ensure that U.S. domestic actions are matched by commensurate efforts by other major emitting countries.

The language and structure of Section 115 address the latter two concerns. Section 115 minimizes compliance costs because it authorizes states to use a broad range of regulatory approaches to reduce emissions, including the use of “economic incentives such as fees, marketable permits, and auctions of emissions rights.”<sup>5</sup> A coordinated Section 115 program that harnesses market forces -- similar to the approach EPA has used to address the analogous problem of interstate air pollution -- could greatly enhance the economic efficiency of regulatory approaches to climate policy. At the same time, Section 115 respects state prerogatives because it operates through SIPs, the cooperative federalism core of the Clean Air Act. During the Trump administration, leadership on climate issues has fallen to state officials. Because Section 115 is implemented through state plans, it allows states to build upon -- rather than displace -- their existing initiatives. EPA can offer guidance to states through a model rule, which many states may elect to follow. But EPA cannot dictate what regulatory approaches will be used in a state unless EPA promulgates a federal implementation plan (FIP) for the state, which EPA can do only if the state fails to submit a SIP that achieves the federal emission reduction targets. Under Section 115, states can design programs that will enhance equity, protect low-income households, and further other state public policy goals.

Section 115 has other important advantages, including administrative efficiency and broad public health co-benefits. Dozens of types of emissions sources such as oil refineries, chemical plants, iron and steel manufacturers, and cement plants emit large quantities of GHGs as well as other harmful air pollutants. Addressing each source category through separate source-specific rulemakings would be time-consuming and burdensome for EPA, states, and the regulated sources alike, and this strategy has yet to deliver the promised air quality benefits in all communities. Section 115 offers a more practical approach because it can cover multiple sectors in a single regulatory proceeding. The deep greenhouse gas emission reductions that Section 115 enables will

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<sup>4</sup> Senate Committee on Environment and Public Works, *Clean Air Act Amendments and Solid Waste Disposal Act*, at 6, 89th Cong. (May 14, 1965) (S. Rept. 89-192).

<sup>5</sup> 42 U.S.C. § 7410(a)(2)(A).

necessarily be accompanied by large reductions in emissions that cause ozone and particulate pollution, as well as air toxics. This can save lives and reduce illness in communities across the country, and especially in the most polluted, reducing long-standing air quality inequities.

This combination of favorable attributes is unique to Section 115, the “International Air Pollution” provision of the Clean Air Act. If comprehensive climate legislation proves impossible to enact, Section 115 could be one of the most attractive options in the regulatory toolbox for tackling the climate crisis.

### 3. AN UNEXPECTED LEGISLATIVE AND ADMINISTRATIVE HISTORY

Section 115 was enacted in 1965 by a Congress that had a remarkably prescient understanding of the dangers of climate change. That year, President Lyndon Johnson’s “Special Message to the Congress on Conservation and Restoration of Natural Beauty,” which urged Congress to strengthen the nation’s air pollution laws, warned:

Air pollution is no longer confined to isolated places. This generation has altered the composition of the atmosphere on a global scale through ... a steady increase in carbon dioxide from the burning of fossil fuels.

These concerns were echoed by statements on the floor of the House and Senate.<sup>7</sup> The President’s Science Advisory Committee released a landmark report in 1965 entitled “Restoring the Quality of Our Environment” with a chapter on climate change that admonished that “Man is unwittingly conducting a vast geophysical experiment” and predicted “measurable and perhaps marked changes in climate” by the year 2000.<sup>8</sup> There was testimony before the House Energy and Commerce Committee on the legislation that included Section 115 which stated, “The increase in carbon dioxide in the air tends to raise the air temperature and ... may in time melt the polar icecaps ... thus dangerously shrinking the earth’s land surface area.”<sup>9</sup>

According to its drafters, the purpose of Section 115 was to enable “cooperative action with foreign countries” to address international air pollution that is “endangering the health or

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<sup>6</sup> President Lyndon B. Johnson, Special Message to the Congress on Conservation and Restoration of Natural Beauty (February 8, 1965).

<sup>7</sup>E.g., Statement of Senator Joseph Clark, 111 Cong. Rec. 11104 (May 20, 1965) (“We poison ourselves with our own wastes by dumping into the atmosphere vast quantities of ... carbon dioxide”).

<sup>8</sup> Environmental Pollution Panel of the President’s Science Advisory Committee, *Restoring the Quality of Our Environment*, p. 126-27 (November 1965).

<sup>9</sup> Subcommittee on Public Health of the House Committee on Interstate and Foreign Commerce, *Clean Air Act Amendments of 1965: Hearings on H.R. 463, H.R. 2105, H.R. 4001, H.R. 7065, H.R. 7394, H.R. 7429, H.R. 8007, H.R. 8398, H.R. 8723, H.R. 8800, and S. 306*, pp. 81-82 (June 1965) (Ser. No. 89-19).



welfare.”<sup>10</sup> As originally enacted, Section 115 was enforced through an abatement conference procedure, which provided a forum for the impacted foreign nations to discuss international air pollution with the relevant U.S. and state agencies. In 1977, Congress strengthened Section 115 by changing the enforcement mechanism to SIPs, which operate under Section 110 of the Clean Air Act. As the Senate report explained, an EPA endangerment finding and reciprocity determination “will require the State in which the source of those emissions is located to revise its implementation plan to control those emissions.”<sup>11</sup> Foreign governments retained their right to participate in the SIP revision process.

Section 115 was first invoked not long after the 1977 amendments, in the waning days of President Jimmy Carter’s administration. EPA Administrator Douglas Costle announced in two letters his findings that air pollution in the United States contributed to acid rain, which endangered public health and welfare in Canada, and that Canada’s environmental laws provided the United States with essentially the same rights that Section 115 provided to Canada. A decade of litigation and regulatory maneuvering between proponents and opponents of limiting power plants’ sulfur dioxide emissions followed. Eventually, two decisions were issued by the D.C. Circuit Court of Appeals, which can be distilled into two key concepts. First, action under Section 115 must comport with the rulemaking requirements set forth in the Administrative Procedure Act.<sup>12</sup> Second, EPA has the discretion to wait to issue an endangerment finding under Section 115 until it can develop a plan to “prevent or eliminate” that endangerment, though it is not compelled to do so.<sup>13</sup>

Section 115 lay largely dormant until 2008, when the George W. Bush EPA sought comment in an Advance Notice of Proposed Rulemaking on which of several Clean Air authorities, among them Section 115, should be used to regulate GHGs.<sup>14</sup> Among the comments the agency received were several from industry groups asserting that Section 115 would be the provision in the Clean Air Act best suited to address climate change. The U.S. Chamber of Commerce, for example, commented that it could “provide the basis for an equitable, common sense approach.”<sup>15</sup>

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<sup>10</sup> Senate Committee on Environment and Public Works, *Clean Air Act Amendments and Solid Waste Disposal Act*, pp. 4, 6 (May 14, 1965) (S. Rept. 89-192).

<sup>11</sup> Senate Committee on Environment and Public Works, *Clean Air Act Amendments of 1977*, p. 57 (May 10, 1977) (S. Rept. 95-127).

<sup>12</sup> *Thomas v. New York*, 802 F.2d 1443 (D.C. Cir. 1986).

<sup>13</sup> *Her Majesty the Queen in Right of Ontario v. EPA*, 912 F.2d 1525 (D.C. Cir. 1990).

<sup>14</sup> Advanced Notice of Proposed Rulemaking for Greenhouse Gases Under the Clean Air Act, 73 Fed. Reg. 44482 (July 30, 2008).

<sup>15</sup> Chamber of Commerce, Comments on Regulating Greenhouse Gases under the Clean Air Act (November 26, 2008) (comment on EPA Advance Notice of Proposed Rulemaking, docket ID EPA-HQ-OAR-2008-0318); see also Comments of the American Forest and Paper Association on Regarding



When EPA acted to regulate GHGs under the Obama Administration, it chose to use other authorities, principally Section 111 for select stationary sources and Section 202 for motor vehicles. These regulatory decisions, however, were made prior to the 2015 Paris Agreement, which adds an important new factor to the legal landscape. As described in Part 7, the Paris Agreement reinforces the foundation for the reciprocity determination that Section 115 requires. Moreover, a new administration would not need to choose between Section 115, Section 111, and Section 202; rather, they can be deployed together in complementary and harmonized ways, as Part 10.d discusses.

#### 4. GUIDING PRINCIPLES

Two principles guide the legal analysis summarized here and described in further detail in the forthcoming *Combating Climate Change with Section 115 of the Clean Air Act*. First, any contemplated use of Section 115 must take into account the potential for Supreme Court review. Given the Court's shifting approach to judicial review of agency actions it is unclear whether regulation under Section 115 would be reviewed under the traditional, deferential *Chevron* standard, under the "major questions" exception to *Chevron* that the Court has inconsistently invoked, or under some new rubric advocated by the Court's recent appointments. It is also unclear whether the Court would accord EPA's interpretation of Section 115 the broad deference traditionally extended in the sphere of international relations, though it seems plain that it should.

<sup>16</sup> Given these uncertainties, any use of Section 115 should be based on carefully reasoned and appropriately constrained interpretations closely tied to the statutory language.

Second, Section 115 must be construed in a way that gives the provision purpose and effect. With the exception of an important threshold question -- are GHGs an "air pollutant" for purposes of Section 115? -- the major interpretative questions we address are not unique to climate change. Even in a paradigmatic case of toxic emissions from a single state endangering health in Canada or Mexico, EPA would need to formulate an approach for assessing reciprocity and a method for setting the state's emission reduction target.

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Regulating Greenhouse Gas Emissions Under the Clean Air Act 5 (November 26, 2008); Comments of the Portland Cement Association on Regulating Greenhouse Gas Emissions Under the Clean Air Act 5 (November 26, 2008).

<sup>16</sup> *E.g.*, *United States v. Curtiss-Wright Export Corp.*, 299 U.S. 304, 320 (1936) ("congressional legislation which is to be made effective through negotiation and inquiry within the international field must often accord to the President a degree of discretion and freedom from statutory restriction which would not be admissible were domestic affairs alone involved").

Applying both of these principles, we offer interpretations of Section 115 that can both ensure its effectiveness in reducing international air pollution, whether involving GHGs or other pollutants, and survive fair-minded judicial review, whether deferential or searching.

## 5. THE MEANING OF “ANY AIR POLLUTANT”

An effort to invoke Section 115 in the climate change context must address a crucial threshold question: Can Section 115 regulate emissions of greenhouse gases? Section 115 applies to “any air pollutant or pollutants emitted in the United States” that “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country.” Supreme Court precedents make clear that the interpretation of “any air pollutant” in the Clean Air Act depends on the context. In *Massachusetts v. EPA*, the Court interpreted Section 202’s requirement that EPA regulate the emissions of “any air pollutant” from motor vehicles that “cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare,” holding that the reference to “any air pollutant” includes GHGs.<sup>17</sup> But in *Utility Air Regulatory Group v. EPA*, where the Court interpreted the term “any air pollutant” in the definition of “major emitting facility” in the Act’s prevention of significant deterioration provisions, the Court reached the opposite conclusion, citing the concern that including GHGs would have extended EPA’s permit authority to millions of previously uncovered smaller sources.<sup>18</sup>

The argument for applying the *Massachusetts v. EPA* precedent to Section 115 is compelling. “Air pollutant” is a defined term in Section 302 of the Clean Air Act, which the Supreme Court held in *Massachusetts v. EPA* includes GHGs. The phrase is used in Section 115 in exactly the same context as in the provision before the Court in *Massachusetts v. EPA*: in both cases, “any air pollutant” is part of an endangerment clause that triggers a regulatory obligation. If harm to public health and welfare in the United States can trigger an obligation to regulate GHGs under Section 202, as the Court held in *Massachusetts v. EPA*, harm to public health and welfare in a foreign country should likewise trigger an obligation to regulate the same pollutants under Section 115.

The decision in *UARG* recognized that “[o]ne ordinarily assumes ‘that identical words used in the same act are intended to have the same meaning.’”<sup>19</sup> It justified deviating from this usual rule of construction because of the “calamitous consequences” of requiring millions of small

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<sup>17</sup> 549 U.S. 497 (2007).

<sup>18</sup> 134 S. Ct. 2427 (2014).

<sup>19</sup> 134 S. Ct. at 2441.

sources to obtain air pollution permits for the first time.<sup>20</sup> In the case of Section 115, however, no such “calamitous consequences” would result. As explained in Part 8.b, EPA’s targets for states under Section 115 can be based on the reductions achievable from large stationary sources and fuel distributors, which are already regulated by EPA and the states under the Clean Air Act. In fact, the result of regulating GHGs under Section 115 would be the exact opposite of the regulatory trainwreck described in *UARG*: a sensible, cost-effective, and equitable program for reducing GHGs consistent with the nation’s international commitments.

During the George W. Bush administration, EPA rejected a request by a Canadian environmental group to regulate GHG emissions under Section 115, reasoning that the SIP process triggered by Section 115 was limited exclusively to achieving the National Ambient Air Quality Standards (NAAQS) for listed “criteria” pollutants.<sup>21</sup> This narrow reading is erroneous for multiple reasons, including the express requirement in Section 110 that SIPs comply with Section 115,<sup>22</sup> the Supreme Court’s subsequent ruling in *UARG* that SIPs can regulate GHG emissions from large “anyway” sources already subject to permitting requirements,<sup>23</sup> and the legislative history of Section 115.<sup>24</sup> In a new administration, EPA would be amply justified in reading “any air pollutant” in Section 115 as including the emissions causing the world’s most serious international air pollution problem.

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<sup>20</sup> 134 S. Ct. at 2442.

<sup>21</sup> Letter from Brian McLean, Dir., Office of Atmospheric Programs, U.S. Environmental Protection Agency, to Albert Kochl, Staff Attorney, Ecojustice Canada (February 29, 2008); *see also* U.S. Environmental Protection Agency, Advance Notice of Proposed Rulemaking for Greenhouse Gases Under the Clean Air Act, 73 Fed. Reg. 44,354, 44,482–83 (July 30, 2008).

<sup>22</sup> 42 U.S.C. § 7410(a)(2)(D)(ii).

<sup>23</sup> 134 S. Ct. at 2448.

<sup>24</sup> There are numerous reasons why limiting Section 115 to criteria pollutants would conflict with the legislative history, including (1) criteria pollutants and NAAQS did not exist when Section 115 was enacted in 1965; (2) early actions under the virtually identical interstate provisions of Section 115 applied to a wide range of pollutants, including odors from a rendering plant, hydrogen sulfide gases, and chlorine compounds and eye irritants, none of which at the time or subsequently were criteria pollutants subject to a NAAQS; (3) from 1970 until 1977 (when the interstate provisions of Section 115 were repealed), the interstate provisions expressly provided that they did not apply to “an air pollutant for which ... a national primary or secondary ambient air quality standard is in effect”; and (4) the Senate report for the 1990 Clean Air Amendments, which added the requirement that SIPs comply with Section 115, explicitly recognized that “Section 115 of the Clean Air Act ... is not limited to meeting the NAAQS.” U.S. Senate Committee on Environment and Public Works, *Clean Air Act Amendments of 1989*, p. 291 (December 20, 1989) (S. Rep. 101-228).

## 6. THE ENDANGERMENT FINDING

Section 115 provides two options for finding endangerment: (1) the EPA Administrator may find that “any air pollutant or pollutants emitted into the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health and welfare in a foreign country” or (2) the Secretary of State may request that the Administrator make an endangerment finding “with respect to such pollution which the Secretary of State alleges is of such a nature.” The first option mirrors the endangerment finding EPA previously made for motor vehicles, except the emissions the agency may consider under Section 115 are all U.S. GHG emissions, not just those from motor vehicles, and the endangerment must occur in foreign countries, not the United States. The case for finding foreign endangerment under this option is irrefutable. The consensus science conveyed by the Intergovernmental Panel on Climate Change and other authoritative sources details the extraordinary levels of climate risk to which countries are now exposed.<sup>25</sup>

EPA’s endangerment determination under Section 202 found endangerment at both current levels of GHGs in the atmosphere and at projected future levels, and EPA could take the same approach here. In that previous determination, however, the endangerment finding had no bearing on the level of required emission reductions because these were determined under a technology-based standard. Section 115 is different. The SIP revisions that an endangerment finding triggers are supposed to be adequate to “prevent or eliminate the endangerment.” Finding that warming at a specific level -- say at 1.5 or 2 degrees C -- causes endangerment could be one way to provide the agency with a guide for determining the level of state emission reductions to require under Section 115.

The second endangerment option could provide a pathway for such a finding. It authorizes the Secretary of State to request an endangerment finding with respect to pollution that the Secretary “alleges” causes endangerment. This statutory language would appear to allow the Secretary to allege that 1.5 or 2 degrees C of warming causes endangerment, especially if this request were guided by reciprocity considerations and the Secretary’s intimate knowledge of the actions of other nations. EPA would need to conduct a rigorous analysis to confirm that foreign endangerment exists at the level alleged by the Secretary. Assuming EPA is able to confirm the endangerment—which would surely be the case—EPA could then issue an endangerment finding at the level alleged by the Secretary.

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<sup>25</sup> *E.g.*, Intergovernmental Panel on Climate Change, *Special Report on 1.5 Celsius of Global Warming, Summary for Policymakers* (2018) (online at: <https://www.ipcc.ch/sr15/>).

## 7. THE RECIPROCITY DETERMINATION

The second prerequisite to use of Section 115 is a determination by the Administrator that “a foreign country ... has given the United States essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country by this section.”

When Section 115 was first enacted in 1965, its enforcement mechanism involved multiple procedural steps. First, the Secretary of Health, Education and Welfare (there was no EPA at the time) would convene an “abatement conference” at which the relevant local, state, and interstate agencies would discuss measures to address the international pollution problem. If the conference did not produce adequate results, the Secretary could convene a hearing before a board appointed by the Secretary, the affected states, and other federal agencies with substantial interests. If the hearing board agreed with the Secretary that additional abatement was necessary, the Secretary could ask the Attorney General to initiate legal action. Section 115 expressly guaranteed foreign countries the right to participate at each step in the process, providing that “the foreign country which may be adversely affected ... shall, for purpose of the conference and any further proceeding ..., have all the rights of a State air pollution control agency.”<sup>26</sup>

When Section 115 was amended in 1977, the abatement conference process was replaced with enforcement through SIPs, but the language of the reciprocity provision was not changed. The only “right” the amended language provides a foreign country is the right “to appear at any public hearing associated with the revision of the ... applicable implementation plan.” Read literally, the reciprocity requirement in Section 115 could be satisfied if foreign countries provide the United States with “essentially the same rights” to participate in their regulatory process.

This “procedural reciprocity” would be satisfied by the participatory rights provided under the United Nations Framework Convention on Climate Change (UNFCCC) and the enhanced transparency framework established in the Paris Agreement. The procedural rights provided under the UNFCCC and the Paris Agreement exceed the right to attend a public hearing provided in Section 115. Under these international regimes, countries mutually submit to biennial country reporting requirements, reviews by panels of technical experts, and the opportunity for each nation to participate in a “facilitative, multilateral consideration” of other countries’ emission reduction

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<sup>26</sup> Clean Air Act Amendments and Solid Waste Disposal Act, Pub. L. No. 89-272, section 102 (1965).

commitments, which provides each country the chance to make comments and raise questions about the other countries' emission reduction efforts.<sup>27</sup>

The requirement that a foreign country provide the U.S. with “essentially the same rights with respect to the prevention or control of air pollution” could also be interpreted to necessitate a reciprocal commitment by other nations to substantive reductions in GHG pollution within their borders. An analysis of whether commitments by other nations can satisfy this “substantive reciprocity” must address three questions: (1) How can EPA determine whether the commitments of another nation are substantively reciprocal? (2) How many, and which, other nations must make substantively reciprocal commitments to trigger Section 115? (3) What form must the commitments of the other nations take?

Regarding the first question, there is no single way to assess the equivalency of country efforts. The IPCC has identified multiple “effort-sharing approaches” for fairly allocating emissions reduction obligations among nations. These approaches include “responsibility,” which would apportion emission reductions based on a country’s historical emissions; “capability,” which would apportion emission reductions based on a measure of a country’s ability to pay; “equality,” which would apportion emission reductions based on per-capita emissions; and “equal marginal abatement costs,” which would apportion emission reductions based on a measure of reduction costs.<sup>28</sup> According to Climate Action Tracker, which has developed a methodology that merges these factors for comparing national climate commitments, the current U.S. effort is “critically insufficient,” the lowest possible rating and worse than 80% of the other nations evaluated, including major emitters such as China, the EU, India, Japan, and Brazil.<sup>29</sup> If this assessment is accurate, there is ample room for the United States to increase its ambition significantly without exceeding the reciprocal efforts of many, if not the large majority of, other countries. Given the foreign policy context for any reciprocity determination and the complex economic, equity, and historical considerations involved, courts should defer to a reasonable assessment by EPA.

Regarding the second question -- the number and identity of countries needed to trigger reciprocity -- the statutory language provides that reciprocity can be satisfied by the actions of a

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<sup>27</sup> United Nations Framework Convention on Climate Change, “Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement,” printed in UNFCCC “Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018” as Annex to Decision 18/CMA.1, available at : <https://unfccc.int/documents/193408>.

<sup>28</sup> Intergovernmental Panel on Climate Change, Working Group III, Mitigation Of Climate Change, §§ 4.6.2, 6.3.6.6 (2014).

<sup>29</sup> Climate Action Tracker, Countries, available at <https://climateactiontracker.org/countries/>.



single country. It does not limit applicability to neighboring countries, or to any other subset or category of foreign nations. It also does not address whether the country could be found to be acting reciprocally if its emission reductions provide no measurable impact in the United States, as could happen if the nation in question were a small emitter located far from the United States. According to the legislative history, the purpose of the reciprocity requirement is to ensure that U.S. citizens receive “reciprocal benefit.”<sup>30</sup> If EPA followed this guidance, reciprocal commitments by an individual country with large emissions, such as China, or groups of countries, such as the European Union, should pass a substantive reciprocity test. The collective commitments made under the Paris Agreement present an even more self-evident case. In these instances, the emission reductions of the other countries would provide the “reciprocal benefit” to U.S. citizens that the legislative drafters envisioned. In contrast, a reciprocity determination based on a single small country whose efforts would not provide a reciprocal benefit might not meet the test.

Regarding the final question – the form that the substantive commitments of other nations must take – Section 115 is silent. There is no requirement that they be expressed in a treaty, executive agreement, domestic statute, agency regulation, or some other executive or administrative order. Other nations’ Paris commitments should be an adequate basis for satisfying substantive reciprocity since they express the contribution that each country has pledged to make to the global effort to reduce GHG emissions. To provide additional support for its determination, the administration could negotiate bilateral or multilateral agreements with other countries in which each nation agrees to implement its Paris pledge if the other nation or nations do. Such agreements are binding under international law.<sup>31</sup>

## 8. THE SIP PROCESS: EPA RESPONSIBILITIES

A Section 115 program would require EPA to undertake several key actions. These include issuance of the SIP call, allocation of emission reductions, and promulgation of a model rule for states that opt in to the program and a federal implementation plan for those that decline.

### 8.1 THE SIP CALL

One of the key interpretive issues that EPA must address to implement Section 115 is how the provision guides EPA in calling upon states to revise their state implementation plans. The

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<sup>30</sup> Senate Committee on Environment and Public Works, *Clean Air Act Amendments and Solid Waste Disposal Act*, at 6, 89th Cong. (May 14, 1965) (S. Rept. 89-192).

<sup>31</sup> Vienna Convention of the Law of Treaties, arts. 11-12.



statutory language provides that if the Administrator makes a foreign endangerment finding and reciprocity determination, each state with emissions contributing to the endangerment must revise “so much of the applicable implementation plan as is inadequate to prevent or eliminate the endangerment.” There are at least four approaches that EPA could use, individually or in combination, to craft an effective SIP call: a “reciprocity-based” approach, a “contribution-based” approach, a “cost-based” approach, and an “endangerment-based” approach. Each of these approaches relies on different parts of the statutory text to authorize reasonable action bounded by constraints on agency discretion.

The “reciprocity-based” approach would align the level of U.S. reductions under Section 115 with the efforts of other nations. It rests on the principle that EPA has no authority under Section 115 to require a level of reductions that is disproportionate to the commitments of other nations because in that case reciprocity would no longer exist. Under the Paris Agreement, nations have pledged to take “ambitious action” aimed at “[h]olding the increase in the global average temperature to well below 2 degree C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degree C above pre-industrial levels.”<sup>32</sup> Under the reciprocity-based approach, Section 115 SIP calls could not require deeper emission reductions than consistent with this range of ambition.

The “contribution-based” approach would require states to eliminate their contribution to dangerous climate change over time. Section 115 recognizes that endangerment can exist when U.S. emissions “contribute to” air pollution problems in other nations, even where they are not the sole cause. In such a situation, the most that the United States could do is halt its contribution to the international endangerment. Since there is no deadline in Section 115, EPA could direct states to reduce emissions on a schedule consistent with reaching net zero U.S. GHG emissions by a reasonable date, such as 2050. There is precedent for such an approach: in its regional haze regulations, EPA gave the states over 60 years to achieve the goal of eliminating emissions that impair vistas in national parks.<sup>33</sup>

The “cost-based” approach would closely resemble how EPA has addressed the analogous problem of interstate air pollution, where the agency has issued a succession of rules requiring

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<sup>32</sup> United Nations, Paris Agreement, Article 2, para 1(a) (2015) (online at: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>).

<sup>33</sup> 40 CFR 51.308(d)(1) (requiring SIPs to calculate reasonable further progress based on the rate of improvement that would be needed to reach natural visibility conditions by 2064). EPA would not need to mandate a schedule to achieve net zero emissions in a single rulemaking. Multiple D.C. Circuit opinions have recognized a “one-step-at-a-time doctrine” under which an agency can engage in incremental rulemakings so long as it can “articulate (1) what it believes the statute requires and (2) how it intends to achieve that goal.” *Center for Biological Diversity v. EPA*, 772 F.3d 401, 410 (D.C. Cir. 2013).

upwind states to reduce nitrogen oxides and sulfur dioxide based on reasonable cost thresholds.<sup>34</sup> The agency's position would be that any SIP that does not require cost-effective emission reductions is "inadequate" to prevent or eliminate endangerment. If the cost-based SIP calls were challenged for not requiring a greater level of reductions, the agency would have several possible responses. As in the contribution-based approach, the agency could take the position that its ultimate objective is net-zero emissions and that it is using cost considerations to determine the schedule for achieving the net-zero goal. Alternatively, the agency could interpret the word "prevent" in "prevent or eliminate the endangerment" to mean "to hinder" or "to impede,"<sup>35</sup> and use cost-based considerations to determine the degree to which states must hinder or impede climate change in the SIP revision.<sup>36</sup>

The "endangerment-based" approach would be available to EPA if the agency's endangerment finding were based on an allegation by the Secretary of State that warming above a certain threshold -- such as 1.5 or 2 degrees C -- endangers other nations, as is discussed in Part 6. Under this approach, EPA's Section 115 SIP calls would resemble its Section 110 SIP calls for states that are not meeting a national ambient air quality standard (NAAQS). In the well-established NAAQS context, EPA sets the air quality standard and then directs the state to develop a plan demonstrating how it will achieve the standard. In making this demonstration, the states can take into account the projected effects of other federal programs and actions in other states. Similarly here, the endangerment level could be translated into a schedule of emission reductions that the state plans would need to achieve to prevent the endangerment from occurring, taking into account the impact of other federal and state actions and the commitments of other nations.

## 8.2. ALLOCATION DECISIONS

As part of the SIP calls, EPA must determine how much of the aggregate nationwide emission reductions needed to prevent or eliminate endangerment must be achieved by states

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<sup>34</sup> *E.g.*, U.S. EPA, Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS; Final Rule, 81 Fed. Reg. 74054 (Oct. 26, 2016); U.S. EPA, *Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals*; Final Rule, 76 Fed. Reg. 48207 (Aug. 8, 2011); U.S. EPA, *Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone*, 63 Fed. Reg. 57356 (Oct. 27, 1998).

<sup>35</sup> *See Hinder*, BLACK'S LAW DICTIONARY (11th ed. 2019).

<sup>36</sup> Interpreting the word "prevent" in Section 115 to mean "to hinder" or "to impede" would make Section 115 similar to Section 211(c), which regulates fuels, and Section 231, which regulates aircraft engines. In both of these provisions, Congress has provided EPA with "broad discretion," *Union Oil v. EPA*, 821 F.2d 678, 680 (D.C. Cir. 1987), and "expansive authority," *National Association of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1230 (D.C. Cir. 2007), to reduce emissions following an endangerment finding.

under Section 115 and how much can be achieved through other measures. The executive branch has numerous options for reducing emissions. For example, EPA can issue source-specific regulations; the Department of Energy can promulgate energy efficiency standards; and the Department of Agriculture can adopt programs to reduce agricultural emissions. So long as EPA can demonstrate that the sum of the emission reductions that states are required to achieve through their Section 115 SIPs and the emission reductions the federal government will achieve under other programs is together sufficient to prevent or eliminate the endangerment, EPA would be able to find that in combination with the other programs, the SIPs are not “inadequate” under Section 115.

For example, California has demonstrated that a broad cap-and-trade system for GHGs can cover 80% to 90% of the state’s GHG inventory by regulating large stationary sources and fuel distributors.<sup>37</sup> EPA could base its SIP calls on a similar universe of sources, viewing these as the subset of emissions most amenable to state regulation under SIPs. Such an approach would allow states to capitalize on their authority under Section 115 to use “economic incentives such as fees, marketable permits, and auctions of emission rights,”<sup>38</sup> since these large sources are the ones best regulated under market mechanisms. It would also avoid requiring states to regulate the multitude of small previously unregulated sources that the Supreme Court found objectionable in *UARG*. If additional emission reductions are needed from other sources, such as agriculture or oil and gas wells, EPA could rely on other federal programs to control these emissions.

EPA must also decide how to allocate the aggregate emission reductions to be achieved through Section 115 among the individual states. This is similar to the decision EPA has made several times under the “Good Neighbor” provision of the Clean Air Act, which requires upwind states to reduce the emissions contributing significantly to nonattainment in downwind states. In *EPA v. EME Homer City Generation*, the Supreme Court held that because the language of the Good Neighbor provision did not address the issue, EPA had authority to choose a reasonable approach. The Court stated:

How is EPA to divide responsibility among the ... States? Should the Agency allocate reductions proportionally ... , on a per capita basis, on the basis of the cost of abatement, or by some other metric? ... The Good Neighbor Provision does not answer that question for EPA. ... [W]e read Congress’ silence<sup>39</sup> as a delegation of authority to EPA to select from among reasonable options.

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<sup>37</sup> California Air Resources Board, Overview of ARB Emissions Trading Program (October 20, 2011) (online at [https://ww3.arb.ca.gov/newsrel/2011/cap\\_trade\\_overview.pdf](https://ww3.arb.ca.gov/newsrel/2011/cap_trade_overview.pdf)).

<sup>38</sup> 42 U.S.C. § 7410(a)(2)(A).

<sup>39</sup> 572 U.S. 489, 514-15 (2014).

Like the Good Neighbor provision at issue in *Homer City*, Section 115 also does not specify how EPA must allocate responsibility to control air pollution among multiple contributing states, and EPA necessarily must exercise its discretion to choose a reasonable approach. Some allocation approaches, such as equal percent reductions from a baseline year, would favor states that have not yet acted to reduce GHG emissions, while others, such as equalizing the marginal cost of reductions in each state (which is the approach EPA selected and the Court upheld in *Homer City*), would benefit the early acting states. The agency can use its discretion to identify allocations that can appropriately balance competing equity and efficiency considerations.

### 8.3. THE MODEL RULE AND THE FIP

In the interstate transport rulemakings, EPA supplemented its SIP calls by promulgating a model rule that willing states could adopt and a federal implementation plan (FIP) that EPA would apply in states that refused to comply with the Good Neighbor provision. The agency could take a similar approach under Section 115.

A model rule can facilitate state compliance with the SIP call and EPA review and approval of the state submissions. It can also promote uniformity across state programs, which can lower compliance costs for regulated sources. In the interstate transport rulemakings, the model rules relied on market-based cap-and-trade programs. They were adopted by all states and successfully lowered emissions to the required levels.<sup>40</sup> A Section 115 model rule that followed the approach of the interstate transport model rules could build upon those successful experiences and take advantage of their cost-saving features. The model rule could also include equity-oriented provisions similar to those in New York's Climate Leadership and Community Protection Act, which requires that the implementing regulations "ensure that activities undertaken to comply with the regulations do not result in a net increase in co-pollutant emissions or otherwise disproportionately burden disadvantaged communities."<sup>41</sup> If there were interest from states in pursuing other regulatory approaches, such as emission fees or clean energy mandates, EPA could consider issuing a suite of model rules that states could choose among.

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<sup>40</sup> See, e.g., EPA, The NOx Budget Trading Program: 2008 Highlights, at 1, 3 (October 2009) (online at [https://www.epa.gov/sites/production/files/2015-09/documents/2008\\_highlights.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/2008_highlights.pdf)).

<sup>41</sup> N.Y. Environmental Conservation Law 75-0109(3)(c).

If states fail to submit an approvable SIP by the applicable Clean Air Act deadlines, EPA must issue a FIP to regulate the sources directly.<sup>42</sup> Under the statute, the FIP must “fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan” and may include “economic incentives, such as marketable permits or auctions of emissions allowances.”<sup>43</sup> In the interstate transport rulemakings, the FIP closely followed the design of the model rules, and EPA could take the same approach in its Section 115 FIP.

## **9. THE SIP PROCESS: STATE RESPONSIBILITIES**

Section 115 is a state-friendly approach to reducing U.S. GHG emissions. In the absence of a comprehensive federal climate program, many states have become leaders in the effort to combat climate change, adopting innovative policies such as clean energy standards, demand-side efficiency to lower consumer energy bills, cap-and-trade programs, clean fuel requirements, smart-growth initiatives, and community reinvestment programs. Section 115 can be used to supplement and strengthen these existing programs without supplanting them. It can also level the playing field among states by requiring every state to reduce GHG emissions.

States would have two primary options for complying with Section 115. First, states could elect to adopt the EPA model rule, with or without state-specific modifications. This is the approach states have taken in complying with EPA’s interstate transport rules, and it would considerably reduce the administrative burden on state authorities while also promoting greater uniformity and coherence in GHG reduction programs. Widespread adoption of the model rule could become a pathway to a coordinated, national response to climate change that would provide greater certainty for regulated sources and lower costs for the economy.

Alternatively, states could develop their own regulatory approaches, much as states currently do when they submit SIPs to implement the national ambient air quality standards. Under this “state-led” approach, a state would need to develop control measures that yield emission reductions that are quantifiable, nonduplicative, verifiable, and enforceable and would result in total state emissions at or below the target level. States would also need to develop alternative strategies for interstate cooperation if they wanted to submit multi-state compliance

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<sup>42</sup> States have 18 months after the Section 115 SIP calls to submit their revisions to EPA for review. 42 U.S.C. § 7410(k)(5). EPA then has 60 days to determine whether the state submissions are complete and an additional 12 months to approve or deny the submissions. 42 U.S.C. § 7410(k)(1), (2). If EPA disapproves a SIP, the agency has up to two years to issue a FIP for the state. 42 U.S.C. § 7410(c)(1).

<sup>43</sup> 42 U.S.C. § 7602(7e).

plans. There is ample precedent from the NAAQS context that states and EPA could draw upon to guide and evaluate these submissions.

## 10. OTHER KEY REGULATORY DESIGN ISSUES

A Section 115 program would also need to address several other key design issues to ensure a robust framework for agency action is put in place. These issues include emissions from transportation fuels and commercial and residential use of natural gas, standards for any allowed offsets, protection against leakage and mitigation of impacts on international competitiveness, and integration with other federal action under the Clean Air Act, including Section 111 regulation of existing power plants.

### 10.1. TRANSPORTATION FUELS AND NATURAL GAS

The combustion of fossil fuels for transportation is now the largest contributor to total greenhouse gas emissions in the United States, accounting for 28% of total emissions.<sup>44</sup> Complementing continuing federal and state adoption of tailpipe GHG emissions standards, Section 115 would enable states to develop implementation plans that include the emissions from combustion of transportation fuels. The most attractive option might be to integrate transportation fuels into a cross-sectoral, market-based trading program, thus achieving the cost-savings and efficiency of a universal cap. California's cap-and-trade system, which requires suppliers to hold allowances equivalent to the carbon content of the fuels they distribute for use in the state, could serve as a model.<sup>45</sup> A coalition of nine northeastern and mid-Atlantic states is considering a similar approach to reduce carbon emissions from transportation fuels.<sup>46</sup> Alternatively, state and federal policymakers could consider carbon taxes, performance standards, and other policy mechanisms to secure transportation and consumer natural gas emissions reductions in a Section 115 regime.

Residential and commercial use of natural gas is also a significant source of GHG emissions, responsible for approximately 10% of U.S. emissions.<sup>47</sup> In California, natural gas distributors are required to hold allowances for the natural gas delivered to customers.<sup>48</sup> A similar

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<sup>44</sup> EPA, *Sources of Greenhouse Gas Emissions* (online at <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>).

<sup>45</sup> See 17 CAL. CODE REGS. § 95910.

<sup>46</sup> TRANSPORTATION AND CLIMATE INITIATIVE, Framework for a Draft Regional Policy Proposal, [https://www.transportationandclimate.org/sites/default/files/TCI-Framework\\_10-01-2019.pdf](https://www.transportationandclimate.org/sites/default/files/TCI-Framework_10-01-2019.pdf) (last visited Dec. 2, 2019).

<sup>47</sup> *Id.* at ES-12, tbl. ES-3.

<sup>48</sup> See 17 CAL. CODE REGS. § 95852.



approach could be adopted by states under Section 115. Emissions from oil used for space heating could be handled in the same fashion.

## **10.2. OFFSETS**

Offsets, which enable a pollution source that is subject to regulatory emissions standards to earn credit for the emissions reductions or sequestrations achieved by an actor not covered under the same regulatory scheme, are often a component of and always a consideration for emissions trading programs. Properly designed, real, and verifiable offsets offer flexibility that can lower the compliance costs of a market-based regulatory approach, and possibly stimulate innovative emissions reductions in unregulated sectors, while still achieving the overall emissions target. If states adopt cap-and-trade programs to implement Section 115, EPA and the states will have to address whether Section 115 permits the use of offsets, and whether EPA could impose quality- or quantity-based restrictions on the use of offsets in state implementation plans under Section 115.

There are two different types of offsets: (1) offsets that reduce emissions of GHGs, such as offsets that capture methane emissions from dairy farms, and (2) offsets that sequester emissions, such as offsets from growing trees or capturing carbon in the soil. These offsets can occur in three different locations – in state, out-of-state, and internationally – creating six different potential categories of offsets. EPA should have ample authority to require that any offsets meet stringent quality standards that ensure that only real, verifiable offsets will be credited toward compliance. EPA could also create a model offset program with EPA-approved offsets and potentially limits on the offset quantity that states could opt to use, which could be an attractive option for many states.

EPA may also have authority, if it so chooses, to prohibit the use of any offsets except in-state emission reduction offsets. EPA's rationale for prohibiting states from using these offsets could be that Section 115 requires states to reduce their emissions of GHGs, not to offset them with reductions occurring outside of the state or through measures that remove pollutants from the atmosphere.<sup>49</sup>

## **10.3. LEAKAGE AND COMPETITIVENESS**

The risk of carbon leakage is a primary concern in addressing nationwide GHG emissions, both to ensure emissions reductions are realized and to address concerns that such a policy could

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<sup>49</sup> For policy reasons, EPA may elect to regulate through quality standards, but not to prohibit, interstate emission-reduction offsets because the legal rationale for prohibiting this category of offsets could also apply to interstate trading of emission allowances.



have an adverse economic effect. Carbon leakage occurs when economic activity that emits carbon dioxide relocates from a jurisdiction that has adopted climate change mitigation policies to another jurisdiction that has not.

President Donald Trump’s aggressive use of trade authorities, such as his invocation of national security to justify tariffs on imported steel and aluminum,<sup>50</sup> could be a precedent for imposing a border carbon adjustment on imports from countries lacking equivalent climate policies. If upheld by the courts, such action would protect domestic manufacturers from foreign competitors located in countries with lax limits on GHG emissions. In its cap-and-trade program, California awards free allowances to in-state manufacturers for “leakage prevention.”<sup>51</sup> This would be an option states could consider under Section 115 to protect against leakage and unfair international competition. Ultimately, a hybrid approach – under which the federal government imposes a border carbon adjustment on imports from countries without comparable GHG controls and states award free allowances for emissions attributable to exports to these countries – might provide the most comprehensive response to leakage and competitiveness concerns.

#### 10.4. INTEGRATION WITH SECTION 111 AND OTHER CLEAN AIR ACT AUTHORITIES

While Section 115 can be a powerful provision, it is only one of the authorities EPA and other federal agencies can use to reduce U.S. GHG emissions. Many of these provisions could be combined in complementary ways. Motor vehicle standards under Section 202 of the Clean Air Act and Department of Energy appliance efficiency standards would support state compliance with Section 115 by making it easier for states to achieve their emission reduction targets. Federal programs to reduce emissions from diffuse, hard-to-measure sources, such as the agricultural sector or oil and gas wells, could be a more effective way to control these emissions than through Section 115. Special consideration, however, may be needed to harmonize Section 115 with regulations reducing emissions from large existing stationary sources under Section 111(d). Both Section 115 and Section 111(d) require the adoption of implementation plans by states. It would

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<sup>50</sup> *E.g.*, Presidential Proclamation on Adjusting Imports of Aluminum into the United States (March 8, 2018) (online at <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-aluminum-united-states/>).

<sup>51</sup> California Air Resources Board, Allowance Allocation (online at <https://ww3.arb.ca.gov/cc/capandtrade/allowanceallocation/allowanceallocation.htm>).

significantly ease administrative burdens on states and compliance obligations by regulated sources if states could promulgate a single plan complying with both sets of requirements.

The Clean Power Plan (CPP) promulgated by the Obama EPA provides a model for how a Section 111(d) rule for existing power plants could be harmonized with Section 115 such that a state could use its Section 115 SIP to comply with Section 111(d). In the preamble to the CPP, EPA described how California could use its state cap-and-trade program to comply with Section 111(d) by demonstrating that the state program would achieve at least equivalent emission reductions from existing power plants.<sup>52</sup> EPA could use this approach as a template for allowing any state to use its Section 115 SIP revision to comply with the requirements of both Section 115 and Section 111(d). In fact, EPA could simplify this process for states by developing a Section 115 model rule that would be presumptively approvable under both Section 115 and Section 111(d).

## 11. CONCLUSION

Litigation may demonstrate that EPA has not only the authority but also a mandatory duty to regulate GHG emissions under Section 115.<sup>53</sup> Section 115 states that the Administrator “shall” act when certain conditions are met, and this language is consistently interpreted by courts to create nondiscretionary duties.<sup>54</sup> As the preconditions for action under Section 115 have been met, the courts could be called on to compel action.

However, litigation is, or ought to be, a last resort. The analysis introduced here, and more thoroughly described in our forthcoming book, *Combating Climate Change with Section 115 of the Clean Air Act*, demonstrates that Section 115 grants EPA the authority to regulate GHG emissions to address the climate crisis. This unutilized but potent source of federal authority provides an avenue to achieve significant GHG emissions reductions through revisions to state implementation plans. EPA could, in a single rulemaking, provide the opportunity for a nationwide, cross-sectoral emissions trading program that integrates with other regulatory approaches at the federal and state level. In the absence of new legislation, this program would arguably provide the most

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<sup>52</sup> U.S. EPA, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units: Final Rule, 80 Fed. Reg. 64662, 64835-37 (Oct. 23, 2015). EPA also required the state to have a federally enforceable back-up plan in case the state cap-and-trade program did not achieve sufficient emission reductions from the power sector. *Id.*

<sup>53</sup> See Institute for Policy Integrity, New York University School of Law, Petition for Rulemakings and Call for Information Under Section 115, Title VI, Section 111, and Title II of the Clean Air Act to Regulate Greenhouse Gas Emissions (Feb. 19, 2013), [http://www.policyintegrity.org/documents/Policy%20Integrity%20Omnibus%20GHG%20Petition%20under%20Clean Air Act.pdf](http://www.policyintegrity.org/documents/Policy%20Integrity%20Omnibus%20GHG%20Petition%20under%20Clean%20Air%20Act.pdf).

<sup>54</sup> *E.g., Kingdomware Techs., Inc. v. United States*, 136 S. Ct. 1969, 1977 (2016).

effective, efficient, and equitable federal authority for reducing GHG emissions in the United States.

A Section 115 climate rule would stand on a firm legal foundation. Section 115 would operate no differently with respect to greenhouse gases than any other air pollutant. The criteria for acting under Section 115 – foreign endangerment and reciprocity – are satisfied. U.S. GHG emissions are causing and contributing to climate change, which endangers the public health, welfare, and in some instances the very existence of foreign countries and their residents. The conferral of mutual procedural rights and shared substantive commitments to GHG emissions reductions made by the United States and other countries through the UNFCCC, including the Paris Agreement, provide reciprocal benefits that satisfy Section 115’s reciprocity requirement. EPA’s SIP calls can be guided by statutory constraints that bound agency discretion without undermining the effectiveness of Section 115.

For the world to avoid the worst impacts of climate change, the United States will once again have to show global leadership. This will require taking aggressive action on the domestic front and using that to inspire reciprocal efforts by other nations. Section 115 provides the legal authority to do just that.