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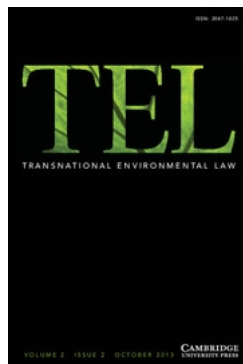
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COMMENTARY

US Federal Climate Change Law in Obama's Second Term[†]

Michael B. Gerrard* and Shelley Welton**

Abstract

This commentary details the United States' progress in advancing climate change law since President Barack Obama's re-election in 2012, in spite of congressional dysfunction and opposition. It describes how the Obama administration is building upon earlier regulatory efforts by using existing statutory authority to regulate greenhouse gas emissions from both new and existing power plants. It also explains the important role the judiciary has played in facilitating more robust executive actions, while at the same time courts have rejected citizen efforts to force judicial remedies for the problem of climate change. Finally, it suggests some reasons why climate change has gained more prominence in the Obama administration's second term agenda and considers how domestic actions help the United States to reposition itself in international climate diplomacy.

Keywords: Climate Change, United States, Obama Administration, Executive Action, Regulation, Climate Diplomacy

1. INTRODUCTION

In the 2012 United States (US) presidential election, the term 'climate change' went virtually unmentioned because it had become politically unmentionable. After a long-awaited federal cap-and-trade bill narrowly failed to pass through Congress in 2010, climate change policy advocates in the US struggled to see a path forward on domestic action. Similarly, leaders around the world faced the conundrum of how to make international climate progress without buy-in from the historically largest emitter. Now, more than a year after President Barack Obama's re-election, the situation looks decidedly less grim, although not exactly rosy. As he began his second term,

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President Obama made clear that ‘climate change’ was no longer unmentionable and, in fact, would become a policy priority. Indeed, the US played a more constructive role in the international climate negotiations in Warsaw (Poland) in November 2013,¹ prompting one reporter to ask in a headline, ‘Is America no longer public enemy No. 1 on climate change?’²

This commentary details the progress made in advancing climate change law in the US since Obama’s re-election, in spite of congressional dysfunction and opposition. Building on first-term regulatory efforts, the Obama administration has finally committed to using existing statutory authority to perhaps its fullest extent to regulate greenhouse gas (GHG) emissions from both new and existing power plants. The judicial branch has largely accepted executive use of the Clean Air Act (CAA)³ to regulate GHGs, even though the Act proves in many ways to be a clunky vehicle for regulating a globally dispersed pollutant.⁴ Together, these domestic actions have given new credibility to US climate diplomacy.⁵

To have ceded the position as the world’s most reviled polluter is hardly an accomplishment to boast about. Yet, in its second term, the Obama administration has shown significant initiative on an issue that remains politically fraught. We suggest a few reasons for this progress: a second-term presidency coupled with a gridlocked Congress has provided an opening for bold executive action; a domestic ‘shale gas revolution’ has expanded the conversation about future energy options;⁶ state actions have put the lie to the argument that climate regulation is economically ruinous; and multiple disasters have served as reminders that climate change will prove to be immensely damaging to the US and the rest of the world.

1 19th session of the Conference of the Parties (COP) to the UNFCCC, 11–22 Nov. 2013, Warsaw (Poland), available at: <http://www.cop19.gov.pl>. United Nations Framework Convention on Climate Change (UNFCCC), New York, NY (US), 9 May 1992, in force 21 Mar. 1994, available at: <http://unfccc.int>.

2 See L. Friedman, ‘Is America No Longer Public Enemy No. 1 on Climate Change?’, *E&E Reporting*, 21 Nov. 2013, available at: <http://www.eenews.net/stories/1059990838>.

3 42 U.S.C. § 7401 et seq. (2012)

4 Most scholars and advocates take the view that comprehensive federal climate legislation, whether in the form of a carbon tax, a cap-and-trade system, or something else, would be a superior method of regulating climate change both in terms of efficiency and effectiveness. Such legislation, however, remains politically untenable for the foreseeable future: see, e.g., N. Richardson, A. Fraas & D. Burtraw, ‘Greenhouse Gas Regulation Under the Clean Air Act: Structure, Effects, and Implications of a Knowable Pathway’ (2011) 41 *Environmental Law Reporter News & Analysis*, pp. 10098–120, at 10098 (presenting a CAA approach to regulating GHG emissions as an inferior but realistic option).

5 See, e.g., US Submission on the 2015 Agreement, UNFCCC Party Submissions in Advance of the 19th Conference of the Parties (2013), at p. 1, available at: http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_usa_workstream_1_20131017.pdf (‘The United States is committed to playing a leadership role on climate change ... President Obama recently announced the US Climate Action Plan, which contains a broad range of actions to enhance US efforts toward our 2020 mitigation commitment and beyond’).

6 See, e.g., David Brooks, ‘Shale Gas Revolution’, *The New York Times*, 3 Nov. 2011, at A31; Breakthrough Institute, ‘Where the Shale Gas Revolution Came From: Government’s Role in the Development of Hydraulic Fracturing in Shale’, May 2012, available at: http://thebreakthrough.org/images/main_image/Where_the_Shale_Gas_Revolution_Came_From2.pdf.

2. EXECUTIVE ACTION ON CLIMATE CHANGE

In his January 2013 State of the Union address, President Obama challenged Congress to end its inaction in the face of climate change, promising that ‘if Congress won’t act soon to protect future generations, I will’.⁷ This speech marked a turning point in the administration’s commitment to addressing climate change through whatever means necessary.

It is not as though the Obama administration had done nothing on climate change up to that point; quite the opposite. Although the public failure of the cap-and-trade bill and lacklustre progress at the 2009 international negotiations in Copenhagen (Denmark)⁸ dominated the news, the first-term administration was able to advance climate change policy in several important respects, using executive tools. Firstly, the US Environmental Protection Agency’s (EPA) 2009 Endangerment Finding officially confirmed that GHGs endanger public health and welfare and should therefore be regulated under the CAA.⁹ This finding paved the way for regulating GHG emissions from vehicles, culminating in an August 2012 rulemaking that raised fuel efficiency standards for light vehicles from 29.7 miles per gallon to 54.5 miles per gallon by 2025.¹⁰ The administration projects that this increase will ‘reduce emissions by 6 billion metric tons over the life of the program – more than the total amount of carbon dioxide [CO₂] emitted by the United States in 2010’.¹¹ Also in Obama’s first term, the EPA issued its 2010 Tailoring Rule, making possible certain stationary source GHG regulations;¹² the Securities and Exchange Commission issued guidance on climate risk disclosure requirements;¹³ the Council on Environmental Quality provided draft guidance for considering climate change under the National Environmental Policy Act (NEPA);¹⁴

⁷ President Barack Obama, ‘Remarks by the President in State of the Union Address’ 12 Feb. 2013, available at: <http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address>.

⁸ 15th session of the COP-UNFCCC, 7–18 Dec. 2009, Copenhagen (Denmark), available at: https://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295.php.

⁹ EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202 (a) of the Clean Air Act, 74 Fed. Reg. 66,496 (15 Dec. 2009), see also: <http://www.epa.gov/climatechange/endangerment>.

¹⁰ See 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624 (15 Oct. 2012) (codified at 40 C.F.R. pts. 85, 86, 100), see also: <http://www.epa.gov/otaq/climate/regs-light-duty.htm>.

¹¹ White House Press Release, ‘Obama Administration Finalizes Historic 54.5 MPG Fuel Efficiency Standards’, 28 Aug. 2012, available at: <http://www.whitehouse.gov/the-press-office/2012/08/28/obama-administration-finalizes-historic-545-mpg-fuel-efficiency-standard>.

¹² 75 Fed. Reg. 31,516 (3 June 2010). The Tailoring Rule set limits on the stationary sources required to comply with certain GHG regulations, so as to avoid absurd results and regulatory overburdening by bringing over 6 million small sources under the EPA’s permitting authority on the basis of carbon emissions alone: *ibid.*, at 31,554; see also: <http://www.epa.gov/nsr/actions.html#may10>.

¹³ Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (8 Feb. 2010) (codified at 17 C.F.R. pts. 211, 231 and 241), see also: <http://www.sec.gov/news/press/2010/2010-15.htm>.

¹⁴ Memorandum from Nancy H. Sutley, Chair, Council on Environmental Quality, to Heads of Federal Departments & Agencies on Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, 18 Feb. 2010, available at: http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf.

and the Department of Energy established new energy efficiency standards for household appliances.¹⁵

As meaningful as these actions were, climate change policy was not the centrepiece of Obama's first term. Thus, the bolder tone struck in the 2013 State of the Union address signalled a change in policy priorities. Obama made these promises more concrete five months later, in June 2013, by releasing a Climate Action Plan in a major speech devoted exclusively to the topic of climate.¹⁶ The plan, key portions of which are described below, set an ambitious agenda for Obama's remaining time in office.

2.1. Power Plant Regulation

One key element of the Climate Action Plan is regulation of the power sector – the largest source of GHG emissions in the US.¹⁷ The most prominent action taken so far by the EPA in this regard is a revised proposal to control GHGs from *new* power plants, under the agency's CAA authority to establish 'standards of performance' for new sources.¹⁸ The new proposal, issued on 20 September 2013, establishes two separate standards: the first limits GHG emissions from new natural gas-fired plants while the second, slightly less stringent, standard applies to new coal-fired plants.¹⁹ Modern combined-cycle natural gas plants meet the proposed standards, but coal plants cannot unless they employ carbon capture and sequestration (CCS), a method of capturing GHGs and piping them to long-term underground storage reservoirs, or using them for enhanced oil recovery.²⁰ Though billions of dollars have been spent on developing and commercializing CCS technology, no such units involving both capture and storage have been put into commercial operation at coal-fired power plants. The proposed rule thus seems to place an effective ban on the construction of new coal plants. However, its impacts would, in fact, be limited, as few if any new coal-fired plants are planned in the US because of the low price of natural gas, the expense of complying with several new and potential regulations, and the declining demand for electricity.²¹

¹⁵ Direct Final Rule Regarding Energy Conservation Standards for Residential Dishwashers, 77 Fed. Reg. 31,918 (30 May 2012), see also: http://www1.eere.energy.gov/buildings/appliance_standards/product.aspx/productid/67.

¹⁶ Executive Office of the President, 'The President's Climate Action Plan', June 2013, available at: <http://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>.

¹⁷ EPA, 'National Greenhouse Gas Emissions Data', available at: <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html> (last visited 11 Dec. 2013).

¹⁸ CAA § 111(b); codified at 42 U.S.C. § 7411(b) (2012).

¹⁹ Proposed Rule, Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, Rulemaking No. EPA-HQ-OAR-2013-0495 (20 Sept. 2013), 79 Fed. Reg. 1352 (8 Jan. 2014), available at: <http://www2.epa.gov/carbon-pollution-standards/2013-proposed-carbon-pollution-standard-new-power-plants>.

²⁰ See generally 'Carbon Capture and Sequestration Technologies', Massachusetts Institute of Technology, available at: <http://sequestration.mit.edu/index.html>; A.B. Klass & E.J. Wilson, 'Climate Change, Carbon Sequestration, and Property Rights' (2010) 30(2) *University of Illinois Law Review*, pp. 363–428.

²¹ The rule remains in proposal form for now. President Obama has directed the EPA to finalize this rule 'in a timely fashion': see Memorandum for the Administrator of the Environmental Protection Agency, Power Sector Carbon Pollution Standards, 25 June 2013 (Memorandum for EPA), at p. 2, available at: <http://tiny.cc/EPA-Memo>.

Of much greater environmental significance, the Climate Action Plan also calls for GHG emission standards for *existing* power plants. As a result of the ‘grandfathering’ rules, hundreds of coal-fired plants constructed in the 1950s and 1960s still operate with minimal air pollution controls.²² Regulating the GHG emissions of these plants is both critical and complicated. While the EPA has direct authority over new plants under CAA section 111(b), a different section (111(d)) applies to existing plants.²³ This section calls on the EPA to set guidelines, but allows each state to design its own standards of performance and implementation plan.²⁴ EPA guidelines may vary from one state to another, depending on each state’s mix of fuels and generation resources. It is also possible that the EPA will employ a variety of legal theories to use CAA section 111(d) to permit multi-state emissions trading systems. All of this is sure to generate considerable litigation, considering the high stakes of such regulations. Moreover, while the EPA has ample experience in designing standards for new plants, the provisions of CAA section 111(d) for existing plants have rarely been used.

President Obama has directed the EPA to propose guidelines for existing plants by 1 June 2014; to finalize them by 1 June 2015; and to give states until 30 June 2016 to submit their implementation plans.²⁵ Even if this ambitious timeline is met, by the time states submit their plans, the President will have less than seven months remaining in office and the inevitable implementation challenges and litigation will play out under his successor. Regulations for existing power plants might therefore be both the most essential and the most fragile element of Obama’s climate agenda.

2.2. *Beyond Power Plants*

The second-term Obama administration is also looking beyond the CAA to reduce GHGs. Shortly before releasing the Climate Action Plan, the administration quietly used an energy efficiency update for microwaves to announce an updated ‘social cost of carbon’ (SCC) calculation.²⁶ The SCC is ‘an estimate of the monetized damages associated with an incremental increase in carbon emissions in a given year’, and includes changes in agricultural productivity, human health, property damage, and the value of ecosystem services.²⁷ The June 2013 update changed the central SCC estimate from \$22 to \$36 for a metric ton of CO₂ emitted in 2013.²⁸ Agencies use SCC estimates

²² See generally J.R. Nash & R.L. Revesz, ‘Grandfathering and Environmental Regulation: The Law and Economics of New Source Review’ (2007) 101 *Northwestern University Law Review*, pp. 1677–733, at 1681–96.

²³ CAA § 111(d); codified at 42 U.S.C. § 7411(d) (2012).

²⁴ *Ibid.*

²⁵ See Memorandum for EPA, n. 21 above.

²⁶ Energy Conservation Program: Energy Conservation Standards for Standby Mode and Off Mode for Microwave Ovens, 78 Fed. Reg. 36,316, 36,318 (17 June 2013) (to be codified at 10 C.F.R. pts. 429 and 430). Although announced in this rulemaking, an interagency working group actually formulated the updated SCC, and explained its methodology in a technical report dated May 2013: see Interagency Working Group on Social Cost of Carbon, ‘Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866’, May 2013 (Technical Update), available at: http://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf.

²⁷ Technical Update, *ibid.*, at p. 2.

²⁸ *Ibid.*, at p. 18.

in assessing the costs and benefits of potential regulations, as required in an executive order issued by President Bill Clinton.²⁹ A higher SCC should make more regulations limiting carbon appear cost-effective.³⁰ Perhaps unsurprisingly then, the SCC's revision has become something of a flashpoint, with critics suggesting it is really just a hidden carbon tax that was adopted undemocratically.³¹ In November 2013, the White House announced that it will seek new public comment on the revised standards.³²

Media coverage of Obama's second-term climate agenda has been dominated by another fossil fuel-related issue: the pending decision on the Keystone XL pipeline, which would transport oil from the Canadian tar sands to the US Gulf Coast. The proposed project requires a permit from the State Department, which must determine whether the pipeline would 'serve the national interest'.³³ Climate activists have worked to cast the Keystone XL decision as a symbolic component of Obama's climate legacy, suggesting that a decision to proceed would lock in a future of high-polluting oil.³⁴ Although the administration has remained generally close-lipped about its decision-making on Keystone XL, Obama's June 2013 speech vowed that the pipeline would be approved only if it 'does not significantly exacerbate the problem of carbon pollution'.³⁵ Both sides declared that this meant they would be victorious, thus reflecting far different ways of seeing the issue.³⁶

Looking forward, the Climate Action Plan sets out a number of additional steps that the Obama administration plans to take to reduce GHG emissions. These include:

- expanding the use of renewable energy;
- accelerating transmission development on public lands;
- better regulating hydrofluorocarbons (HFCs) and methane, extremely potent GHGs;

²⁹ See Executive Order No. 12,866, 58 Fed. Reg. 51,735 (4 Oct. 1993); see also Executive Order No. 13,563, 76 Fed. Reg. 3,821 (21 Jan. 2011) (Obama executive order 'reaffirm[ing] the principles, structures, and definitions governing contemporary regulatory review that were established in Executive Order 12866 of September 30, 1993').

³⁰ For example, the microwave efficiency standards' net benefits increased from \$4.2 billion to \$4.6 billion with the new social cost of carbon estimates applied: see Energy Conservation Standards for Microwave Ovens, 78 Fed. Reg. at 36,318.

³¹ See B. Lieberman, 'Social Costs of Carbon: A Continuing Little-Told Story', Yale Forum on Climate Change & the Media, 12 Sept. 2013, available at: <http://www.yaleclimatemediaforum.org/2013/09/scc-social-costs-of-carbon-a-continuing-little-told-story>.

³² Office of Management and Budget, 'Refining Estimates of the Social Cost of Carbon', 1 Nov. 2011, available at: <http://www.whitehouse.gov/blog/2013/11/01/refining-estimates-social-cost-carbon>.

³³ See Executive Order No. 13,337, 69 Fed. Reg. 25,299 (30 Apr. 2004).

³⁴ See, e.g., B. McKibben, 'Will Obama Block the Keystone Pipeline or Just Keep Bending?', *Huffington Post*, 28 Oct. 2013, available at: http://www.huffingtonpost.com/bill-mckibben/obama-keystone-xl-pipeline_b_4169791.html (calling the decision an 'X-ray for a flagging presidency').

³⁵ Remarks by the President on Climate Change, Georgetown University, Washington, DC (US), 25 June 2013, available at: <http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change>.

³⁶ See I. Austen, 'In Canada, Pipeline Remarks Stir Analysis', *The New York Times*, 26 June 2013 (quoting environmentalists claiming that the remarks indicated that 'the pipeline will be rejected', while industry representatives interpreted the remarks as 'a positive step in the process'), available at: http://www.nytimes.com/2013/06/27/business/energy-environment/in-canada-pipeline-remarks-stir-analysis.html?_r=0.

- continuing to tighten efficiency standards for appliances and buildings; and
- further increasing fuel economy standards for heavy-duty vehicles.³⁷

However, the plan also recognizes that, despite all efforts to reduce GHG emissions, temperatures will increase and seas will rise for many years. Thus, resiliency and adaptation receive considerable attention, with the President calling on federal agencies to integrate resiliency into their activities.³⁸ The plan also includes measures to help to protect critical sectors of the economy from climate-related disasters and to assist state and local adaptation efforts.³⁹ President Obama followed up these pledges with a November 2013 executive order that, among other things, directs federal agencies to reform barriers to investing in adaptation and to identify ways in which their policies might contribute to climate vulnerability.⁴⁰

3. THE COURTS BUY IN, SO FAR

As outlined in the previous section, the Obama administration is pursuing a relatively ambitious set of climate initiatives, but the outcome of these initiatives will hinge, in part, on whether they are judged to be within the bounds of executive authority. Almost every climate regulation either has been or will be subjected to court challenge.⁴¹

By and large, the courts have, so far, upheld executive actions taken on GHGs. This judicial acceptance of executive action on climate change has been critical of the Obama administration's ability to construct an increasingly robust response to climate change without congressional support. In June 2012, the US Court of Appeals for the District of Columbia Circuit upheld the EPA's authority to regulate GHGs against numerous challenges,⁴² including challenges to the Endangerment Finding and the Tailoring Rule.⁴³ This decision, considered a major victory for the EPA, has been thrown partly into question by the Supreme Court's decision in October 2013 to grant certiorari.⁴⁴ However, the Supreme Court limited its review to one question: whether the EPA has permissibly determined that its decision to regulate GHGs from motor vehicles 'triggered' an obligation to regulate stationary sources as well.⁴⁵

³⁷ See Climate Action Plan, n. 16 above.

³⁸ *Ibid.*, at pp. 12–3.

³⁹ *Ibid.*, at p. 13.

⁴⁰ Executive Order, Preparing the United States for the Impacts of Climate Change, 1 Nov. 2013, available at: <http://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>.

⁴¹ See, e.g., D. Markell & J.B. Ruhl, 'An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?' (2012) 64 *Florida Law Review*, pp. 15–86 (collecting, categorizing, and analyzing trends in climate litigation).

⁴² *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102, 113–4 (DC Cir., 2012) (holding the EPA's Endangerment Finding to be neither arbitrary nor capricious and dismissing challenges to the Tailoring and Timing Rules for lack of standing), certiorari granted *sub nom* *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 418 (15 Oct. 2013).

⁴³ See n. 8 above.

⁴⁴ *Coalition for Responsible Regulation*, n. 42 above, at 418.

⁴⁵ *Ibid.*

Significantly, the Supreme Court denied certiorari with respect to the EPA's Endangerment Finding and the vehicle tailpipe emissions standards.

Directly at stake in this challenge is whether the Prevention of Significant Deterioration programme,⁴⁶ aimed at preventing new sources from worsening local air quality, applies to GHGs. The case does not have direct bearing on the performance standards for new and existing fossil fuel-fired power plants, as these fall under a different part of the CAA.⁴⁷ However, a decision against the EPA would reduce its ability to go after other stationary sources and thus impede President Obama's objective of reducing overall GHG emissions. Oral argument in the case will take place in February 2014, with a decision anticipated by June 2014.⁴⁸

Although not directly related to climate, two other pending court challenges might have considerable impact on future GHG emissions. In 2011, the EPA finalized two landmark air regulations: the Mercury Air Toxics Standard (MATS) and the Cross State Air Pollution Rule (CSAPR). MATS would reduce power plant mercury (Hg) emissions by 90%, but at a fairly substantial cost to affected sources.⁴⁹ CSAPR aims to control sulphur dioxide (SO₂) and nitrous oxide (N₂O) emissions through a multi-state emissions trading programme.⁵⁰ Both regulations have been challenged by affected industries. The DC Circuit heard oral argument in a challenge to MATS in December 2013.⁵¹ At the same time, the Supreme Court heard arguments in a challenge to CSAPR, which the DC Circuit struck out in 2012 upon finding that the EPA's regulatory design exceeded its authority.⁵² If MATS and CSAPR are upheld, the expense of complying with these regulations is likely to accelerate the closure of some major sources of GHGs.

Additional legal challenges are all but guaranteed once the EPA finalizes its regulations for GHGs from new and existing power plants under CAA section 111. Key questions that are likely to be raised include whether the EPA's emissions rate limitations under section 111(b) for new coal plants are overly ambitious based on current CCS technological prospects, and just what the EPA can require of existing sources under section 111(d).⁵³ As these pending and anticipated disputes highlight,

⁴⁶ See 42 U.S.C. § 7470 et seq. (2012); US Environmental Protection Agency, 'Prevention of Significant Deterioration (PSD) Basic Information', available at: <http://www.epa.gov/NSR/psd.html>.

⁴⁷ Compare 42 U.S.C. § 7411 (New Source Performance Standards), with 42 U.S.C. Ch. 85, pt. C (PSD programme).

⁴⁸ See Supreme Court of the United States, 'October Term 2013, Schedule for Session Beginning February 24, 2014', available at: http://www.supremecourt.gov/oral_arguments/argument_calendars/MonthlyArgumentCalFEB%202014.pdf.

⁴⁹ 77 Fed. Reg. 9304, 9305-06 (16 Feb. 2012) (estimating annual social costs at \$9.6 billion, with annual social benefits between \$37 and \$90 billion using a 3% discount rate).

⁵⁰ Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48,208 (8 Aug. 2011) (to be codified at 40 C.F.R. pt. 51, 52, 72, 78, and 97).

⁵¹ See *Utility Air Regulatory Group v. EPA*, Docket No. 13-1201 (DC Cir., oral argument heard 10 Dec. 2013).

⁵² See *EPA v. EME Homer City Generation*, Docket No. 12-1182 (US Supreme Court, oral argument heard 10 Dec. 2013), appealing 696 F.3d 7 (DC Cir., 2012).

⁵³ See 42 U.S.C. § 7411(a) (defining 'standards of performance' as 'a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which ... has been adequately demonstrated').

for all its remarkable capacity to address new pollutants that pose grave new dangers unforeseen at the time of its passage, the existing CAA is far from the ideal way to regulate GHGs.⁵⁴

In contrast to the relative success enjoyed by the EPA in legal challenges to its GHG regulations, the courts have maintained their scepticism of citizen relief. In addition to bringing lawsuits to force agency action, many litigants have attempted to extend common law doctrines, including public nuisance theories and the public trust doctrine, to harm related to climate change. These suits have met with little success, faltering on issues of separation of powers, standing, causation, and the practicability of judicial relief.⁵⁵ The trends of expanding administrative action and shrinking avenues for citizen relief are not independent, as forward movement on the EPA's regulatory agenda appears to contribute to the courts' unwillingness to shape piecemeal judicial remedies.⁵⁶

A few important decisions in Obama's second term have narrowed the potential for judicially crafted solutions to climate change. In May 2013, the Supreme Court declined to review the Ninth Circuit's dismissal of a suit by the Village of Kivalina, an Alaskan seaside Inupiat village requiring relocation as a result of erosion from melting ice and seeking compensation for relocation expenses.⁵⁷ The Ninth Circuit held that the regulatory authority of the CAA and the EPA displace the federal common law of nuisance in GHGs, even for damages claims.⁵⁸ Also in May 2013, the Fifth Circuit dismissed an attempt to hold GHG emitters liable under a public nuisance theory.⁵⁹ Since these cases, plaintiffs appear to be largely foreclosed from proceeding with federal common law claims against emitters. Whether *state* common law claims may be available remains an open question.⁶⁰

⁵⁴ See *ibid.* § 7401(b)(1) (Congressional Declaration of Purpose).

⁵⁵ See generally D.A. Kysar, 'What Climate Change Can Do About Tort Law' (2011) 41 *Environmental Law*, pp. 1–71, generally and at p. 2, n. 3 (describing the difficulties that climate litigants face in persuading courts to extend common law tort theories to climate damage and collecting scholarly analysis on these issues). See also, e.g., *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011) (rejecting a public nuisance claim); *Native Village of Kivalina v. Exxon Mobil Corp.*, 696 F.3d 849, 853–4 (9th Cir., 2012) (rejecting a public nuisance claim), certiorari denied, 133 S. Ct. 2390 (2013); *U.S. Legal Actions*, Our Children's Trust, available at: <http://ourchildrenstrust.org/legal/US-Action> (collecting state and federal lawsuits sponsored by this organization to force regulation of carbon emissions under the public trust doctrine – none of which have yet been successful).

⁵⁶ Cf. *American Electric Power Co.*, *ibid.*, at 2537 (finding any potential federal common law claim for abatement of GHG emissions displaced by federal legislation authorizing the EPA to regulate these emissions).

⁵⁷ *Kivalina*, n. 55 above, at 853–54.

⁵⁸ *Ibid.*, at 858.

⁵⁹ See *Comer v. Murphy Oil*, 718 F.3d 460 (5th Cir., 2013).

⁶⁰ See *American Electric Power Co.*, n. 55 above, at 2540 ('None of the parties have briefed preemption or otherwise addressed the availability of a claim under state nuisance law. We therefore leave the matter open for consideration...'); see also *Bell v. Cheswick Generating Station*, 734 F.3d 188, 197 (3d Cir., 2013) (holding that 'the Clean Air Act does not preempt state common law claims based on the law of the state where the source of the pollution is located', and remanding for further proceedings). But see *North Carolina v. Tennessee Valley Authority*, 615 F.3d 291, 310 (4th Cir., 2010) (holding that plants could not be public nuisances under the law of their state when in compliance with state and federal air regulations).

The Ninth Circuit further narrowed the possibilities for citizen relief in its October 2013 decision in *Washington Environmental Council v. Bellon*, at least if the opinion holds up and other circuits adopt similar reasoning.⁶¹ In *Bellon*, two environmental groups sought to compel the Washington Department of Ecology and two regional clean air agencies to regulate oil refineries under the CAA. The Ninth Circuit dismissed the claim, holding that even if the plaintiffs had established injury in fact resulting from climate change, they had not provided evidence sufficient to establish the causality or redressability elements of standing. The court noted that establishing an adequate ‘causal nexus’ between the plaintiffs’ injuries and government inaction would prove to be particularly challenging because ‘there is limited scientific capability in assessing, detecting, or measuring the relationship between a certain [GHG] emission source and localized climate impacts in a given region’.⁶² Although the Supreme Court found in *Massachusetts v. EPA* that *states* could overcome such standing hurdles to challenge government inaction on GHGs,⁶³ *Bellon* casts doubt on whether other entities can ever do the same.

A decision of the DC Court in December 2013, however, was more lenient to climate change plaintiffs on the issue of standing. In *Wildearth Guardians v. Jewell*, the DC Circuit reversed a district court opinion that denied plaintiffs standing on their claim that a federal environmental impact statement for a coal lease inadequately considered climate change risks.⁶⁴ The DC Circuit held that the harm alleged by the plaintiffs to recreational and aesthetic interests as a result of increased local pollution gave them standing to challenge the adequacy of the climate change analysis, even though they could not have established standing on their climate claims alone.⁶⁵ *Wildearth* should allow plaintiffs who can combine climate change claims with traditional local injuries an increased chance of establishing standing, again assuming the opinion holds up and the reasoning is adopted more broadly.

Given the primacy placed by these judicial trends on administrative action as the appropriate locus of climate change solutions, court review of the EPA’s GHG regulations will be of paramount importance in determining the extent to which the US can reduce emissions in the relatively near term. With such critical questions looming, the November 2013 decision by the Senate to eliminate filibusters blocking certain presidential nominations may turn out to have important implications for climate change.⁶⁶ Under the new rules, which require a simple majority for confirmation, Democrats are expected more rapidly to fill the almost one hundred vacancies in the federal judiciary, including several on the DC Circuit, the court given exclusive

⁶¹ 732 F.3d 1131 (9th Cir., 2013). The *Bellon* plaintiffs have petitioned for *en banc* review: see Docket No. 12-35323 (9th Cir., *en banc* briefing filed 3 Dec. 2013). A petition for certiorari is also likely.

⁶² *Ibid.*, at 1143.

⁶³ 549 U.S. 497, 521 (2007).

⁶⁴ Docket No. 12-5300, slip op. (DC Cir., decided 24 Dec. 2013).

⁶⁵ *Ibid.*, at 11–12.

⁶⁶ See P. Kane, ‘Reid, Democrats Trigger “Nuclear” Option; Eliminate Most Filibusters on Nominees’, *The Washington Post*, 21 Nov. 2013, available at: http://www.washingtonpost.com/politics/senate-poised-to-limit-filibusters-in-party-line-vote-that-would-alter-centuries-of-precedent/2013/11/21/d065cfe8-52b6-11e3-9fe0-fd2ca728e67c_story.html.

jurisdiction over challenges to EPA regulations.⁶⁷ These changes could give the EPA a bit more leeway in its CAA interpretations.

4. CLIMATE LAW DRIVERS: THE STATES, THE CHANGING ENERGY MIX, AND A DOSE OF REALITY

What has driven Obama's more outspoken, aggressive approach to climate change in his second term? Part of the answer, certainly, is embedded in the question: a second-term president's freedom from re-election concerns can inspire bolder actions. But several other forces have converged to make climate change gain prominence in the administration's second-term agenda. The first is the refusal by Congress to consider action on *any* important issues on the President's agenda. This deadlock, while generally detrimental to democracy and progress, also means that the President need not hold back on regulating the politically contentious issue of climate change in an effort to move other issues forward in Congress.

A second force driving the recent surge of climate initiatives is the so-called 'shale gas revolution' in the US.⁶⁸ Between 2005 and 2012, natural gas prices dropped from a high of around \$10 per million Btu to less than \$3 per million Btu, largely because a new drilling technique – hydraulic fracturing with horizontal drilling – unlocked a vast quantity of reserves.⁶⁹ Natural gas is now cost-competitive with coal, and burning gas to make electricity emits approximately half the GHGs emitted by coal.⁷⁰ Consequently, lower natural gas prices have driven down power sector GHG emissions even in the absence of regulation. By showing a path forward that does not rely on ever-elusive CCS technology, the rise of natural gas has eased the way for GHG regulation. However, the long-term cost competitiveness of natural gas remains uncertain.⁷¹ If coal again becomes the economical fuel choice, GHG regulations that seem superfluous now (in particular, proposed emissions rate limitations on new sources) may regain importance.

State experimentation provides a third force behind current federal climate initiatives. In the absence of robust federal action, states have taken up climate regulation to an impressive degree. Nine northeastern states have run a cap-and-trade programme for CO₂ from power plants since 2009, which a recent report found will create billions of

⁶⁷ See 42 U.S.C. § 7607(b).

⁶⁸ See n. 6 above.

⁶⁹ See US Energy Information Administration, 'Annual Energy Outlook' (2013), at p. 76, available at: [http://www.eia.gov/forecasts/aeo/pdf/0383\(2013\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf).

⁷⁰ See EPA, 'Natural Gas', available at: <http://www.epa.gov/cleanenergy/energy-and-you/affect/natural-gas.html>. However, the *production* of natural gas also emits GHGs – in particular, the potent GHG methane – in quantities that are currently the topic of much scientific debate: see, e.g., J. Tollefson, 'Methane Leaks Erode Green Credentials of Natural Gas' (2013) 493(7430) *Nature*, p. 12.

⁷¹ See US Energy Information Administration, n. 69 above, at p. 3 ('Although coal is expected to continue its important role in U.S. electricity generation, there are many uncertainties that could affect future outcomes. Chief among them are the relationship between coal and natural gas prices and the potential for policies aimed at reducing [GHG] emissions').

dollars in net economic benefits for the region.⁷² California has adopted a suite of ambitious climate policies, including a cap-and-trade system and a low carbon fuel standard, the latter of which recently survived a critical court challenge under the dormant commerce clause.⁷³ Other states have adopted actions that focus less directly on limiting carbon, but have that effect nevertheless. Twenty-nine states now have in place mandatory Renewable Portfolio Standards, and 24 have Energy Efficiency Resource Standards.⁷⁴ These standards require utilities in a state to obtain a certain percentage of their electricity from renewable sources and to attain a certain level of energy savings annually. Collectively, these state actions demonstrate that a majority of states want a different energy mix in the future and that climate policies need not spell economic ruin.⁷⁵

One reason why the country, if not many vocal members of Congress, may be warming to carbon regulation is the accelerating severity of disasters both in the US and around the world.⁷⁶ While it remains difficult to attribute specific weather events to climate change, models show that these events are expected to happen with greater frequency and severity in a warmer world. The number of weather-related natural catastrophes in North America has risen from around 50 a year in the early 1980s to around 200 a year,⁷⁷ at an annual cost of approximately \$110 billion in 2012.⁷⁸ These sobering figures may help to drive home the message that climate change is likely to be far more expensive to fix than to prevent. The election-season behaviour of New York City Mayor, Michael Bloomberg, illustrated this phenomenon: the week after Superstorm Sandy ravaged the city in October 2012, the mayor (who was originally

⁷² See Regional Greenhouse Gas Initiative, available at: <http://www.rggi.org>; P.J. Hibbard et al., 'The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States', Analysis Group, 15 Nov. 2011, at p. 24, available at: http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Report.pdf.

⁷³ See *Rocky Mountain Farmers Union v. Corey*, 2013 U.S. App. LEXIS 19258 (9th Cir., 18 Sept. 2013).

⁷⁴ See Database of State Incentives for Renewables & Efficiency, 'RPS Data Spreadsheet', Mar. 2013, available at: <http://www.dsireusa.org/rpsdata>; American Council for an Energy Efficient Economy, 'Energy Efficiency Resource Standards', available at: <http://aceee.org/topics/eers>.

⁷⁵ Many scholars have devoted attention to the important roles that states and cities play in US climate policy: see, e.g., R.B. Stewart, 'States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures' (2008) 50 *Arizona Law Review*, pp. 681–707 (arguing that state efforts can and should persist, even if a robust federal or international climate regime is adopted); H. Osofsky, 'Diagonal Federalism and Climate Change: Implications for the Obama Administration' (2011) 62 *Alabama Law Review*, pp. 237–303 (discussing, inter alia, the vertical interplay among local, state, and federal climate regulation); G.B. Pursley & H.J. Wiseman, 'Local Energy' (2011) 60 *Emory Law Journal*, pp. 877–959 (charting the role of local governments in promoting the transition to clean energy); M. Powers, 'United States Municipal Climate Plans: What Role Will Cities Play in Climate Change Mitigation?', in B.J. Richardson (ed), *Local Climate Change Law: Environmental Regulation in Cities and Other Localities* (IUCN Academy of Environmental Law, 2012), pp.134–63.

⁷⁶ See, e.g., B. Rabe & C. Borick, *Continued Rebound in American Belief in Climate Change: Spring 2012 NSAPOCC Findings* (Brookings Institute, 2012), at p. 2 (finding a 'rebound in public belief in evidence of global warming' and 'evidence that Americans are linking weather events and experiences to their views on the existence of climate change').

⁷⁷ N.D. Israel, 'Inaction on Climate Change: The Cost to Taxpayers', *Ceres*, Oct. 2013 (internal citation omitted), at p. 7, available at: <http://www.ceres.org/resources/reports/inaction-on-climate-change-the-cost-to-taxpayers>.

⁷⁸ *Ibid.*, at p. 5.

elected as a Republican) announced a surprising last-minute endorsement of President Obama, specifically on the grounds of climate change policy.⁷⁹ It may or may not be a coincidence that in the same week *Bloomberg Businessweek* printed a bright red cover that showed a flooded Manhattan street and declared, 'It's Global Warming, Stupid'.⁸⁰

5. A NEW FACE TO THE WORLD

While this commentary has focused on US domestic federal actions, it is on the world stage that climate change will ultimately be slowed or accelerated. Although the US has a poor reputation from past international climate negotiations, there are recent signals that the country is more earnestly seeking bilateral and multilateral progress, as promised in the Climate Action Plan.⁸¹

The US and China are the two most essential players in reducing carbon emissions, accounting together for approximately 45% of 2012 emissions.⁸² These nations have historically been antagonists on climate change, with the US refusing to move forward without China agreeing to binding emissions limitations, and China asserting that the principle of 'common but differentiated responsibilities' precludes this arrangement.⁸³ However, amid intense internal discord in China over the country's worsening air quality, the countries' interests in addressing climate change domestically appear to be converging. In spring 2013, the US and China issued a Joint Statement on Climate Change, leading to a working group that set out five (non-binding) cooperative initiatives:

- reducing emissions from heavy-duty and other vehicles;
- promoting CCS;
- increasing energy efficiency in buildings and industry;
- improving GHG data collection and management; and
- promoting smart grids.⁸⁴

⁷⁹ R. Hernandez, 'Bloomberg Backs Obama, Citing Fallout From Storm', *The New York Times*, 1 Nov. 2012, available at: <http://www.nytimes.com/2012/11/02/nyregion/bloomberg-endorses-obama-saying-hurricane-sandy-affected-decision.html>.

⁸⁰ See P.M. Barrett, 'It's Global Warming, Stupid', *Bloomberg Businessweek*, 1 Nov. 2012, available at: <http://www.businessweek.com/articles/2012-11-01/its-global-warming-stupid>.

⁸¹ Climate Action Plan, n. 16 above, at p. 5.

⁸² PBL Netherlands Environmental Assessment Agency, 'Trends in Global CO₂ Emissions 2012 Report', European Commission Joint Research Centre, 2012, at p. 6, available at: <http://edgar.jrc.ec.europa.eu/CO2REPORT2012.pdf>.

⁸³ See, e.g., Byrd-Hagel Resolution, S. Res. 98, 25 July 1997 (refusing to ratify any climate change agreement that required binding cuts by the US but not by developing countries); Address by H.E. Wen Jiabao, Premier of the State Council of the People's Republic of China at the Copenhagen Climate Change Summit, Copenhagen (Denmark), 18 Dec. 2009 ('the principle of "common but differentiated responsibilities" represents the core and bedrock of international cooperation on climate change and must never be compromised').

⁸⁴ US Department of State, 'Report of the US-China Climate Change Working Group to the Strategic and Economic Dialogue', Special Envoy for Climate Change, Washington, DC (US), 10 July 2013, available at: <http://www.state.gov/e/oes/rls/pr/2013/211842.htm>.

The countries have also agreed to work together to phase down the production and consumption of HFCs,⁸⁵ using the Montreal Protocol on Substances that Deplete the Ozone Layer.⁸⁶ These initiatives signal a new attitude of cooperation between the two major emitters that could bode well for global progress.

The US has also played a more constructive role in recent international climate negotiations, at least in certain respects.⁸⁷ Countries have pledged to create a new overarching climate agreement by 2015, which looks to be structured around nationally determined emissions reductions targets.⁸⁸ In the latest negotiations, in November 2013 in Warsaw (Poland), the US negotiators pushed hard for developed and developing countries alike to be required to submit country-level ‘commitments’.⁸⁹ The proposal met with resistance from the major developing country emitters, but ultimately won agreement after the word ‘commitment’ was changed to ‘contribution’ in the negotiated text.⁹⁰ While the details of these future contributions remain vague, this non-differentiation among countries is a critical step in securing sufficiently ambitious pledges to have a fighting chance of keeping climate change to reasonable levels.

6. CONCLUSION

If President Obama brings to fruition his Climate Action Plan and the courts uphold the ensuing regulations, the US will achieve its 2009 ‘Copenhagen pledge’ to lower emissions by 17% from 2005 levels by 2020.⁹¹ Given that the 2009 pledge was made at a time when congressional action seemed imminent, it would be no small feat to achieve this same result through executive action alone (even with the aid of low natural gas prices). Ultimately, however, this level of reduction is very small relative to what is needed. At the same time that we have chosen to rely on country-level ‘contributions’ driven by domestic realities as the framework for a new international mechanism, recent analyses suggest two sobering facts. Firstly, the ambition reflected in current country-level pledges is *far* too low to keep us below the internationally

⁸⁵ White House Press Release, ‘United States and China Agree to Work Together on Phase Down of HFCs’, 8 June 2013, available at: <http://www.whitehouse.gov/the-press-office/2013/06/08/united-states-and-china-agree-work-together-phase-down-hfcs>.

⁸⁶ Montreal (Canada), 16 Sept. 1987, in force 1 Jan. 1989, available at: http://ozone.unep.org/new_site/en/montreal_protocol.php.

⁸⁷ In contrast to its work on mitigation targets, the US does not appear to have been particularly constructive during recent negotiations on the issues of climate finance or ‘loss and damage’.

⁸⁸ See, e.g., Center for Climate and Energy Solutions, ‘Outcomes of the U.N. Climate Change Conference in Warsaw’, Nov. 2013, at p. 1, available at: <http://www.c2es.org/international/negotiations/cop-19/summary>.

⁸⁹ *Ibid.*, at p. 2.

⁹⁰ *Ibid.* (reporting that the US facilitated this compromise); see also UNFCCC, Decision –/CP.19, ‘Further Advancing the Durban Platform’, advance unedited version, Dec. 2013 (inviting ‘all Parties to initiate or intensify domestic preparations for their intended nationally determined contributions ... [and] to communicate them well in advance of the twenty-first session of the Conference of the Parties’).

⁹¹ US Department of State, ‘Draft 2014 U.S. Climate Action Report, Biennial Report’, at p. 3, available at: <http://www.state.gov/r/pa/prs/ps/2013/09/214791.htm>.

agreed target of two degrees Celsius of global warming.⁹² Secondly, even two degrees of warming may be more than the planet can bear without disastrous consequences.⁹³ Thus, while the climate change commitments of the Obama administration's second-term are laudable, real progress will require leveraging them into something bigger and bolder both at home and abroad.

⁹² United Nations Environment Programme (UNEP), *The Emissions Gap Report 2013* (UNEP, 2013), available at: http://www.unep.org/pdf/UNEP_EmissionsGapReport2013.pdf

⁹³ J. Hansen et al., 'Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature' (3 Dec. 2013) 8(12) *PLoS ONE*, p. e81648.