



# Real world headwinds for Trump climate change policy

Joseph E. Aldy

To cite this article: Joseph E. Aldy (2017): Real world headwinds for Trump climate change policy, Bulletin of the Atomic Scientists, DOI: [10.1080/00963402.2017.1388673](https://doi.org/10.1080/00963402.2017.1388673)

To link to this article: <http://dx.doi.org/10.1080/00963402.2017.1388673>



Published online: 16 Oct 2017.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



## Real world headwinds for Trump climate change policy

Joseph E. Aldy

### ABSTRACT

It has now been 12 months since Donald J. Trump was elected President of the United States, a man who as a candidate for the job called the scientific evidence for climate change “a hoax,” vowed to deregulate the American economy from what he considered to be onerous oversight, and bring back jobs that he claimed were lost as a result of the effort to combat the rise in global atmospheric temperatures. So, now is a good time to examine the president’s words and deeds regarding climate change – a sort of first-year job performance review or report card. What has he been able to accomplish? Has he laid a foundation for a successful agenda? And what are the most significant challenges to his energy and climate policy objectives?

### KEYWORDS

Climate change; climate denial; federal regulation; Trump policy; year in review

President Trump took office in January of 2017 with the objective of reversing policies made under the Obama administration on a number of fronts, including climate change. Much of his general thinking was telegraphed in advance; given President Trump’s proclivity for communicating via Twitter, one can glean his perspective on climate change going back as far as 2011. Indeed, President Trump has published more than 100 tweets skeptical about climate change (Matthews 2017). And President Trump has repeatedly emphasized how he plans to bring back coal jobs.<sup>1</sup>

Now, nearly a year after he was elected, is a good time to review what Trump has and has not accomplished – a sort of one-year job performance review or report card. In the time that has passed since Inauguration Day, what have been the president’s words and actions with regard to climate change – an existential risk that some experts put on a parallel with nuclear war, so far as its long-term effects go? What has he been able to accomplish? Has he built a foundation for a successful policy agenda? Are power plants burning more coal and bringing back coal jobs? Or have trends toward cleaner, more efficient use of energy continued?

Trump certainly has been able to appoint climate change skeptics to important government positions, such as Scott Pruitt to run the Environmental Protection Agency (EPA). In leadership positions in several agencies, such skeptics can direct changes in climate science research, clean energy research and development, and international energy and environmental cooperation – which could have an adverse

effect on climate change policies lasting well beyond the Trump Administration.

And he has been able to issue executive orders that attempt to roll back Obama-era regulations regarding climate change. Indeed, Trump has viewed the nature and extent of federal regulation with contempt, which motivated his early executive order on “Reducing Regulation and Controlling Regulatory Costs”<sup>2</sup> issued in January 2017. This executive order placed two new requirements on regulatory agencies. First, an agency must strike two old rules before it can issue a new rule. Second, the new rule must impose lower costs on businesses than the costs of complying with the two eliminated rules. This approach to regulation is clearly inconsistent with the long, bipartisan approach to developing regulations that increase the net benefits to society (Aldy 2017), but so far, it has served its intended political purpose: a de facto moratorium on new rules from the regulatory agencies.

And in his March 2017 executive order “Promoting Energy Independence and Economic Growth,”<sup>3</sup> Trump directed a number of agencies and departments to review and then revise or rescind Obama administration regulations focused on climate and energy. This includes the Clean Power Plan, which would limit power sector carbon dioxide emissions to one-third below their 2005 level by 2030, along with regulations affecting the oil and gas industry, as well as federal coal leasing policy. This same executive order also included a broad directive to review all rules that have an impact on energy development. The broad scope of review under this and related regulation-oriented presidential

directives likely applies as well to the Obama Administration's joint tailpipe CO<sub>2</sub> emissions and fuel economy standards, which were intended to ramp up the fuel economy of cars and light trucks by up to 55 miles per gallon by 2025. This executive order also revoked much of the technical work on the economic valuation of reducing greenhouse gas emissions (e.g. the social cost of carbon) and gave agencies some discretion on how to use such measures when evaluating their future rule-makings.

Finally, in June 2017, Trump stated that the "United States will cease all implementation of the non-binding Paris accord and the draconian financial and economic burdens the agreement imposes on our country."<sup>4</sup> While it is difficult to square the description of the Paris Agreement as non-binding – which is accurate – with the claim that it imposes draconian economic burdens, this statement reflected President Trump's intention to withdraw from the agreement. (Although it should be added that since then, administration officials have suggested that the United States would re-engage with the Paris Agreement if it could secure better terms. The administration has not indicated what these terms could be, and it is a challenge to interpret this claim given the voluntary nature of the pledges made by the Obama administration under the Paris framework.)

In short, President Trump's climate policy objectives appear to be two-fold: Reverse policy progress made under the Obama administration, and remove any regulations that may burden domestic energy development (with a fossil fuel emphasis).

The Trump administration's efforts, however, to reverse the Obama administration's climate-related rules and policies – and diminish the role the federal government plays on climate policy – face three substantial headwinds: a new American energy economy, the process of governing in the modern administrative state, and climate policy governance by non-federal actors. Together, these three headwinds will impose significant hurdles for the Trump administration to leap if it is to achieve its objectives. Let us examine each of these headwinds in turn.

### **Headwind 1: A new energy economy**

With more than three-quarters of US greenhouse gas emissions occurring as a result of fossil fuel combustion, reducing emissions requires changing the way the US economy produces and consumes energy. Since many energy projects – such as power plants – operate for decades and many of the factories, buildings, and vehicles that consume energy will be in use for decades, transforming the energy foundation of the American

economy takes time. Just as shifting this foundation towards lower carbon emissions takes time and incurs costs, once changes have been made, it is also difficult, time-consuming, and costly to shift them back.

Consider the changes in the US energy system over the past decade. In the power sector, coal consumption is down 42 percent over the first six months of 2017 relative to the same time period in 2008. In contrast, natural gas use for power has increased 27 percent and wind power has jumped 387 percent over the same time period. And reflecting improvements in energy efficiency and conservation, as well as the changing composition of economic output, US electricity consumption in 2017 is seven percent lower than it was in 2008 (EIA 2017b).

In transportation, gasoline consumption increased by only about 3.5 percent over the decade ending in 2016. This is significantly lower than the 15 percent increase forecast by the statistics agency within the Department of Energy in 2007. And in the residential sector, per capita consumption of fossil fuels for heating and through electricity has fallen about 15 percent over the past decade (Aldy 2016). As a result, US carbon dioxide emissions in 2016 were 14 percent below their 2005 levels (EIA 2017b).

The economics of these changes in the US energy economy will not reverse as a result of an executive order or a directive to halt a regulation that had not yet been implemented (such as the Obama administration's Clean Power Plan). The dramatic growth in domestic natural gas production has caused natural gas prices to fall by about three-quarters since their peak in 2008. The major shift away from coal to natural gas in the power sector reflects simple economics; power producers favor lower-cost energy sources to serve their customers. Moreover, the ambitious policies promoting the deployment of wind and solar power capacity will likewise prevent a resurgence in coal (Aldy 2013). Since the wind and sun are free, the costs of producing power from existing renewable facilities are virtually nil. So long as the wind is blowing or the sun is shining, these sources of power will be dispatched ahead of coal-fired power plants.

### **Headwind 2: The nature of governing in modern America**

The modern American administrative state does not operate by presidential fiat. Signing an executive order does not change the legal status of a regulation. If a regulatory agency, such as the Environmental Protection Agency, seeks to rescind or revise a regulation, then it must operate subject to the administrative

processes legislated by Congress and enforced by the courts (Cass et al. 2015).

A regulatory action typically must go through a proposal process to give the public an opportunity to comment on the rule. The regulator can then issue a final rule that, in part, illustrates how it is responsive to the public feedback. Designing, proposing, and finalizing a regulation can take time. For example, the EPA promulgated the Clean Power Plan two years after President Obama directed the agency to regulate power plant carbon dioxide emissions. The agency met this short schedule in part because it had been working on the design of the regulation before receiving the 2013 presidential memorandum with the 2015 deadline.

Moreover, the Administrative Procedures Act established a standard that seeks to avoid “arbitrary and capricious” regulatory actions. While the courts have often deferred to the discretion of regulators since the 1984 Supreme Court *Chevron* decision,<sup>5</sup> they have remanded rule-makings to the regulators if they are deemed to be arbitrary and capricious. The existing record for the Obama era rules creates a burden for the Trump Administration. Revising or rescinding an Obama Administration regulation will need to be justified by new analysis, or else risk being thrown out for failing the arbitrary and capricious standard. Again, developing this analysis and building a new public record for the change in policy will take time. This is evident in the fact that, at the time of this writing, the EPA will take at least six months to deliver on the directive to revise or rescind the Clean Power Plan rule under the executive order on “Promoting Energy Independence and Economic Growth.”

The courts have already slowed efforts by the EPA and the Department of Interior to undo Obama Administration regulations. In July 2017, a federal appeals court overturned a decision by the EPA to delay an Obama EPA regulation intended to limit methane emissions occurring in the oil and gas industries.<sup>6</sup> In September 2017, another federal appeals court directed the Bureau of Land Management to revise its coal mining leases’ environmental impact statements, in order to account for their impact on carbon dioxide emissions.<sup>7</sup> In light of these decisions, environmental advocates and others will likely continue to use legal proceedings to slow down the Trump administration’s climate deregulatory efforts.

Even on an issue in which the president has sole authority – the decision to withdraw the United States from a treaty instrument, such as the Paris Agreement – he must confront institutional constraints. The provisions of the Paris Agreement allow a party to withdraw no sooner than 4 November 2020.

In practice, this means that the United States cannot formally transmit its notification of withdrawal until November 2019. In contrast, rejoining the agreement would be straightforward; any future administration could accede to the Paris Agreement, which would occur 30 days after notifying the United Nations of its interest in accession.

This administration will confront a challenge as it attempts to deregulate in the area of climate and energy policy. It could conceivably just rescind existing rules and avoid replacing them with new rules, but this strategy poses two risks. First, it increases the risk that opponents of such efforts could prevail in the courts. The federal government cannot simply avoid setting fuel economy standards, which are clearly authorized in current law. Moreover, the tailpipe carbon dioxide standards crafted in tandem with fuel economy rules are the direct result of the 2007 *Massachusetts v. EPA* Supreme Court ruling.<sup>8</sup> Second, a regulatory vacuum would make it easier for a future administration to quickly move with new rules to advance a more ambitious climate policy agenda.

Alternatively, the administration could promulgate regulations that would undo much of the intent of the Obama-era rules, while still technically hewing to the letter of the law, if minimally. For example, the EPA could implement a substitute for the Clean Power Plan that employs a much narrower interpretation of the Clean Air Act. The Obama EPA set a goal of reducing US power sector emissions by one-third below 2005 levels by the year 2030, based on an assessment of abatement opportunities through improving boiler efficiency at coal-fired power plants as well as through opportunities “outside the fence-line” of coal-fired power plants, such as wind and solar power. The Trump EPA could simply require minor improvements in the efficiency of burning coal and establish very modest emission goals. In the case of fuel economy/tailpipe carbon dioxide standards, the Trump Administration could either set lower targets through 2025 or modify the implementation to make it easier for automobile manufacturers to comply. This could take the form of various kinds of bonus compliance credits for electric vehicles or alternative fuel vehicles. This latter route would likely reduce the risk of losing in court but not eliminate that risk. It would make it more difficult for a future administration to quickly reverse.

If the Trump Administration pursues this latter route, then we would have actions by an administration that belie its climate change-denialist rhetoric. Ironically, the Trump administration would be in the position of promoting its pro-fossil fuel agenda by issuing rules to reduce the emissions of carbon dioxide (and potentially other greenhouse gases, such as

methane). Given the economic importance of these rules, they would acknowledge the damages from climate change by using a social cost of carbon in their regulatory impact assessments. (If the Trump administration failed to do so, it would likely lose in court in light of the precedent of a 2007 federal appeals court ruling directing the Department of Transportation to do so in its fuel economy standards).<sup>9</sup> This action would represent a major shift in the partisan debate. Instead of arguing about whether climate change exists, or whether one believes in climate change (as if it is akin to a religion as opposed to a scientific phenomenon subject to empirical evaluation), the question would change to the degree of ambition in using federal authorities to reduce the emissions that cause global warming.

### Headwind 3: Polycentric climate governance

Emission mitigation efforts are not simply the function of federal policies and regulations. The US climate policy landscape reflects the emergence of bottom-up efforts to combat climate change: State and local governments as well as businesses and investors are taking action to reduce greenhouse gas emissions. This “polycentric governance” results in a complex pattern of climate change policies and programs at multiple levels of governance as well as actions by non-governmental players (Ostrom 2010). In effect, it makes climate change policy resilient against abrupt changes at one level of governance; in this case, by the federal government.

For example, the state of California and a group of northeast and mid-Atlantic states employ carbon dioxide emission cap-and-trade programs. These limit the overall quantity of emissions and provide regulated firms the flexibility to trade the right to emit, which can minimize the cost of meeting the emission goals (Aldy and Stavins 2012). More than a quarter of the US population lives in states with emission caps on the power sector (and additional sectors in the case of California). Moreover, more than two-thirds of the US population lives in states that mandate a minimum fraction of their electricity come from wind, solar, and other renewable sources.

California also plays an important role in the regulation of tailpipe carbon dioxide emissions for cars and trucks. Under the Clean Air Act, California has a unique authority to set emission standards on mobile sources, which can then be adopted by other states (Rabe *forthcoming*). By 2009, California had developed aggressive tailpipe carbon dioxide standards, which served as an impetus for the Obama administration’s “Car Deal” with California, automakers, and labor that

resulted in the joint fuel economy-tailpipe standards (Freeman 2011). A meaningful weakening of the federal standards could precipitate new California standards, which could be adopted by other states.

California has also established an ambitious zero-emission vehicle mandate, which has been adopted by nine other states (Carley et al. 2016). Because this bloc of states represents a meaningful fraction of the US new-vehicle market, this policy will sustain demand for novel, zero-carbon technologies in vehicles – even if the Trump administration weakens the goals under the fuel economy and federal tailpipe carbon dioxide standards.

Likewise, local governments have pledged to take actions to mitigate their greenhouse gas emissions. For example, the so-called C40 network of cities – comprised of more than 90 cities representing more than a tenth of the global population – has pledged to deliver on the 2015 Paris Agreement and has inventoried cities’ policies and programs – such as promoting building energy efficiency, driving more climate-friendly urban planning, and improving waste management to lower methane emissions – to assess their efficacy and replicability in other cities.

Finally, businesses and investors are taking more actions to account for climate change in their activities and investments. In 2016, the Carbon Disclosure Project – more commonly referred to as the CDP – reported that more than 400 companies use a carbon price for internal project evaluation and investment analysis. This means that large American corporations are employing carbon prices in their internal planning, at costs ranging from \$5 per ton to \$85 per ton of carbon dioxide (CDP.net 2016). These include some very well-known manufacturers such as Colgate-Palmolive, General Motors, and Owens Corning; electric utilities such as AEP, Duke Energy, Exelon, and NRG Energy; oil companies such as ConocoPhillips and Exxon Mobil; and, information technology companies such as Google and Microsoft. Formally integrating a carbon price in the assessment of their business options reflects a sincere expectation that policies of one form or another will impose a carbon tax or command-and-control regulations on these companies’ business operations.

### A failed agenda

So, taken together, what is the big picture?

Coal is not coming back. Electric utilities and investors are not building new coal-fired power plants in response to Trump administration announcements. Indeed, the global outlook for coal looks bleak, with virtually no growth in coal consumption forecast over the next 40 years (EIA 2017a). US carbon dioxide emissions will not increase in

response to the Trump administration; a number of analyses suggest that emissions will likely remain flat over the next decade (Larsen et al. 2017).

Businesses and investors make decisions on new energy projects that operate for decades. The long lifetimes of energy technologies and energy-using capital mean that the impacts of past policies can endure short-term policy aberrations, like the Trump administration. Looking forward, Trump administration efforts may introduce short-term policy uncertainty, but few energy decision-makers foresee a fundamentally different long-term policy environment, especially as state and local policymakers fill the void left by the federal government.

This should not be interpreted with relief by those focused on mitigating the risks posed by climate change. The global effort to combat climate change made progress over the past decade – in contrast to the 2000s – in large part because the United States played a key leadership role in the international negotiations. The United States re-established its legitimacy as a climate leader through serious domestic mitigation efforts and by working collaboratively with major players in the developed and developing world to craft the Paris Agreement. The success of the Paris Agreement – a new approach to climate policy that calls on countries to make a pledge about their emission goals and then subject them to review – will depend on the rigor and credibility of the review process. The design of the climate transparency regime is still under negotiation as countries work to implement the Paris Agreement. Since 2009, the United States has been the leader on transparency in the climate talks. The lack of leadership – or even interest – by the Trump administration in the international climate talks could result in a substantially less-effective apparatus that could have lasting, adverse impacts on the Paris framework. By renegeing on previous US pledges, the Trump administration may serve as an example and an excuse for other countries to back away from their pledges and fail to implement emission mitigation policies.

When the future looks back on this period, it may view it as four lost years in climate policy, where US efforts were in stasis. The concern is that the risks posed by climate change may not mean we have four years available to waste. And underinvestment in the international climate policy infrastructure today could have lasting implications well into the future.

## Notes

1. See: <https://www.whitehouse.gov/the-press-office/2017/03/28/remarks-president-trump-signing-executive-order-create-energy>.
2. See: <https://www.gpo.gov/fdsys/pkg/FR-2017-02-03/pdf/2017-02451.pdf>.

3. See: <https://www.gpo.gov/fdsys/pkg/FR-2017-03-31/pdf/2017-06576.pdf>.
4. See: <https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-agreement>.
5. See: <https://www.law.cornell.edu/supremecourt/text/467/837>.
6. See: [https://www.cadc.uscourts.gov/internet/opinions.nsf/A86B20D79BEB893E85258152005CA1B2/\\$file/17-1145-1682465.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/A86B20D79BEB893E85258152005CA1B2/$file/17-1145-1682465.pdf).
7. See: <https://www.ca10.uscourts.gov/opinions/15/15-8109.pdf>.
8. See: <https://www.law.cornell.edu/supct/html/05-1120.ZS.html>.
9. See: <http://caselaw.findlaw.com/us-9th-circuit/1024716.html>.

## Disclosure statement

No potential conflict of interest was reported by the author.

## Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## Notes on contributor

*Joseph E. Aldy* is an associate professor of public policy at the Harvard Kennedy School, a visiting fellow at Resources for the Future, a faculty research fellow at the National Bureau of Economic Research, and a senior adviser at the Center for Strategic and International Studies. His research focuses on climate change policy, energy policy, and mortality risk valuation. He also serves as the faculty chair of the Mossavar-Rahmani Center for Business and Government Regulatory Policy Program. In 2009–2010, he served as the Special Assistant to the President for Energy and Environment at the White House.

## References

- Aldy, J. E. 2013. “Policy Monitor \* A Preliminary Assessment of the American Recovery and Reinvestment Act’s Clean Energy Package.” *Review of Environmental Economics and Policy* 7 (1): 136–155. doi:10.1093/reep/res014.
- Aldy, J. E. 2016. “Long-Term Carbon Policy: The Great Swap.” Progressive Policy Institute, November 2016. <http://www.progressivepolicy.org/wp-content/uploads/2016/11/The-Great-Swap-1.pdf>
- Aldy, J. E. 2017. “What Trump Misses about Regulations: They Produce Benefits as Well as Costs.” *The Conversation*, February 5. <https://theconversation.com/what-trump-misses-about-regulations-they-produce-benefits-as-well-as-costs-72470>
- Aldy, J. E., and R. Stavins. 2012. “Using the Market to Address Climate Change: Insights from Theory & Experience.” *Daedalus* 141 (2): 45–60. doi:10.1162/DAED\_a\_00145.
- Carley, S., D. Duncan, D. Esposito, J. Graham, S. Siddiki, and N. Zirotiannis. 2016. “Rethinking Auto Fuel Economy Policy:

- Technical and Policy Suggestions for the 2016-2017 Midterm Reviews.” School of Public and Environmental Affairs, Indiana University. <https://spea.indiana.edu/doc/research/working-groups/fuel-economy-policy-022016.pdf>
- Cass, R. A., C. S. Diver, J. M. Beermann, and J. Freeman. 2015. *Administrative Law: Cases and Materials*. 7th ed. New York: Wolters Kluwer.
- CDP.net. 2016. “Putting a Price on Risk: Carbon Pricing in the Corporate World.” <https://www.cdp.net/CDPResults/carbon-pricing-in-the-corporate-world.pdf>
- Energy Information Administration. 2017a. *International Energy Outlook 2017*. Washington, DC: Department of Energy.
- Energy Information Administration. 2017b. *Monthly Energy Review, August 2017*. Washington, DC: Department of Energy.
- Freeman, J. 2011. “The Obama Administration’s National Auto Policy: Lessons from the ‘Car Deal.’” *Harvard Environmental Law Review* 35: 343–363. <http://www.law.harvard.edu/faculty/freeman/HLE209-2.pdf>.
- Larsen, J., K. Larsen, W. Ketchum, S. Mohan, and T. Houser. 2017. “Trump’s Regulatory Rollback Begins.” Report issued by the Rhodium Group, March 27. <http://rhg.com/notes/trumps-regulatory-rollback-begins>
- Matthews, D. 2017. “Donald Trump Has Tweeted Climate Change Skepticism 115 Times. Here’s All of It.” *Vox*, June 1. <https://www.vox.com/policy-and-politics/2017/6/1/15726472/trump-tweets-global-warming-paris-climate-agreement>
- Ostrom, E. 2010. “Polycentric Systems for Coping with Collective Action and Global Environmental Change.” *Global Environmental Change* 20: 550–557. doi:10.1016/j.gloenvcha.2010.07.004.
- Rabe, B. Forthcoming. “Leveraged Federalism and the Clean Air Act: The Case of Vehicle Emission Control.” In *Building Durability and Flexibility into Long Term Energy Policy: Lessons from the Clean Air Act*, edited by D. Burtraw, and A. Carlson. New York: Cambridge University Press.