Governance Studies
at BROOKINGS

October 2012

Reuters

U.S. Regulation of Greenhouse Gas Emissions

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EXECUTIVE SUMMARY

Where does U.S. climate change policy stand today? Most politically attentive Americans probably know just two salient facts: President Obama and Democrats failed to pass cap-and-trade legislation back when they controlled Congress, and the issue has received very little attention on the 2012 campaign trail. Nevertheless, regulations designed to reduce greenhouse gas (GHG) emissions and mitigate climate change are real and growing in importance at state, regional, and national level. Without the benefit of new legislation, the Environmental Protection Agency (EPA) has finalized rules under the Clean Air Act affecting motor vehicle fuel efficiency and emissions from power plants. Recently, the D.C. Circuit rejected a number of legal challenges to these rules, ensuring that they will remain in place and grow in importance in coming years. This research note surveys the development of climate change policy in the program without new legislation, and assesses where GHG regulation can and should go from here.

The Development of Climate Change Policy: Federal, Regional, State

Through the 1980s and 1990s, Americans gradually became aware of the threat posed by climate change, with support for government action on the issue steadily rising until the 2000s, when opinion began to divide more clearly along partisan lines.[1] Throughout these years, there has been little action at the federal level. Congress has sporadically funded research, but declined to address global warming in its 1990 overhaul of the Clean Air Act. Action seemed to be forthcoming 1992 when the first President Bush signed, and the Senate unanimously ratified, the non-binding United Nations Framework Convention on Climate Change (UNFCCC). By adopting the framework, the U.S. committed in principle to work toward preventing and mitigating harms from global warming. But when the UNFCCC reconvened in 1997 and negotiated the binding Kyoto Protocol, U.S. legislators vocally opposed its asymmetric requirements for developed and developing economies, and the Senate passed a resolution, 95-0, expressing its disapproval.[2] President Clinton and Vice President Gore remained ardent supporters, signing in 1998, but they recognized that they could not win Senate approval for the treaty and so never submitted it to a vote. Some members of Congress continued to hope for a firm commitment, introducing hundreds of bills in the late 1990s and early 2000s, but none gained traction.

[1] Matthew C. Nisbet and Teresa Myers, "The Polls – Trends: Twenty Years of Public Opinion about Global Warming," *Public Opinion Quarterly* 71 (2007): 444-470; Aaron M. McCright and Riley E. Dunlap, "The Politicization of Climate Change and Polarization in the American Public's Views of Global Warming," *Sociological Quarterly* 52 (2011): 155-194.
[2] S. Res. 98, 105th Cong., 1st Sess. (July 25, 1997).

During this time, the EPA refrained from taking regulatory action to control GHG emissions, although under Clinton's Administrator, Carol Browner, the agency indicated that it believed it had the legal power to do so under the Clean Air Act if it formally found that greenhouse gases endanger public health or welfare.[3] Clinton and Browner both departed office without these changes having been made, however. Environmentalists hoping to convert EPA's own legal judgment about its authority into action petitioned the agency to regulate GHG emissions from mobile sources (mostly cars and trucks) under the Clean Air Act, arguing that the agency was in fact obligated to do so. The second President Bush's EPA denied this request in 2003, arguing that it could and should prudentially postpone a decision on regulation while learning more about the issue and pursuing other approaches, such as voluntary public-private partnerships to develop cost-efficient technologies for reducing GHG emissions.[4]

Depending on your perspective, federal actions (or the lack thereof) can seem like a sideshow in climate change policy when compared to the flurry of activity that has taken place at the state and regional level over the last twenty years.

The petitioners, joined by states and cities, took their case to court, losing in the D.C. Circuit in 2005 but eventually prevailing in the landmark Supreme Court ruling in *Massachusetts v. EPA* (2007).[5] Below I offer a detailed examination of this long process of legal contestation and the regulations under the Clean Air Act it has begotten during the Obama administration. Before turning to that adventure in federal statutory interpretation, however, we should first briefly take note of actions at the regional and state levels as well as recent attempts by Congress to create a new regulatory framework for addressing climate change.

State and Regional Policies

Depending on your perspective, federal actions (or the lack thereof) can seem like a sideshow in climate change policy when compared to the flurry of activity that has taken place at the state and regional level over the last twenty years. As in many other policy areas, Congress's inaction has left room for experimentation by state and local governments.[6] With its Global Warming Solutions Act of 2006, California initiated a range of strategies to meet fairly stringent GHG emissions reduction targets, including a cap-and-trade system that will become binding in 2013.[7] Ten northeastern states (CT, DE, ME, NH, NJ, NY, and VT in 2005, joined by

[3] Memorandum from Jonathan Z. Cannon, EPA General Counsel, to Carol M. Browner, EPA Administrator, entitled "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources," Apr. 10, 1998, available at http://www.virginialawreview.org/inbrief/2007/05/21/cannon-memorandum.pdf, at 1.
[4] Notice of Denial of Petition for Rulemaking, Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52922 (Sept. 8, 1993): 52930-33.
[5] 549 U.S. 497 (2007).
[6] Barry Rabe, *Statehouse and Greenhouse* (Washington, DC: Brookings Institution Press, 2004).
[7] Martha Derthick, "Compensatory Federalism," in *Greenhouse Governance*, ed. Barry G. Rabe (Washington, DC: Brookings Institution Press, 2010), 67; California Air Resources Board, "Cap and Trade Program" (http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm).

MD, MA, and RI in 2007) have cooperatively established the Regional Greenhouse Gas Initiative (RGGI), which has its own modest but operational cap-and-trade program.[8] Western states and Canadian provinces (AZ, CA, MT, NM, OR, UT, WA, British Columbia, Manitoba, Ontario, and Quebec) seemed poised to follow this example with the Western Climate Initiative (WCI), which also creates a cap-and-trade system.[9] Midwestern states envision their own program, the Midwestern Greenhouse Gas Reduction Accord (MGGRA), though it is far less developed at this point.[10]

Unfortunately, these regional compacts suffer from collective action problems that regulation at the national level would minimize.[11] Since states join independently by adopting state-level model statutes, they can depart or delay just as easily by repealing them. Some compacts make it even easier than that—a Memorandum of Understanding among Governors whose states participate in RGGI allows states to leave the program through executive action alone. This dynamic has proved to be a serious obstacle. In May 2011, Governor Chris Christie announced that he would withdraw New Jersey from RGGI, and has since vetoed his legislature's attempts to get the state back in.[12] Only Governor John Lynch's veto kept NH in RGGI after the state's upper chamber voted it out, and the state's commitment has been limited.[13] Six states withdrew from WCI, leaving only California and the Canadian provinces, just before its cap-and-trade program became operational.[14] If states' commitments are no more durable than Democratic majorities in the statehouse, the potential for lasting and substantial reductions in emissions is limited.

(Failed) Congressional Attempts to Provide Leadership

As limited as state legislatures' actions may ultimately be, however, there can be no doubt that they have been more decisive than their counterparts in Washington—who, in response to the 2007 Supreme Court decision that most observers expected would propel them to some kind of action, have accomplished

[8] Regional Greenhouse Gas Initiative (http://www.rggi.org/rggi).
[9] Western Climate Initiative (http://www.westernclimateinitiative.org/).
[10] "Midwest Greenhouse Gas Reduction Accord," *Center for Climate and Energy Solutions* (http://www.c2es.org/us-states-regions/regional-climate-initiatives/mggra).
[11] Programs initiated by the federal government also benefit from the protection that profound gridlock provides.
[12] Julia Ciardullo, "New Jersey Governor Announces Withdrawal from RGGI," *Climate Law Blog* (June 3, 2011) (http://blogs.law.columbia.edu/climatechange/2011/06/03/new-jersey-governor-announces-withdrawal-from-rggi/); "Gov. stops effort to return NJ to clean energy program," *NJ Today* (August 3, 2012) (http://njtoday.net/2012/08/03/gov-stops-effort-to-return-nj-to-clean-energy-program/).
[13] Matthew Spolar, "Bill that reforms RGGI becomes law," *Concord Monitor* (June 26, 2012) (http://www.concordmonitor.com/article/338194/bill-that-reforms-rggi-becomes-law).
[14] Geoffrey Craig, "Six states leave the Western Climate Initiative," *Platts* (November 18, 2011) (http://www.platts.com/RSSFeedDetailedNews/RSSFeed/ElectricPower/6695863).

precisely nothing over the last five years. This is not for lack of trying, or at least wasn't for a while; though climate change is rarely mentioned in this year's Presidential campaign, both candidates in the 2008 contest promised to make new legislation a priority if elected. With Democrats in control of the White House, Senate, and House of Representatives in 2009 and 2010, action in the 111th Congress seemed like a realistic possibility, and the Obama administration decided to pursue both healthcare and GHG cap-and-trade simultaneously. After intense negotiations producing countless concessions, exemptions, and side payments, the House passed H.R. 2454, Waxman-Markey, on June 26, 2009, by a vote of 219-212. The bill's counterpart in the Senate, S. 1733, Kerry-Boxer, failed to find a Republican sponsor. Senator John Kerry (D-MA) then joined forces with Senators Joseph Lieberman (I-CT) and Lindsay Graham (R-SC) to pursue a bipartisan compromise measure capable of garnering 60 votes. To make a long story short, after many agonizing compromises, expenditures of political capital, concessions to industry, and failures to coordinate with the White House, the bill eventually lost Graham's support and died without ever producing a vote.[15] The 111th Congress ended without action. Unsurprisingly, with the Republicans taking control of the House in the 112th Congress, there have been no serious attempts to move legislation addressing climate change in 2011 or 2012.

We have brand new policies...without new law. How exactly did this come to pass?

New Policies without New Law

In spite of this congressional inaction, however, we have a growing federal regulatory apparatus for GHG emissions. We have brand new policies—hugely important ones, according to both their supporters and their critics—without new law. How exactly did this come to pass? Answering this question requires delving into the details of the Clean Air Act's (CAA) statutory language so that we can understand the controversy about the law's bearing on GHG emissions.

Clean Air Act History

The Clean Air Act (CAA), as passed in 1970, requires the EPA Administrator to regulate "each air pollutant–[…] which in his judgment has an adverse effect on public health or welfare," requiring a complex series of actions for each pollutant determined to meet this criteria. The 1977 Amendments to the Act subtly broadened this language, requiring the Administrator to regulate "each air

[15] For a detailed blow-by-blow account of the action in the Senate, see Ryan Lizza, "As the World Burns: How the Senate and the White House missed their best chance to deal with climate change," *New Yorker* (October 11, 2010) (http://www.newyorker.com/reporting/2010/10/11/101011fa_fact_lizza?currentPage=all). Notably, Lizza reports that an offer to end EPA regulation of GHG emissions was enough to entice Chamber of Commerce to come to the table and negotiate.

pollutant–[…] emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[16]

By leaving it to the EPA to designate which "air pollutants" would be regulated, Congress intentionally effected a huge delegation of authority to the agency—rather than targeting particular pollutants, legislators aimed to create an enduring institutional capacity to deal with whatever pollutants could be scientifically shown to be hurting the public. The CAA's definitions further encourage an expansive agenda for the agency. § 302(g) defines an "air pollutant" quite broadly, as follows:

> The term ''air pollutant'' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. […][17]

And according to § 302(h), "welfare" must include at least

> effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being […].[18]

Reading these two definitions together would eventually provide the basis for covering GHG emissions under the Act—but there is little reason to think that the architects of the Act would have anticipated this. Indeed, the consequences of designating some chemical as a pollutant under the Act are geared toward eliminating localized manifestations of harmful air pollution, with states required to create State Implementation Plans (SIPs) to attain acceptable levels of air quality for all their citizens. None of the Act's main structural features of was meant to be capable of addressing a problem of globally increased concentrations of any pollutant—let alone of a chemical, such as Carbon Dioxide (CO_2), which has no direct negative effect on what is usually thought of as "air quality."[19]

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[16] 42. U.S.C. 7408(a)(1), generally referred to as § 108; sub-paragraph heading omitted. There is nearly identical language in §§ 111 and 202, which underwent similar changes in 1977.

[17] 42 U.S.C. 7602(g). A second part of this definition concerning airborne precursors of air pollutants was added by the 1990 amendments.

[18] 42 U.S.C. 7602(h).

[19] Nobody has argued that GHGs be regulated for their direct effects on human health. OSHA regulations and the American Society of Heating, Refrigeration, and Air Conditioning Engineers both set a guideline of 1,000 ppm CO_2 for good air quality in indoor spaces, and asphyxiation would only occur around 100,000 ppm; current outdoor levels of CO_2 are shy of 400 ppm, and even the most pessimistic climate models do not see atmospheric CO_2 levels rising to 1,000 ppm during the next century. See International Panel on Climate Change, Data Distribution Center, "Carbon Dioxide: Projected emissions and concentrations" (2011) (http://www.ipcc-data.org/ddc_co2.html). Unfortunately, various pro-regulation sources have muddied these waters, claiming that GHG emissions constitute a direct health risk and that opposing EPA GHG regulations therefore represented a direct attack on the health of asthmatics. While some scientists have argued that climate change will lead to greater levels of allergens such as ragweed, these claims are disputed and

As they debated ways of amending the CAA throughout the 1980s (pressured by various deadlines in the Act), policymakers did think about adding an anti-global-warming mandate to the CAA by way of greatly increased stringency in automobile fuel efficiency standards. In the original bill leading to the bipartisan 1990 overhaul of the Act, Democrats proposed requiring an average gas mileage of 40 mpg in 2000 as a way to combat global warming, but the provision was dropped as a part of a backroom deal that steered the bill toward passage. Senators Richard Bryan (D-NV) and Slade Gorton (R-WA) sought to reintroduce the provision as an amendment, but eventually withdrew it in exchange for floor consideration of a separate bill later in the year—which they got, and which failed.[20] A new provision, § 821, was added to the CAA to require monitoring of carbon dioxide emissions by utilities, but its sponsors stressed that this would not require any emissions reductions.[21] By adding an entirely new Title to strictly regulate the usage of ozone-layer-depleting chemicals (CFCs), the 1990 Amendments also took a major step toward reducing GHG emissions (since the chemicals were themselves GHGs).[22] But to directly address global warming, the 101st Congress ended up passing only a small global warming research measure.[23] At no time during these debates did anyone suggest that GHG emissions were already covered by the previously existing sections of the CAA.

Frustrated with this inaction, various environmentalists decided to try to force the EPA to regulate GHG emissions under the Clean Air Act, petitioning the agency in 1999.

Applying the CAA to GHGs

Although the US joined the initial non-binding UNFCCC in 1992, the 1990s saw few serious attempts by Congress to address climate change. Frustrated with this inaction, various environmentalists decided to try to force the EPA to regulate GHG emissions under the Clean Air Act, petitioning the agency in 1999. The petitioners (who soon came to include a number of cities and states) claimed that, whether the CAA's framers had intended it or not, new science made it clear that GHG emissions were in fact harming public welfare and therefore required regulation under the plain language of the Act.[24] Climate is explicitly included in the Act's definition of "welfare," so arguing that GHGs have the potential to affect welfare became a matter of showing how climate change could have negative impacts—which petitioners eventually accomplished by focusing on the loss of

speculative at this point. See FactCheck.Org, "Deceitful Attacks from the League of Women Voters" (May 11, 2011) (http://www.factcheck.org/2011/05/deceitful-attacks-from-the-league-of-women-voters/).

[20] *Congressional Quarterly Almanac* 46 (1990): 232-33, 279-281.

[21] The provision was added by the Cooper-Moorhead Amendment. See Congressional Research Service, *A Legislative History of the Clean Air Act Amendments of 1990*, Vol. 2 (1993), 2985-86.

[22] Addressing the ozone hole was (rightly) thought to be separate from directly tackling global warming. While Title VI of the CAA asks the EPA to begin assessing the "global warming potential" of listed CFCs, § 602(e) explicitly states that this requirement "shall not be construed as the basis of any additional regulation under this Act" (42 U.S.C. 7671a(e)).

[23] *Congressional Quarterly Almanac* 46 (1990): 307.

[24] The petitioners chose to hang their claims on § 202, which addresses mobile source emissions.

Massachusetts' coastal land. Somewhat less clear is whether CO_2 and other GHGs are properly understood as "air pollutants." Petitioners relied on the second half of the definition in § 302(g) (quoted above) to say that GHGs were unambiguously covered by the statute because they are substances entering the ambient air.[25]

In 2003, the EPA rejected this argument for several reasons.[26] It said that lingering scientific uncertainty permitted the agency to use its judgment to reach a wait-and-see position; that undertaking such a hugely important economic decision without explicit legislative sanction was unwise; and that existing programs, such as fuel economy standards, represented Congress's judgment about the appropriate response to climate change. It also denied the petitioners' contention that GHGs were clearly air pollutants under 302(g), emphasizing that the statute requires not only that a substance enter the ambient air, but also that it be an "air pollution agent," a term that is nowhere defined in the CAA. Since GHGs affect people in such a different way from other pollutants, the agency said that it was reasonable to determine that GHGs did not fall into the Act's definitions.

Massachusetts v. EPA and its Significance

When the question finally reached the Supreme Court, the Justices split 5-4. The majority (Justice Stevens, joined by Justices Kennedy, Souter, Ginsburg, and Breyer) agreed with the petitioners that GHGs "unambiguous[ly]" fit into the statute's definitions and "foreclose[d]" the EPA's interpretation.[27] The four conservative dissenters (Chief Justice Roberts, Justices Scalia, Thomas, and Alito) offered two opinions rejecting this decision. First, Chief Justice Roberts's dissent argued that the petitioners should not have been given standing, since they could not show a direct harm resulting from regulatory inaction nor establish meaningful redressability through a judgment. The Court, therefore, should not have offered any kind of decision on the merits. The majority having rejected that argument, however, Justice Scalia offered another dissent on the merits, arguing that the petitioners' and majority's understanding of "air pollutant" was so inclusive as to demand regulation of "*everything* airborne, from Frisbees to flatulence."[28]

This heated disagreement about what the statute "unambiguously" requires shows that it was not particularly clear. (Defining "air pollutant" by reference to undefined "air pollution agents" is hardly a shining example of legislative precision.) The Court's position fits awkwardly with the 101st Congress's consideration and ultimate rejection of CAA amendments designed to add dedicated anti-global warming provisions. As the dissenting Justices pointed out,

[25] 549 U.S. 497, 529.
[26] Notice of Denial of Petition for Rulemaking, Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52922 (Sept. 8, 2003).
[27] 549 U.S. at 528-529.
[28] 549 U.S. at 558 note 2. All four dissenting Justices signed both dissents.

this ambiguity ought to have weighed in favor of the agency's judgment, which was to postpone any final decision about whether GHGs were in fact "air pollution agents" requiring regulation. But this ambiguity could have just as easily cut the other way. Supposing that Justice Kennedy had joined the dissenters in Massachusetts and the EPA's non-decision was upheld, the EPA under Obama could have nevertheless decided to take up the petitioners' cause as their own, with the agency leading a self-initiated change in interpretation rather than a court-ordered one. Nothing in the dissents suggested that this interpretation was precluded by the statutory text, regardless of the statutory framers' intent. As a result, it seems likely that CAA regulation of GHGs would have been utilized as a second-best alternative to fresh legislative action regardless of the Court's ruling.

The CAA's structure is largely geared toward mitigating local air pollution problems, making it an extremely awkward tool for addressing the problem of global warming.

The Substance of the Policies under the CAA

There should be no confusion about one thing—regulation under the CAA is distinctly second-best, far less desirable than new legislation for a number of reasons.[29] As mentioned above, the CAA's structure is largely geared toward mitigating local air pollution problems, making it an extremely awkward tool for addressing the problem of global warming.

Let us start, as the petitioners did, with the not-too-awkward: regulating "mobile source" (i.e., planes, trains and automobiles) emissions through fuel economy standards. Generally speaking, attempting to reduce fuel consumption and the emissions it causes by means of mandating average fuel-efficiency standards for auto manufacturers' production lines has not been a great success when compared to alternative methods pursued by other developed countries.[30] Be that as it may, as long as fuel efficiency mandates are our policy tool of choice, tightening these standards with the justification of reducing the nation's GHG emissions is fairly straightforward; to a close approximation, reducing GHG emissions and improving fuel economy are the same. EPA's joint rulemaking with the National Highway Transportation Safety Administration to institute

[29] Supporters of aggressive GHG emission reductions almost all agree with this position, and Democrats have shown a willingness to scrap some of the regulations under the CAA as a way of making adoption of alternative policies more attractive to business. Waxman-Markey (§331, which would have added to the CAA new §§ 831-835) would have prevented the EPA from regulating GHG emissions under many important parts of the CAA (Titles I and V) on the basis of their climate impacts, but would have kept EPA standard-setting for GHG emissions from power plants, other large stationary sources, and certain heavy-duty mobile sources (new CAA § 811 and § 821, the latter added by Waxman-Markey § 221). It would also have suspended existing regional cap-and-trade programs, compensating CA and RGGI allowance-holders with allowances in the federal program (new CAA § 861). In the Senate, the Kerry-Graham-Lieberman deal would have totally preempted EPA regulation under the Clean Air Act, a promise which reportedly brought the Chamber of Commerce to the bargaining table; see Lizza, "As the World Burns."

[30] See Pietro Nivola, "The Long and Winding Road: Automotive Fuel Economy and American Politics," in *Greenhouse Governance*, ed. Barry G. Rabe (Washington, DC: Brookings Institution Press, 2010), 158.

automobile GHG standards therefore doesn't disrupt the basic functioning of already existing policies.[31]

Somewhat more problematic, though still fairly workable, are rules under § 111 of the CAA governing the permissible emissions for *new* stationary sources (especially power plants). The EPA's proposed rule for power plants under this section, submitted for public comment in April 2012 and probably about to be finalized, sets a standard of 1,000 pounds of CO2 per megawatt hour (lbs CO_2/MWh) for all new plants.[32] Because coal plants emit an average of nearly 1,800 lbs CO_2/MWh, construction of new ones will be effectively prohibited by this rule unless they can use carbon-capture technologies that have not yet been proven economically viable.[33] This is somewhat less dramatic than it initially sounds, because plants which have already applied for permits will not be affected and because plentiful natural gas is increasingly making coal less attractive even without regulation.[34] Nevertheless, there is something remarkable about this policy: without any law passed by Congress, the EPA will effectively prohibit future electrical generation by the method that has been America's overwhelming choice for more than a century.

The EPA achieves a workable program—but only by ignoring some clear language in the statute that ostensibly compels the agency to act.

More awkward, by the EPA's own admission, is the application of two other permitting sections of the CAA to GHGs: § 165, dealing with Prevention of Significant Deterioration, and Title V, the Act's main industrial permitting section since 1990. If, as EPA contends, GHGs are subject to regulation under each of these sections, the CAA's plain requirements would apply these provisions to sources emitting 100 or 250 tons per year (tpy) of GHGs, respectively. Because GHGs are emitted in far greater volumes than any of the pollutants EPA has regulated until now, applying the statute's thresholds to them would require a staggering 82,000

[31] Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Final Rule, 75 Fed. Reg. 25323 (May 7, 2010); Greenhouse Gas Emission Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, Final Rule, 76 Fed. Reg. 57106 (September 15, 2011). Note that the effect of this rule is to belatedly institute the provisions that were rejected during the negotiations to pass the 1990 Amendments, though the goals set by the current rules are considerably more ambitious, requiring average fuel economy of 54.5 mpg by 2025. Critics have made cogent arguments as to why such stringent standards might be counter-productive; see Ed Dolan, "Is a 56.2 MPG Fuel Economy Standard Really a Good Idea?" *Economonitor* (July 15, 2011) (http://www.economonitor.com/dolanecon/2011/07/15/is-a-56-2-mpg-fuel-economy-standard-really-a-good-idea/).

[32] Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources; Electricity Generating Units; Proposed Rule, 77 Fed. Reg. 22392 (April 13, 2012). For a briefer version, see EPA Fact Sheet: Proposed Carbon Pollution Standard for New Power Plants (http://epa.gov/carbonpollutionstandard/pdfs/20120327factsheet.pdf).

[33] Juliet Eilperin, "EPA to impose first greenhouse gas limits on power plants," *Washington Post* (March 26, 2012) (http://www.washingtonpost.com/national/health-science/epa-to-impose-first-greenhouse-gas-limits-on-power-plants/2012/03/26/gIQAiJTscS_story.html).

[34] Brad Plumer, "Why EPA's new carbon rules won't have much impact—for now," Washington Post Wonkblog (March 27, 2012) (http://www.washingtonpost.com/blogs/ezra-klein/post/how-much-carbon-will-the-epas-new-power-plant-rules-actually-cut/2012/03/27/gIQAuaTDeS_blog.html). Natural gas plants average around 800 lbs CO_2/MWh.

and 6,000,000 new permitting actions each year—effectively impossible without spending billions on new permitting capacity.[35] Recognizing the absurdity of such a result and arguing that bowing to administrative necessity allows them to avoid it, EPA has adopted a "Tailoring Rule" that will set thresholds (75,000 and 100,000 tpy, respectively) identifying an appropriate number of sources for regulation.[36] The EPA achieves a workable program—but only by ignoring some clear language in the statute that ostensibly compels the agency to act.

Even more absurd consequences would follow if the EPA were to designate GHGs as "criteria pollutants" under § 108 of the CAA, which would in turn trigger the setting of National Ambient Air Quality Standards (NAAQS) under § 109 and force states to devise implementation plans to reduce the levels of GHGs to EPA-designated "attainment" levels. Here the local-mitigation structure of the CAA would run up against the truly global nature of climate change: where it is reasonable to charge New York with responsibility for reducing the amount of smog in New York City, it borders on incoherent to say that New York must also act to reduce the CO_2 levels there even when there is no scientific reason to think that it is within its power to meaningfully affect globally prevailing CO_2 levels. The agency understandably has no plans to promulgate these rules—but it isn't clear that the statutory language (which is little different from that in § 202, which the agency has already decided encompasses GHGs) actually affords them such discretion. We could potentially be just an environmentalist lawsuit away from a court ordering the EPA to write costly rules we are sure can't work.[37]

Legal Challenges to the CAA Rules

Industry petitioners have challenged each of EPA's GHG regulations under the CAA, offering a variety of arguments against the permissibility of EPA's choices. The D.C. Circuit resolved most of these questions, at least temporarily, in EPA's

[35] Summary of Clean Air Permitting Burdens With or Without the Tailoring Rule (http://www.epa.gov/NSR/documents/20100413piecharts.pdf).

[36] Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, Final Rule, 75 Fed. Reg. 31514 (Jun. 3, 2010).

[37] Nor is this a hypothetical—the Center for Biological Diversity has been aggressively pushing to get EPA to issue NAAQS for GHGs and require their inclusion in SIPs. For the Center's own explanation, which claims that there is only a "false choice" between regulation under the CAA and other means of limiting emissions, see Center for Biological Diversity Climate Law Institute, "Frequently Asked Questions: Setting a National Pollution Cap on Greenhouse Gases Under the Clean Air Act" (http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Clean-Air-Act-FAQ.pdf). The Center has also formally petitioned the EPA to issue NAAQS, see Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act (December 2, 2009) (http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf). This petition currently seems to be in administrative limbo, but it is certainly not far-fetched to think that the CBD might sue the agency to force its hand.

favor on June 26, 2012 in *Coalition for Responsible Regulation v. EPA*.[38] A per curiam opinion by Judges Sentelle, Rogers, and Tatel strongly rejected challenges to the endangerment finding, ratifying the EPA's scientific approach to determining that GHGs pose a threat.[39] In similarly emphatic terms, they rejected the challenge to the regulation under § 202, concluding that the EPA was simply following through on the requirements of *Massachusetts v. EPA*.[40] The court was little more sympathetic to challenges to EPA's application of § 165, deciding that GHGs are now unambiguously regulated pollutants under all parts of the CAA.[41] Finally, the court found that petitioners lacked standing to challenge the Tailoring rule, because they could show no injury-in-fact from the rules.[42] The court considered the idea that EPA's moderation of the law's effects deprived petitioners of a golden opportunity to demand congressional intervention, but ultimately deemed this harm too speculative to justify standing.[43] Other challenges have yet to be resolved, but for now it seems that the federal courts will allow the EPA some latitude in figuring out how to make GHG regulation under the CAA workable.

Looking to the 113th Congress and Beyond

And so it has come to pass that we have a growing EPA-centered apparatus for regulating GHG emissions, based on a changed interpretation of an old law rather than any recent legislative deliberation. During the current 112th Congress, the Republican-controlled House has frequently denounced this state of affairs as representing an Obama administration power-grab while making no mention of the judiciary's role. Reflecting this disapproval, they passed the "Energy Tax Prevention Act of 2011," which would have entirely precluded GHG regulation under the CAA.[44] Companion legislation got no traction in the Senate—though similar language won 50 votes as an amendment, including four Democrats.[45] In their last session before November's election, the House passed the "Stop the War

[38] Slip opinion for 09-1322 and consolidated cases.
[39] *Id.* at 27-32.
[40] *Id.* at 40-41.
[41] *Id.* at 62.
[42] *Id.* at 76-77. Basically, the standing decision said that the industrial petitioners were not genuinely interested in reversing the tailoring rule (which would expand the reach of the rules) but rather were simply looking for ways of making life more difficult for the EPA. That leaves the door open for future challengers who can either show that they suffer competitive harm from being covered while their competitors are exempted by the tailoring rule, or can show that they genuinely want the statute to be enforced to the full extent of the statutory language for environmental protection reasons.
[43] *Id.* at 78-79. The court rather playfully cites Schoolhouse Rock's famous "I'm Just a Bill" cartoon in support of their argument that it is always difficult for a bill to become a law.
[44] H.R. 910, 112th Congress, passed 255-172 on April 7, 2011, with 19 Democrats joining 236 Republicans in favor.
[45] The companion bill, S. 482, 112th Congress, was never reported out of committee. S.Amdt. 183 was proposed during debate on S. 493, a bill relating to Small Business, and failed by a vote of 50-50 on April 6, 2011.

on Coal Act," Title II of which would deprive the EPA of most of its CAA authority over GHGs. Presumably even if 60 votes had been found in the Senate for either of these bills, President Obama would have vetoed them.[46]

Is there any reason to expect this stalemate to be broken in the upcoming 113th Congress? As with many federal policy questions these days, answering this one requires imagining different political configurations.

First, without straining our imaginations, suppose that our current state of gridlocked divided government persists into 2013 and beyond, with at least one of the House, Senate, or White House unwilling to allow either comprehensive climate change legislation or simple removal of EPA's authority over GHGs. In this case, state and regional efforts will probably grow in importance, even as they suffer from periodic attrition. Federal regulations will have a major impact, reducing GHGs far less efficiently than a cap and trade system or a carbon tax. EPA will probably do its best to keep the scope of its rules fairly narrow, "tailoring" the CAA in many ways to prevent regulation from engulfing all small businesses. This continuation of the status quo is legally troubling, economically sub-optimal, and of dubious efficacy—but it probably doesn't portend the economic disaster Republicans sometimes warn of. On the other hand, if environmentalist litigation successfully forces the EPA to create NAAQS for GHGs and thereafter to require states to tackle global carbon levels in their SIPs, the whole machinery of the CAA could be gummed up with little compensating benefit.

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Such a possibility leads us to imagine scenarios in which gridlock could be broken and new law passed. First, regardless of the political configuration, a bipartisan coalition might well be found to arrest any further judicially-forced actions, such as the requirement that EPA issue NAAQS for GHGs. This is plausible, but not certain—if Democrats were getting nothing in return, they would be reluctant to give up their most valuable bargaining chip, even if they didn't actually like the regulations. Gridlock could alternatively be broken by Republican majorities imposing their will to end federal GHG regulation. But even if Mitt Romney becomes President and Republicans control both houses of Congress, this is not assured, as at least 41 Democrats in the Senate will still be around to oppose such action.

For policy wonks, the most titillating way to imagine gridlock being broken is through a grand bargain that exchanges the introduction of a carbon tax for marginal rate cuts to the income tax and an end to EPA's GHG regulation under the CAA. The impending expiration of the Bush tax cuts and other tax breaks means (the so-called "fiscal cliff") will soon cause marginal income taxes to rise, and legislators from both parties will be looking for ways of restoring lower rates without expanding the deficit. In this political moment, perhaps instituting an economically-efficient carbon tax to replace less-efficient income or payroll taxes

[46] H.R. 3409, 112th Congress, passed 223-175. Obama's veto threat can be found at http://www.whitehouse.gov/sites/default/files/omb/legislative/sap/112/saphr3409r_20120919.pdf.

offers a political win in addition to the clear policy win.[47] Ezra Klein recently "fantasized" about this scenario in the Washington Post, only to shrug it off as politically unrealistic because of the second word in "carbon tax."[48] But there is no reason Republicans should be against forcing people internalize the full social costs of their economic decisions; indeed, many leading economists of the right are enthusiastic members of the "Pigou Club," dedicated to the notion that taxes ought to be used to correct negative externalities from market failures. Anti-tax orthodoxy may make sensible reform impossible, but advocates of sensible climate change policy and tax policy should hardly concede the point. Advocates of pricing carbon should also be willing to emphasize that in trading existing CAA regulation for the more efficient incentives provided by a tax, a carbon tax has more to offer than just revenue.[49]

In the meantime, the status quo poses a dilemma for the policy-minded. If our first priority is to ensure that regulations' benefits exceed their costs, what should we make of the current set of GHG policies under the CAA? On the one hand, we might think that when it comes to climate change, something is better than nothing and the perfect should not be the enemy of the good. On the other hand, there is a real danger of settling for mediocre and wasteful policies simply because "doing nothing" feels wrong. Arguably, the most important effect of adopting sensible American climate change policy would be to put the United States in a position of global leadership on the issue. But the current CAA policies, which are bitterly contested by half of our political class, are incapable of fulfilling this role. Indeed, they pose a danger of undermining the case for acting against climate change; when critics say that our GHG emission controls are wasteful, poorly designed, and imposed by "fiat," they will be more than a little correct. Executing a legislative tradeoff enacting efficient carbon pricing and ending the strange interpretive odyssey under the Clean Air Act should be a priority for believers in sensible policy.

[47] Warwick McKibben, Adele Morris, Peter Wilcoxen, Yiyong Cai, "The Potential Role of a Carbon Tax in U.S. Fiscal Reform," Climate and Energy Economics Discussion Paper (July 24, 2012) (http://www.brookings.edu/research/papers/2012/07/carbon-tax-mckibbin-morris-wilcoxen); Sebastian Rausch and John Reilly, "Carbon Tax Revenue and the Budget Deficit: A Win-Win-Win Solution?" MIT Joint Program on the Science and Policy of Global Change, Report No. 228 (August 2012) (http://globalchange.mit.edu/research/publications/2328).

[48] Ezra Klein, "My fiscal cliff fantasy," Washington Post (September 14, 2012) (http://www.washingtonpost.com/business/economy/ezra-klein-my-fiscal-cliff-fantasy/2012/09/14/daf9c0b6-fe9f-11e1-8adc-499661afe377_story.html).

[49] It's worth mentioning that a grand bargain instituting a carbon tax could also include elimination of certain air pollution standards other than those related to GHGs. Because a carbon tax would have the incidental benefit of reducing various non-GHG regulations, such regulatory reforms could make sense where old rules became mostly redundant.

Governance Studies
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