

## CLIMATE POLICY IN THE NEW US ADMINISTRATION

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During the 2016 presidential campaign, Donald Trump promised to "cancel" the Paris Agreement. On 1 June 2017, he announced his intention to withdraw the United States from the Paris Agreement.

More generally, the new Trump administration has been vocal about changing US climate and environmental policies. This paper reviews these proposed changes, potential obstacles, and possible future paths.

- ◆ **These include US membership in the Paris Agreement**, the **US NDC** submitted to the Paris Agreement, and **US domestic policies such as the EPA "Clean Power Plan"** and other agency rules.
- ◆ So far, **the Trump administration has taken some steps, but it has not made final policy changes**. Its attempts at policy changes will take time, perhaps several years to withdraw from Paris and to conduct new agency rulemakings. They may be **challenged by others**, such as in other countries, in Congress, in the States, and in court. Litigation could seek to require agencies to justify their policy changes, to carry out statutory responsibilities, to use a social cost of carbon, and to protect the public trust. The effects of potential policy changes on the economy, emissions, and international relations remain to be seen.
- ◆ Beyond policy changes that may be made by the Trump administration, EPA and other agencies, **another path may be through new legislative action in Congress**. One avenue to seek bipartisan support for legislation in Congress might be a deal **to remove EPA regulatory authority over greenhouse gases while also simultaneously adopting a new carbon tax**.
- ◆ Climate policy is not determined by a single decision maker, but evolves in a **complex web of institutions**, with moves and countermoves by multiple actors.

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## Climate Policy in the New US Administration

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In late 2015, the Paris Agreement<sup>2</sup> succeeded in bridging longstanding divisions between groups of countries, and called for action by all countries to mitigate greenhouse gas emissions. As of 31 May 2017, at least 147 countries had joined the Paris Agreement,<sup>3</sup> which entered into force on 4 November 2016. One of the key provisions of the Paris Agreement, Article 4, calls for each party to prepare and communicate its Nationally Determined Contribution (NDC) to limit its future emissions. So far, 141 parties have submitted their NDCs,<sup>4</sup> including the United States NDC<sup>5</sup> submitted in 2016.

The Paris Agreement reflected in significant part the bilateral efforts by the United States and China to move beyond the old divisions in the 1997 Kyoto Protocol and, along with Europe and others, to build a new multilateral platform for mutually desirable cooperation.<sup>6</sup> The Paris Agreement engaged participation by virtually all countries on climate change, while leaving discretion to each party to design its own NDC and domestic policies, and providing for transparency in reporting policies and emissions.<sup>7</sup>

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<sup>2</sup> See Paris Agreement (as contained in the report of the Conference of the Parties on its 21<sup>st</sup> session, FCCC/CP/2015/10/Add.1), at [http://unfccc.int/files/home/application/pdf/paris\\_agreement.pdf](http://unfccc.int/files/home/application/pdf/paris_agreement.pdf) (visited 23 May 2017).

<sup>3</sup> See Overview of the NDC Registry, at [http://unfccc.int/focus/ndc\\_registry/items/9433.php](http://unfccc.int/focus/ndc_registry/items/9433.php) (United Nations Framework Convention on Climate Change, 2014) (visited 31 May 2017).

<sup>4</sup> See NDC Registry (interim), at <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx> (visited 31 May 2017).

<sup>5</sup> See U.S.A First NDC Submission (listed as submitted on 3 September 2016), at <http://www4.unfccc.int/ndcregistry/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf> (visited 23 May 2017).

<sup>6</sup> See Jackson Ewing, “U.S.-China Climate Relations: Beyond Trump” (April 27, 2017), at [http://www.realclearworld.com/articles/2017/04/27/us-china\\_climate\\_relations\\_beyond\\_trump.html](http://www.realclearworld.com/articles/2017/04/27/us-china_climate_relations_beyond_trump.html). An early call for US-China bilateral leadership on multilateral climate policy was Richard B. Stewart and Jonathan B. Wiener, *Reconstructing Climate Policy: Beyond Kyoto* (AEI Press, 2003); and also Jonathan B. Wiener, “Climate Change Policy, and Policy Change in China,” 55 *UCLA Law Review* 1805 (2008), at [http://scholarship.law.duke.edu/faculty\\_scholarship/1881/](http://scholarship.law.duke.edu/faculty_scholarship/1881/).

<sup>7</sup> On these three key elements – global participation, national discretion, and transparency – see Nathaniel Keohane, “Trump Just Walked Away From A Great Deal on Climate,” *Forbes*, June 1, 2017, at <https://www.forbes.com/sites/edfenergyexchange/2017/06/01/trump-just-walked-away-from-a-great-deal-on-climate/#48153f6e1df7> (visited 3 June 2017). On the key role of comprehensive transparency, see Jonathan B. Wiener, “Towards an Effective System of Monitoring, Reporting and Verification,” chapter 13 in Scott Barrett, Carlo Carraro & Jaime de Melo, eds., *Towards a Workable and Effective Climate Regime* (CEPR Press and FERDI, 2015), pp.183-200, at <http://www.voxeu.org/content/towards-workable-and-effective-climate-regime>.

After the US presidential election on 8 November 2016, the inauguration of the Trump administration on 20 January 2017, and the appointment of Scott Pruitt as EPA Administrator, the new administration has been vocal about changing numerous environmental policies.<sup>8</sup> Observers have been watching to see how far the new Trump administration will actually go in revising or rescinding US climate policy commitments. Key questions surround US membership in the Paris Agreement and other climate-related international regimes; the US NDC submitted to the Paris Agreement, and US domestic policies such as the EPA “Clean Power Plan” and other agency rules; and further moves by US states and cities, the Congress, the courts, and other countries.

This article assesses the recent developments in US climate policy. How much may US policy change, through which institutional mechanisms, with what obstacles and implications? So far, the Trump administration has taken some steps, but it has not made final policy changes. Some of its moves may be parried by countermoves by other actors, both internationally and domestically. The policy process is complex, with multiple potential points of conflict. Although the US President has substantial authority over foreign policy and regulatory policy, the US legal system has numerous institutional checks: unlike a centralized parliamentary system, the US has structures of separation of powers (with key roles for the Congress and the courts) and federalism (key roles for the states). And the effects of any eventual policy changes on the US economy, US emissions, and international relations remain to be seen.

## 1. US membership in the Paris Agreement

During the 2016 presidential campaign, Trump promised to “cancel” the Paris Agreement.<sup>9</sup> After the G-7 meeting<sup>10</sup> on 26-27 May 2017, Trump announced on 1 June 2017 his intention to withdraw the United States from the Paris Agreement, arguing that the accord imposes unfair constraints on the US economy and domestic policy.<sup>11</sup>

Apparently there was debate within the Trump administration over whether the Paris Agreement could constrain US domestic policy.<sup>12</sup> One view was that, under Article 4 paragraph 11 of the Paris Agreement, a country party may adjust its Nationally Determined Contribution (NDC) upward (more ambitious) or downward (less ambitious), so that the Trump administration could remain a member

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<sup>8</sup> See Jessica Brandt, “Trump and the environment: Taking stock of regulatory developments in the new administration,” blog post, Rethinking Regulation at the Kenan Institute for Ethics at Duke University, at <http://kenan.ethics.duke.edu/regulation/blog/trump-and-the-environment-taking-stock-of-regulatory-developments-in-the-new-administration/> (visited 23 May 2017).

<sup>9</sup> Donald J. Trump, “An America First Energy Plan” (May 26, 2016), at <https://www.donaldjtrump.com/press-releases/an-america-first-energy-plan>.

<sup>10</sup> See Chris Mooney, “Trump will punt decision on the Paris climate agreement until after the G-7, Spicer says,” Washington Post, May 9, 2017, at [https://www.washingtonpost.com/news/energy-environment/wp/2017/05/09/trump-will-punt-decision-on-the-paris-climate-agreement-until-after-the-g7-spicer-says/?utm\\_term=.7bd18c9f3734](https://www.washingtonpost.com/news/energy-environment/wp/2017/05/09/trump-will-punt-decision-on-the-paris-climate-agreement-until-after-the-g7-spicer-says/?utm_term=.7bd18c9f3734).

<sup>11</sup> See Michael Shear, “Trump Will Withdraw US from Paris Climate Agreement,” NY Times, June 1, 2017, at <https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html>.

<sup>12</sup> See John Schwartz, “Debate Over Paris Climate Deal Could Turn on a Single Phrase,” NY Times, May 2, 2017, at <https://www.nytimes.com/2017/05/02/climate/trump-paris-climate-accord.html>.

of the Agreement while relaxing the US NDC and revising US climate policies.<sup>13</sup> Another view was that, under Article 4.11, a country party may only “ratchet up” its level of ambition, so that relaxing the US NDC would be a violation of the Agreement (and perhaps a US court might even rule that the US is obligated to comply with such commitments<sup>14</sup>), and therefore the Trump administration would need to exit from the Agreement if it wanted to relax US climate policies. Of course, the decision to exit may have been less legally driven and more about pleasing domestic political interest groups, about geopolitical strategy, or about repudiating the achievements of the preceding Obama administration regardless of their advantages for the US (as well as the planet).

But Trump’s announcement of his intention to withdraw does not actually relieve the US of its Paris Agreement commitments for almost four years yet to come. Under international law, treaties and agreements may contain articles defining their own procedures for withdrawal.<sup>15</sup> Article 28 of the Paris Agreement provides that a decision to exit must wait 3 years after the date of the Agreement’s entry into force (4 November 2016), and would then become effective 1 more year later, i.e. not before 4 November 2020 – just before the next US presidential election. Thus, Trump’s announced intention to withdraw on 1 June 2017 would not be effective until 4 November 2020 at the earliest. This also implies that a US announcement of intent to withdraw from the Paris Agreement in 2017 would not prevent a US court from ruling, if a court were ever inclined to do so, that the US is still obligated to comply with its Paris Agreement commitments, until that withdrawal becomes effective on 4 November 2020 at the earliest. Hence one could speculate that the Trump announcement on 1 June 2017 was largely ineffectual, or merely a symbolic gesture to Trump’s political constituency. Or Trump’s withdrawal announcement might just be a trial balloon that could be reversed during the 3-year waiting period<sup>16</sup> – especially if other countries make threats of sanctions or offers of inducements that lead Trump to drop his withdrawal (no doubt claiming that he actually “won” a better deal). Even if Trump does complete the withdrawal, a subsequent President could rejoin the Paris Agreement.

If the Trump administration were bent on exiting sooner, it could seek to exit from the entire United Nations Framework Convention on Climate Change (UN FCCC), on which the Paris Agreement builds. The US joined (and the Senate ratified) the UN FCCC in 1992, under President George H.W. Bush. Under Article 25 of the UN FCCC, the initial waiting period after entry into force has ended, and it now requires only 1 year to withdraw. But withdrawing from the entire UN FCCC would be even more controversial than withdrawing from the Paris Agreement.

The US Constitution is silent on how the US government can withdraw from international treaties and agreements, and on who in the US government can make that decision. The historical norm has

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<sup>13</sup> For the view that a country has flexibility to adjust its NDC in both directions, and that US courts would not constrain US domestic policy under the Paris Agreement, see Center for Climate and Energy Solutions, “Legal Issues Related to the Paris Agreement,” at <https://www.c2es.org/docUploads/legal-issues-related-paris-agreement-05-17.pdf> (visited 1 June 2017) (prepared with contributions from Susan Biniarz, former US State Department Deputy Legal Adviser, and Daniel Bodansky, Foundation Professor Law, Arizona State University). See also David Bookbinder, “Examining the Legal Implications of the Paris Agreement,” Niskanen Center (25 May 2017), at <https://niskanencenter.org/blog/examining-legal-implications-paris-agreement/> (visited 5 June 2017).

<sup>14</sup> For a conjecture, however unlikely, that US courts “might” enforce the Paris Agreement to constrain US domestic policy, see Adam J. White, “Diplomacy, Distrust, and the Paris Climate Accord,” Lawfare blog, June 1, 2017, at <https://lawfareblog.com/diplomacy-distrust-and-paris-climate-accord> (visited 3 June 2017).

<sup>15</sup> See Laurence R. Helfer, “Exiting Treaties,” 91 Virginia L. Rev. 1579 (2005).

<sup>16</sup> See David A. Wirth, “While Trump Pledges Withdrawal from Paris Agreement on Climate, International Law May Provide a Safety Net,” Lawfare blog, June 2, 2017, at <https://lawfareblog.com/while-trump-pledges-withdrawal-paris-agreement-climate-international-law-may-provide-safety-net> (visited 3 June 2017).

been that the President speaks for the US in foreign affairs and thus can withdraw from agreements.<sup>17</sup> Under US law the President has the authority to withdraw from an international executive agreement made by the President<sup>18</sup> (such as the Paris Agreement<sup>19</sup> and many other international accords), without needing assent from the Congress. There is more debate over whether the President can also withdraw from a treaty that was ratified by the Senate (such as the UN FCCC).<sup>20</sup> Some point to the analogy that the President appoints senior federal officials with advice and consent from the Senate, but the President can later remove (fire) those officers without needing Senate approval. Occasionally a President's withdrawal from a treaty has been met with litigation, such as lawsuits challenging President Carter's withdrawal from the US Mutual Defense Treaty with the Republic of China on Taiwan in 1979, and President George W. Bush's withdrawal from the Anti-Ballistic Missile Treaty with Russia in 2001. But so far the courts have declined to rule on such cases, deeming the issue to be a political question that is not for the courts to decide, and thus in effect allowing the President to withdraw.<sup>21</sup> The President cannot withdraw unilaterally from Congressional legislation enacted to adopt an international agreement – that would require an act of Congress to amend the prior legislation.<sup>22</sup>

Meanwhile, two other international accords relating to climate change were agreed in October 2016: the International Civil Aviation Organization (ICAO) accord to limit greenhouse gas emissions from commercial aviation,<sup>23</sup> and the Kigali Amendment<sup>24</sup> to the Montreal Protocol<sup>25</sup> to phase down HFCs by 80% over the next 30 years (now open for ratification<sup>26</sup> in 2017). These agreements enjoyed significant support from the industries involved. It is not yet clear what actions the Trump administration may take regarding these agreements.

## 2. US domestic climate policies

The US NDC submitted in 2016 pledged to reduce US greenhouse gas emissions by 26 to 28% below the 2005 level by 2025.<sup>27</sup> The Obama administration adopted several policies to reduce US greenhouse gas emissions.

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<sup>17</sup> See Curtis A. Bradley, "Treaty Termination and Historical Gloss," 92 Texas L. Rev. 773 (2014).

<sup>18</sup> See Stephen P. Mulligan, "Withdrawal from International Agreements: Legal Framework, the Paris Agreement, and the Iran Nuclear Agreement," Congressional Research Service (CRS) report R44761 (9 February 2017), at <https://fas.org/sgp/crs/row/R44761.pdf>.

<sup>19</sup> See Mulligan, supra note 18, at 16-17.

<sup>20</sup> See Mulligan, supra note 18, at 7-9.

<sup>21</sup> See Mulligan, supra note 18, at 9-13.

<sup>22</sup> See Mulligan, supra note 18, at 14-15.

<sup>23</sup> See Climate Change, ICAO Environment (online 2017), at <https://www.icao.int/environmental-protection/Pages/climate-change.aspx>.

<sup>24</sup> See Mohamed Atani, "The Kigali Amendment to the Montreal Protocol: Another Global Commitment to Stop Climate Change," UNEP (December 2016), at <http://www.unep.org/africa/news/kigali-amendment-montreal-protocol-another-global-commitment-stop-climate-change>.

<sup>25</sup> See Montreal Protocol - Ozone Secretariat Conference Portal (online 2017), at <http://conf.montreal-protocol.org/SitePages/Home.aspx> (visited 23 May 2017).

<sup>26</sup> See Dan Teng'o, "Montreal Protocol marks a milestone with first ratification of Kigali Amendment," UNEP (April 3, 2017), at <http://www.unep.org/newscentre/montreal-protocol-marks-milestone-first-ratification-kigali-amendment>.

<sup>27</sup> See US INDC (posted 3 September 2016), at <http://www4.unfccc.int/ndcregistry/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf> (visited 23 May 2017).

On 23 October 2015, the Obama administration EPA issued the “Clean Power Plan” (CPP), a final rule pursuant to the Clean Air Act, section 111, to reduce future emissions of greenhouse gases from the electric power sector.<sup>28</sup> In its regulatory impact assessment (RIA) of the CPP Final Rule in 2015, EPA estimated that by 2030 the CPP would yield emissions reductions of more than 410 million short tons of CO<sub>2</sub> per year, with benefits (including both climate and air pollution health benefits) ranging from \$32-\$54 billion per year and costs ranging from \$5.1-\$8.4 billion per year.<sup>29</sup> The CPP represents a major component of the US NDC.<sup>30</sup>

On 28 March 2017, the Trump administration issued Executive Order 13783,<sup>31</sup> instructing EPA to undertake a review of the CPP. EPA has begun this review by issuing several memoranda,<sup>32</sup> including an announcement on 4 April 2017 that EPA is reviewing the CPP to determine whether suspension, revision or rescission is appropriate,<sup>33</sup> and an action on 3 April 2017 to withdraw the associated proposed rules<sup>34</sup> on federal implementation plans and model trading rules that EPA had published simultaneous with the CPP final rule on 23 October 2015. As of 24 May 2017, EPA had not yet announced a proposal to revise or rescind the CPP. (The Trump administration EPA has also announced reviews of past EPA rules on greenhouse gas emissions from motor vehicles – automobiles and trucks.)

Meanwhile, the CPP remains a final rule. It is not yet in effect, because, while it was being challenged in the US Court of Appeals for the District of Columbia Circuit (known as the “DC Circuit”), the US

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<sup>28</sup> See EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 Federal Register 64661 (23 October 2015), available at [https://19january2017snapshot.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants\\_.html](https://19january2017snapshot.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants_.html) (visited 4 June 2017).

<sup>29</sup> See EPA, “Regulatory Impact Analysis for the Clean Power Plan Final Rule,” EPA-452/R-15-003 (August 2015), Tables ES-2, ES-3, ES-9 and ES-10 (using a 3% discount rate), at [https://www3.epa.gov/ttnecas1/docs/ria/utilities\\_ria\\_final-clean-power-plan-existing-units\\_2015-08.pdf](https://www3.epa.gov/ttnecas1/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf) (visited 4 June 2017). See also Martin T. Ross, David Hoppock, and Brian Murray, “Ongoing Evolution of the Electricity Industry: Effects of Market Conditions and the Clean Power Plan on States,” Nicholas Institute WP 16-07 (Duke University, 2016) (modeling the effects of the CPP in reducing US emissions under scenarios for natural gas prices and other factors), at [https://nicholasinstitute.duke.edu/sites/default/files/publications/ni\\_wp\\_16-07\\_final.pdf](https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_wp_16-07_final.pdf).

<sup>30</sup> See Jeffery B. Greenblatt and Max Wei, “Assessment of the climate commitments and additional mitigation policies of the United States,” Nature Climate Change (online 26 September 2016), DOI: 10.1038/NCLIMATE3125, [www.nature.com/natureclimatechange](http://www.nature.com/natureclimatechange) (finding that the CPP would be the largest single contributor among current policies to US emissions reductions, though also finding that additional policies would be needed to achieve the NDC’s goal of 26-28% reduction in overall US emissions below 2005 levels by 2025).

<sup>31</sup> See Executive Order 13783, “Promoting Energy Independence and Economic Growth,” 82 Federal Register 16093 (issued 28 March, published 31 March 2017), at <https://www.gpo.gov/fdsys/pkg/FR-2017-03-31/pdf/2017-06576.pdf>.

<sup>32</sup> See EPA, “Complying with President Trump’s Executive Order on Energy Independence” (28 April 2017), at <https://www.epa.gov/energy-independence>.

<sup>33</sup> See EPA, “Review of the Clean Power Plan” 82 Fed. Reg. 16329 (April 4, 2017), at <https://www.federalregister.gov/documents/2017/04/04/2017-06522/review-of-the-clean-power-plan>.

<sup>34</sup> See EPA, “Withdrawal of Proposed Rules: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; and Clean Energy Incentive Program Design Details,” 82 Fed. Reg. 16144 (April 3, 2017), at <https://www.federalregister.gov/documents/2017/04/03/2017-06518/withdrawal-of-proposed-rules-federal-plan-requirements-for-greenhouse-gas-emissions-from-electric>.

Supreme Court on 9 February 2016<sup>35</sup> issued a “stay”<sup>36</sup> of the CPP (an unusual order, suspending the rule until the litigation is concluded). Nevertheless, because it is a final rule, the CPP cannot just be withdrawn by EPA. The CPP could be rescinded or revised by EPA if the DC Circuit (or later the Supreme Court) orders or authorizes such a step, such as if the court strikes down (“vacates”) the CPP rule as in violation of law, or if the court sends back (“remands”) the CPP to the EPA to revise the rule. In the pending litigation challenging the CPP, oral arguments were held on 27 September 2016 before the DC Circuit, and a decision from the DC Circuit is potentially forthcoming at any time. But the Trump administration EPA has temporarily delayed the litigation by asking the DC Circuit court to hold the case “in abeyance”<sup>37</sup> for 60 days (which the court agreed to do on 28 April 2017). It is also possible that the DC Circuit could decide to remand the CPP to EPA, without rendering a decision on the merits of the legality of the CPP.

If the courts do not vacate or remand the CPP, but rather uphold it, then it is possible that EPA could undertake a new rulemaking to rescind the prior final rule. This path would take some time, perhaps years, to go through the administrative procedures for proposal, notice, regulatory impact assessment, public comment, preparation and promulgation of the final rule. Then it is likely that this new rule rescinding the CPP would itself be challenged in court by environmental advocacy groups. Past decisions by the US Supreme Court require an agency to give good reasons to change or rescind a prior rule, or else the change is “arbitrary” in violation of the Administrative Procedure Act (APA). In the pivotal *State Farm* case,<sup>38</sup> the Supreme Court rejected the new Reagan administration’s Department of Transportation attempt to rescind the rule on airbags in cars that had been promulgated under the preceding Carter administration. A Trump administration EPA attempt to rescind the Obama administration’s CPP could be reminiscent of the *State Farm* case. Two more recent cases, on changes to the rules for indecency on broadcast television, underscored the agency’s obligation to give good reasons for its policy change: in *FCC v. Fox*,<sup>39</sup> the George W. Bush administration’s Federal Communications Commission (FCC) changed the rule on fleeting expletive words on television, and the Supreme Court held that this change was not arbitrary, though emphasizing that an agency must give good reasons for such a change; and then in *FCC v. CBS*,<sup>40</sup> the US Court of Appeals for the Third Circuit considered the FCC policy on fleeting images of nudity on

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<sup>35</sup> See *Chamber of Commerce, et al. v. EPA*, order granting petition for stay (US Supreme Court, 9 February 2016) at [https://www.supremecourt.gov/orders/courtorders/020916zr3\\_hf5m.pdf](https://www.supremecourt.gov/orders/courtorders/020916zr3_hf5m.pdf).

<sup>36</sup> See Jonathan Adler, “Supreme Court puts the brakes on the EPA’s Clean Power Plan,” Washington Post blog (February 9, 2016), at [https://www.washingtonpost.com/news/volokh-conspiracy/wp/2016/02/09/supreme-court-puts-the-brakes-on-the-epas-clean-power-plan/?utm\\_term=.f9535774b478](https://www.washingtonpost.com/news/volokh-conspiracy/wp/2016/02/09/supreme-court-puts-the-brakes-on-the-epas-clean-power-plan/?utm_term=.f9535774b478).

<sup>37</sup> See Nicholas R. Parrillo, “The Fate of the Clean Power Plan Case: Hold in Abeyance, or Remand?” Yale J. on Reg.: Notice & Comment (5 May 2017), at <http://yalejreg.com/nc/the-fate-of-the-clean-power-plan-case-hold-in-abeyance-or-remand-by-nicholas-r-parrillo/> (visited 23 May 2017).

<sup>38</sup> *Motor Vehicle Manufacturers Association v. State Farm Insurance Co.*, 463 U.S. 29 (1983) (“*State Farm*”), at <https://supreme.justia.com/cases/federal/us/463/29/case.html> (visited 23 May 2017).

<sup>39</sup> *FCC v. Fox Television Stations, Inc.* 556 U.S. 502 (2009), <https://www.oyez.org/cases/2008/07-582> (visited 23 May 2017). The Court voted 5-4 to uphold the FCC policy change as not arbitrary, including Justice Kennedy’s concurring opinion emphasizing the agency’s obligation to give good reasons for a change. Justice Breyer dissented, joined by three others, on the view that the agency’s reasons were inadequate to justify its change.

<sup>40</sup> *FCC v. CBS*, 663 F.3d 122 (3rd Cir. 2011), cert. denied, 567 U.S. -- (2012). This 2011 decision in the CBS case (about fleeting nudity, rather than words) reaffirmed the 3<sup>rd</sup> Circuit’s earlier 2008 decision in the same case, after taking into account the Supreme Court’s 2009 decision in *FCC v. Fox*. A useful short summary of this complex case is Abby Lauer, “CBS Corp. v. FCC: Third Circuit Affirms Prior Decision to Strike Down FCC Fine for CBS Broadcast of Janet Jackson’s Breast During Super Bowl Halftime Show,” *JOLT Digest* (November 8, 2011), at <http://jolt.law.harvard.edu/digest/cbs-corp-v-fcc> (visited 4 June 2017).

television (applied to Justin Timberlake and Janet Jackson’s “wardrobe malfunction” during the Super Bowl halftime show), holding that the agency policy change was arbitrary for not having adequately explained its reasons (the Supreme Court then declined to hear the FCC’s appeal, leaving the Third Circuit decision in place).

A key question is which kinds of reasons the courts will deem good or sufficient reasons for an agency to change a past rule. Does the election itself count? In its 4 April 2017 announcement of its reconsideration of the CPP,<sup>41</sup> the Trump administration EPA argued that the 2016 presidential election gives it the authority to change the rule, saying:

“such a revised decision need not be based upon a change of facts or circumstances. Rather, a revised rulemaking based ‘on a reevaluation of which policy would be better in light of the facts’ is ‘well within an agency’s discretion,’ and ‘[a] change in administration brought about by the people casting their votes is a perfectly reasonable basis for an executive agency’s reappraisal of the costs and benefits of its programs and regulations.’ *National Ass’n of Home Builders v. EPA*, 682 F.3d 1032, 1038 & 1043 (D.C. Cir. 2012) (citing *Fox*, 556 U.S. at 514-15; quoting *State Farm*, 463 U.S. at 59 (Rehnquist, J., concurring in part and dissenting in part)).”<sup>42</sup>

Yet this quoted text refers to the agency undertaking a “reappraisal of the costs and benefits of its programs and regulations,” which could be more than just citing the election result – the courts could require the agency to comment on those costs and benefits (which were assessed in the RIA for the CPP, as noted above), and to conduct a new RIA of the new proposed change to the rule and its costs and benefits (presumably also required under Executive Order 12866). The courts may hold that the kinds of reasons required under the *State Farm* and *FCC* decisions must go beyond the election result alone, to address the substantive merits of a policy change. Judges will navigate a stance that is both deferential to the greater expertise and political accountability of executive branch agencies, and yet vigilant to guard against poorly explained or inadequately reasoned shifts in rules. If courts apply the same test to rule changes heading in any policy direction, by any administration, then a stringent (or deferential) judicial review of a rule change to the CPP by the Trump EPA would also mean that the same stringent (or deferential) judicial review would later be applied to the next administration’s effort to reverse the Trump administration rule.

Even if the CPP were rescinded, EPA would still have an obligation to regulate greenhouse gases under the Clean Air Act, under the Supreme Court’s decision in *Massachusetts v. EPA* (2007),<sup>43</sup> the EPA “endangerment finding” (2009),<sup>44</sup> and the Supreme Court’s subsequent reaffirmation in *Connecticut v. American Electric Power* (2011).<sup>45</sup> Perhaps EPA would regulate under a different

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<sup>41</sup> See EPA, “Review of the Clean Power Plan,” 82 Fed. Reg. 16329 (April 4, 2017), at <https://www.federalregister.gov/documents/2017/04/04/2017-06522/review-of-the-clean-power-plan>.

<sup>42</sup> See EPA, “Review of the Clean Power Plan,” 82 Fed. Reg. 16329, 16330, at <https://www.gpo.gov/fdsys/pkg/FR-2017-04-04/pdf/2017-06522.pdf> (visited 23 May 2017).

<sup>43</sup> See *Massachusetts v. EPA*, 549 U.S. 497 (2007), at <https://www.oyez.org/cases/2006/05-1120> (visited 23 May 2017).

<sup>44</sup> EPA, “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,” 74 Fed. Reg. 66495 (December 15, 2009), at <https://www.federalregister.gov/documents/2009/12/15/E9-29537/endangerment-and-cause-or-contribute-findings-for-greenhouse-gases-under-section-202a-of-the-clean>.

<sup>45</sup> *American Electric Power Co., Inc., v. Connecticut*, 564 U.S. 410 (2011), at <https://www.supremecourt.gov/opinions/10pdf/10-174.pdf> (visited 23 May 2017).

provision of the Clean Air Act (other than section 111), such as section 109 (national ambient air quality standards), 115 (international air pollution) or 615 (protection of the stratosphere). Each of these provisions poses its own challenges for regulating greenhouse gases. It is possible that the Trump administration EPA could go further and seek to revoke the “endangerment finding,” as an effort to curtail all climate regulation under the Clean Air Act, but that would probably be highly controversial and would invite litigation over whether EPA was violating doctrines of policy change and reliance on the “best science.”

The Obama administration had also issued rules on methane emissions from oil and gas operations. The Trump administration has announced its intent to withdraw some of these proposed rules, including an EPA request for reporting data from oil and gas drillers which the Trump administration EPA has withdrawn. An effort in Congress (under a special law called the Congressional Review Act) to block the Obama administration’s Department of Interior (DOI) methane rule, restricting methane venting from wells on federal lands, did not go through<sup>46</sup> – three Republican Senators joined the Democrats to vote against this measure, so it failed in Congress, and thus the Obama DOI methane rule remains in effect. The Trump administration DOI could now propose a rulemaking to rescind the Obama DOI methane rule, but that would take some time, and could then be challenged in court by environmental groups under the State Farm and FCC doctrines discussed above.

Other statutes also address climate change. DOI administers the Endangered Species Act (ESA), and has listed some species such as polar bears as threatened by climate change, though it is unclear how far the ESA can be used to regulate the sources of climate change. The Department of Energy (DOE) issues energy efficiency standards under the Energy Policy and Conservation Act (EPCA). The Clean Water Act (CWA) or other statutes might be invoked to address warming and acidification of waters due to rising CO<sub>2</sub> concentrations. The National Environmental Policy Act (NEPA) requires federal agencies to produce environmental impact statements disclosing the significant impacts of their major actions, including projects funded by federal agencies. These and other laws and agencies – perhaps some yet to be recognized – may also address climate change.

Another flashpoint may be the Social Cost of Carbon (SCC), used in agency policy analyses (cost-benefit analyses of agency regulatory impacts, and environmental impact assessments of agency projects) to quantify and monetize the value of (avoiding) CO<sub>2</sub> emissions. After a court in 2008 rejected an agency’s choice not to estimate the SCC, the Obama administration convened a government-wide Interagency Working Group (IWG) which produced estimates of the SCC.<sup>47</sup> But the Trump administration disavowed and disbanded the IWG in Executive Order 13783.<sup>48</sup> Still, EO 13783 leaves to each federal agency the possibility of coming up with the agency’s own SCC, so long

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<sup>46</sup> See Juliet Eilperin and Chelsea Harvey, “Senate unexpectedly rejects bid to repeal a key Obama-era environmental regulation,” Washington Post (May 10, 2017), at [https://www.washingtonpost.com/news/energy-environment/wp/2017/05/10/senates-poised-to-repeal-a-final-obama-era-rule-as-soon-as-wednesday/?utm\\_term=.f7439c3eda86](https://www.washingtonpost.com/news/energy-environment/wp/2017/05/10/senates-poised-to-repeal-a-final-obama-era-rule-as-soon-as-wednesday/?utm_term=.f7439c3eda86).

<sup>47</sup> See William Pizer, Matthew Adler, Joseph Aldy, David Anthoff, Maureen Cropper, Kenneth Gillingham, Michael Greenstone, Brian Murray, Richard Newell, Richard Richels, Arden Rowell, Stephanie Waldhoff, and Jonathan Wiener, “Using and Improving the Social Cost of Carbon,” 346 *Science* 1181-82 (5 December 2014), available at <http://www.sciencemag.org/content/346/6214/1189.full>.

<sup>48</sup> See Executive Order 13783, “Promoting Energy Independence and Economic Growth,” 82 *Federal Register* 16093 (issued 28 March, published 31 March 2017), at <https://www.gpo.gov/fdsys/pkg/FR-2017-03-31/pdf/2017-06576.pdf>.

as the agency follows the guidance in OMB Circular A-4 (issued in 2003)<sup>49</sup> on the methods of cost-benefit analysis (e.g. regarding the discount rate, and the global/domestic scope of impacts). It remains to be seen whether federal agencies will now recalculate the SCC – perhaps with a higher discount rate, although Circular A-4 allows a 3% discount rate or even lower for very long-term impacts; perhaps focusing on domestic rather than global impacts, although Circular A-4 allows both as long as they are reported separately; or following new recommendations from the National Academy of Sciences. If federal agencies abandon the SCC, that move may be met with new court orders to resume using it, at least where other impacts are being quantified and monetized.

In addition, Executive Order 13771 (issued on 30 January 2017)<sup>50</sup> calls for the cost of each significant new regulation to be offset by reducing the (same) costs of 2 or more existing regulations. OMB/OIRA has issued guidance on implementing this order (5 April 2017).<sup>51</sup> If new climate policies are to be adopted by regulation in the future, and if EO 13771 remains in effect, these new climate regulations could impose costs that would require offsets via revision or rescission of other past regulations. But it remains to be seen how this system will be put into operation; it raises difficult issues including how to measure costs, whether and how to recognize benefits, and how to match the timing of offsets with the adoption of new regulations.<sup>52</sup> A new President could rescind or revise EO 13771 (or any Executive Order).

### 3. Possible policy futures

All of these policies are still in flux. Many potential policy changes face political controversy. Many are already or could be challenged in court, as discussed above. Administrative agency policy changes will take time.

Further, it is uncertain what effect new policy changes would have on US emissions. The future of US emissions will depend not only on federal administrative actions such as the CPP or alternatives to it, but also on moves by the Congress, courts, states, businesses, and households, including implications for overall energy demand and the relative prices of competing energy sources (such as coal, gas, nuclear, wind and solar).<sup>53</sup>

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<sup>49</sup> See OMB, Circular A-4, “Regulatory Analysis” (issued September 17, 2003), at <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf> (visited 23 May 2017), and published at 68 Fed. Reg. 58366 (October 9, 2003), at <https://www.federalregister.gov/documents/2003/10/09/03-25606/circular-a-4-regulatory-analysis> (visited 23 May 2017).

<sup>50</sup> See Executive Order 13771, “Reducing Regulation and Controlling Regulatory Costs” (30 January 2017), at <https://www.gpo.gov/fdsys/pkg/FR-2017-02-03/pdf/2017-02451.pdf>, published at 82 Fed. Reg. 9339 (3 February 2017), at <https://www.federalregister.gov/documents/2017/02/03/2017-02451/reducing-regulation-and-controlling-regulatory-costs>.

<sup>51</sup> See OMB, “Memorandum: Implementing Executive Order 13771, Titled ‘Reducing Regulation and Controlling Regulatory Costs’,” (5 April 2017), at <https://www.whitehouse.gov/the-press-office/2017/04/05/memorandum-implementing-executive-order-13771-titled-reducing-regulation>.

<sup>52</sup> See Joshua Linn and Alan J. Krupnick, “Ninety-Five Regulatory Experts Express Concerns about Trump Administration Reforms,” RFF, 24 May 2017, at <http://www.rff.org/blog/2017/ninety-five-regulatory-experts-express-concerns-about-trump-administration-reforms>.

<sup>53</sup> As discussed above, EPA estimated large net benefits from the CPP, and studies such as Greenblatt & Wei, *supra* note 30, found the CPP to be a major component of the US NDC (though also finding that additional policies would be needed to achieve the US NDC’s goal of 26-28% reduction in US emissions below 2005 levels by 2025). A recent estimate, making assumptions about which US policies the Trump administration will eventually change,

Even if the US federal government relaxes its climate policies, US subnational policies on greenhouse gases, such as by the state governments in California and the RGGI group of northeastern states, remain in effect.<sup>54</sup> Additional state policies could be launched.<sup>55</sup> And many US cities have adopted climate policies. After Trump's announced intent to withdraw from the Paris Agreement, former New York City mayor Michael Bloomberg announced that several states, cities and businesses will attempt to submit their own pledge to limit emissions to the Paris Agreement.<sup>56</sup> This trend could mobilize an array of subnational policies that limits emissions, spurs experimentation, and offers insights into best policy designs; but it could also create a patchwork that is costly, incompatible or difficult to link, and only partially effective in reducing overall national emissions.<sup>57</sup>

Beyond policy changes that may be made by the Trump administration, another path may be through new legislative action in Congress. For example, rather than attempting to rescind EPA's CPP and other climate rules through agency rulemakings (which take years and may be challenged in court), perhaps Congress could enact a new law on climate, amending or supplanting the Clean Air Act. Indeed, before the Obama administration promulgated the CPP, there had been a long effort to enact climate legislation in Congress, which ended when the Waxman-Markey cap and trade bill passed the House in 2009 but failed to reach a vote in the Senate in 2010. Today, with the CPP promulgated (but stayed during pending litigation), it is conceivable that Congress could try to enact a law that blocks specific EPA rules – or that goes further to remove greenhouse gases from the Clean Air Act. Such a statutory amendment removing greenhouse gases from the Clean Air Act would probably face intense controversy and a major battle in Congress.

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foresees fewer emissions reductions (i.e. higher emissions) than the US would have achieved under the Obama administration policies. See Kate Larsen et al., "Taking Stock 2017: Adjusting Expectations for US GHG Emissions," Rhodium Group (24 May 2017), at <http://rhg.com/reports/taking-stock-2017-adjusting-expectations-for-us-ghg-emissions> (visited 1 June 2017).

<sup>54</sup> See Center For Climate And Energy Solutions, "Regional Climate Initiatives," <https://www.c2es.org/us-states-regions/regional-climate-initiatives> (visited 23 May 2017); Susan Biniaz, "Act Locally, Reflect Globally," Sabin Center, Columbia Law School (May 2017), at [http://columbiaclimatelaw.com/files/2017/05/Biniaz-May\\_2017-Act-Locally-Reflect-Globally-.pdf](http://columbiaclimatelaw.com/files/2017/05/Biniaz-May_2017-Act-Locally-Reflect-Globally-.pdf). California's state climate policies are detailed at <http://climatechange.ca.gov/>. "RGGI" is the Regional Greenhouse Gas Initiative, see <http://rggi.org/>.

<sup>55</sup> For example, the Governor of Virginia recently directed the Virginia Department of Environmental Quality (DEQ) to administratively propose a cap and trade program for power plants (possibly linking with RGGI or other states) for consideration by its State Air Pollution Control Board. See Gov. Terence McAuliffe, Executive Directive 11 (May 16, 2017), at <https://governor.virginia.gov/media/9155/ed-11-reducing-carbon-dioxide-emissions-from-electric-power-facilities-and-growing-virginias-clean-energy-economy.pdf>. It remains to be seen whether this will succeed or will require assent by the state legislature. The Attorney General of Virginia issued an opinion finding that the State Air Pollution Control Board has the requisite legal authority. See Mark Herring, letter to David Toscano (May 12, 2017), at <http://www.oag.state.va.us/files/Opinions/2017/17-010-Toscano-carbon-pollution-%20for-issuance.pdf>.

<sup>56</sup> See Robinson Meyer, "'America's Pledge': Can States and Cities Really Address Climate Change?" *The Atlantic*, June 2, 2017, at <https://www.theatlantic.com/science/archive/2017/06/can-states-and-cities-really-commit-to-the-paris-agreement/528945/>. It is not clear whether the Paris Agreement can accept pledges from subnational entities.

<sup>57</sup> For views on the pros and cons of subnational climate policy, see Jonathan B. Wiener, "Think Globally, Act Globally: The Limits of Local Climate Policies," 155 *University of Pennsylvania Law Review* 1961–80 (2007); Cary Coglianese & Jocelyn D'Ambrosio, "Policymaking under Pressure: The Perils of Incremental Responses to Climate Change," 40 *Connecticut Law Review* 1411–30 (2008); Daniel A. Farber, "Climate Policy and the United States System of Divided Powers: Dealing with Carbon Leakage and Regulatory Linkage," 3 *Transnational Environmental Law* 31-55 (2014).

One avenue to try to build bipartisan support for action in Congress might be to make such a legislative change to the Clean Air Act part of a deal: removing EPA regulation of greenhouse gas emissions, but also simultaneously imposing instead a new carbon tax (as recently advocated<sup>58</sup> by several eminent Republican leaders<sup>59</sup>). The debate over such a deal would include questions about the level of the tax (its stringency), how it might be adjusted in the future (upward or downward, and by whom), its scope of coverage of greenhouse gases and sectors (such as carbon dioxide and methane, from energy, transportation, agriculture, land use), and its effect on the federal budget (such as raising revenues, or reducing other taxes).<sup>60</sup>

If Congress were to enact a new law that removes greenhouse gases from the Clean Air Act, that statutory change could also re-open opportunities for litigation against greenhouse gas emitters (e.g. electric power companies burning coal, or natural gas companies releasing methane). Such claims had been precluded as conflicting with EPA authority to regulate under the Clean Air Act, in the Supreme Court's decision in *Connecticut v. American Electric Power*,<sup>61</sup> but they could be revived if the Clean Air Act no longer covered greenhouse gases. (To be sure, Congress could, in principle, expressly preempt such lawsuits in a statute amending the Clean Air Act.)

Meanwhile, other litigation is pending<sup>62</sup> to use the “public trust” doctrine<sup>63</sup> to press the US government to regulate greenhouse gas emissions,<sup>64</sup> notably the *Juliana v. US* case, which survived motions to dismiss in the US District Court in Oregon in November 2016.<sup>65</sup> Such litigation faces a long road and numerous potential obstacles – including the difficulty of persuading US courts to order executive branch officials to undertake specific policy measures – but might eventually nudge or impel government action.

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<sup>58</sup> See Climate Leadership Council, at <https://www.clcouncil.org/> (posted February 2017) (visited 23 May 2017). Earlier such proposals include Jerry Taylor, “The Conservative Case for a Carbon Tax,” Niskanen Center (March 23, 2015), at <http://niskanencenter.org/wp-content/uploads/2015/03/The-Conservative-Case-for-a-Carbon-Tax1.pdf> (visited 5 June 2017) ; Catrina Rorke, Andrew Moylan and Daniel Semelsberger, “Swapping the Corporate Income Tax for a Price on Carbon,” R Street Policy Study 79 (December 2016), at <http://www.rstreet.org/wp-content/uploads/2016/12/79.pdf> and <http://www.rstreet.org/policy-study/swapping-the-corporate-income-tax-for-a-price-on-carbon/> (visited 5 June 2017).

<sup>59</sup> See John Schwartz, “A Conservative Climate Solution’: Republican Group Calls for Carbon Tax,” NY Times, February 7, 2017, at <https://www.nytimes.com/2017/02/07/science/a-conservative-climate-solution-republican-group-calls-for-carbon-tax.html> ; Marc Gunther, “Climate Converts: The Conservatives Who Are Switching Sides on Warming,” YaleEnvironment360 (March 30, 2017), at <http://e360.yale.edu/features/climate-converts-the-conservatives-who-are-switching-sides-on-climate-change> (visited 5 June 2017).

<sup>60</sup> See Taylor, *supra* note 58; Jonathan B. Wiener, “Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law,” 17 NYU Environmental Law Journal 210-55 (2008).

<sup>61</sup> *American Electric Power Co., Inc., v. Connecticut*, 564 U.S. 410 (2011), at <https://www.supremecourt.gov/opinions/10pdf/10-174.pdf> (visited 23 May 2017).

<sup>62</sup> See Coco McPherson, “High-Stakes Climate Lawsuit Led by Youth Turns Its Attention to Trump,” Rolling Stone magazine, March 28, 2017, at <http://www.rollingstone.com/politics/features/youth-led-high-stakes-climate-lawsuit-shifts-focus-to-trump-w473224>.

<sup>63</sup> See Our Children's Trust, “Landmark U.S. Federal Climate Lawsuit,” at <https://www.ourchildrenstrust.org/us/federal-lawsuit/> (visited 23 May 2017).

<sup>64</sup> See Chelsea Harvey, “This climate lawsuit could change everything. No wonder the Trump administration doesn't want it going to trial,” Washington Post (March 9, 2017), at [https://www.washingtonpost.com/news/energy-environment/wp/2017/03/09/this-climate-lawsuit-could-change-everything-no-wonder-the-trump-administration-doesnt-want-it-going-to-trial/?utm\\_term=.589078bdb87f](https://www.washingtonpost.com/news/energy-environment/wp/2017/03/09/this-climate-lawsuit-could-change-everything-no-wonder-the-trump-administration-doesnt-want-it-going-to-trial/?utm_term=.589078bdb87f) .

<sup>65</sup> See Kelsey Cascadia Rose Juliana, et al., v. United States of America, et al, at <https://static1.squarespace.com/static/571d109b04426270152febe0/t/5824e85e6a49638292ddd1c9/1478813795912/Order+MTD.Aiken.pdf> (visited 23 May 2017).

Internationally, the Trump administration's actions may affect US relations with China, Europe and others that reshape global climate policy. As noted above, Trump's announced exit from the Paris Agreement will not take effect until 4 November 2020 at the earliest, and perhaps the US will find some way during that time to agree to remain a member, or will seek to renegotiate some terms. Other countries may respond to Trump's announced intention to withdraw from the Paris Agreement by also relaxing their own climate policies, or perhaps by advancing their efforts to forge clean energy coalitions in the absence of the US.<sup>66</sup> China may seize global leadership from the US on climate and clean energy, both domestically and in its international investments, although it too faces domestic economic and political challenges to shifting from coal to wind and solar.<sup>67</sup> Some countries might threaten to impose trade sanctions (such as border carbon tariffs) on imports from the US; such measures may be restrained by fears of retaliation, but if not, might lead to costly trade conflicts.

Climate change policy evolves in a complex web of multiple actors, institutions, and options.<sup>68</sup> Within the US, multiple actors contend to influence policies in institutions at several scales and across several branches of government. Both making and unmaking policies confront this complex terrain. The future of climate policy is not determined by a single actor. Analysts and activists may imagine optimal climate policy being made by a single benevolent decision maker, but the reality is that climate policy – for better or worse, and both internationally and domestically – involves actions by multiple decision makers with diverse instruments and interests.<sup>69</sup> This reality presents both a challenge and, at times, an opportunity.

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<sup>66</sup> See Alison Smale, "Angela Merkel and Emmanuel Macron Unite Behind Paris Accord," NY Times, June 2, 2017, at <https://www.nytimes.com/2017/06/02/world/europe/paris-agreement-merkel-trump-macron.html> (visited 3 June 2017).

<sup>67</sup> See Wiener, "Climate Change Policy, and Policy Change in China" (2008), supra note 6; David E. Sanger and Jane Perlez, "Trump Hands the Chinese a Gift: The Chance for Global Leadership," NY Times, June 2, 2017, p.A1, at <https://www.nytimes.com/2017/06/01/us/politics/climate-accord-trump-china-global-leadership.html> (visited 3 June 2017); Edward Wong, "Can China Take the Lead on Climate Change? That Could Be Difficult," NY Times, June 3, 2017, p. A7, at <https://www.nytimes.com/2017/06/02/climate/china-climate-change-trump-paris-accord.html> (visited 3 June 2017).

<sup>68</sup> See R. Stavins, Z. Ji, T. Brewer, M. Conte Grand, M. den Elzen, M. Finus, J. Gupta, N. Höhne, M.-K. Lee, A. Michaelowa, M. Paterson, K. Ramakrishna, G. Wen, J. Wiener, and H. Winkler, "International Cooperation: Agreements and Institutions," chapter 13 in O. Edenhofer et al., eds., *Climate Change 2014: Mitigation of Climate Change, contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)* (2014), at <http://www.ipcc.ch/report/ar5/wg3/>; Robert O. Keohane and David G. Victor, "The regime complex for climate change," 9 *Perspectives on Politics* 7–23 (2011); Frank Biermann, P. Pattberg, H. Van Asselt, and F. Zelli, "The fragmentation of global governance architectures: A framework for analysis," 9 *Global Environmental Politics* 14–40 (2009).

<sup>69</sup> See Jonathan B. Wiener, "Global Environmental Regulation: Instrument Choice in Legal Context," 108 *Yale Law Journal* 677–800 (1999); Jonathan B. Wiener and Barak D. Richman, "Mechanism Choice," in Daniel A. Farber & Anne Joseph O'Connell, eds., *Research Handbook on Public Choice and Public Law* (Edward Elgar, 2010).