

Regulatory Oscillation

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In the wake of the Reagan deregulation, America experienced twenty-eight years of regulatory progression, with precious little retrogression. That trend came to a crashing halt during the four years of Donald Trump's presidency. As a candidate, Trump campaigned on a series of pledges to reverse and undo as much of the work done by Barack Obama as possible. The Trump EPA was particularly active in this effort. In addition to reversing the Clean Power Plan, under Trump the EPA repealed or substantially weakened a number of other important Obama-era regulations, including a substantial increase in fuel economy standards and strict curbs on mercury and other emissions from coal-fired power plants. These regulations would have affected air quality and pollution more generally, but they also would have had a substantial effect on greenhouse gas emissions and thus on climate change.

President Biden has promised to reinstate or even strengthen most if not all of the Obama-era regulatory initiatives that Trump eliminated. The EPA and other agencies are already at work on these new regulations. But Biden does not represent the end of history. Barring some seismic shift in political tectonics, some day in the future a Republican will again be elected president on a platform of ignoring climate change, protecting the fossil fuel industries, and reversing the regulatory progress of his or her Democratic predecessors. That president will likely undertake a program of deregulation, much as Trump did. Subsequently, a Democrat will again someday be elected president. That president will likely undertake a program of re-regulation, much as Biden has promised to do. From administration to administration, across terms, regulations will blink into and out of existence. They will become more and less stringent on four, eight, or twelve-year cycles. We are now living in an era of regulatory oscillation.

*At its core, the possibility of regulatory oscillation is driven by deference to agencies under the framework established in *Chevron v. NRDC*. Chevron deference, as it is known, is canonically viewed as pro-regulatory, in that it provides agencies with interpretive freedom to implement policy as they see fit. Under Trump, however, agencies learned to use Chevron to create deregulatory flexibility. Conversely, the strongest bulwark against regulatory flexibility may well be cost-benefit analysis, a decision procedure most frequently castigated as anti-regulatory. In an era of regulatory oscillation, these roles are reversed:*

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Chevron and its model of deference open the door for regulatory oscillation; cost-benefit analysis and its model of constraint could shut it.

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Introduction

For the three decades following Ronald Reagan's presidency, regulation progressed along an essentially continuous upward trend.¹ From 1989 through 2016, across the presidencies of George H.W. Bush, Bill Clinton, George W. Bush, and Barack Obama, the regulatory state largely marched forward. Across those 28 years, regulatory standards across a wide variety of domains—most notably, environmental standards—largely strengthened and rarely weakened. As with every rule, there are exceptions, some of them small—President George W. Bush's administration permitted snowmobiling in certain wilderness areas² and relaxed some endangered species rules,³ for instance—and some of them large, such as the deregulation of the financial industry under the Financial Services Modernization Act of 1999.⁴ Some presidents were much more aggressive regulators than others. Barack Obama tightened environmental standards much more significantly than George W. Bush, for instance. But in the wake of the Reagan deregulation, America experienced twenty-eight years of regulatory progression, with precious little retrogression.

That trend came to a crashing halt during the four years of Donald Trump's presidency. As a candidate, Trump campaigned on a series of pledges to reverse and undo as much of the work done by Barack Obama as possible.⁵ This included many of Obama's signature regulatory initiatives. To name just a few: the Deferred Action for Childhood Arrivals immigration program (which provided legal status and work permits to Dreamers—undocumented childhood immigrants);⁶ the Department of Education's interpretation of Title IX sexual harassment rules;⁷ and, most significantly for present purposes, an entire slate of environmental regulations, including but not limited to the Clean Power Plan,

1. President Ronald Reagan is, quite accurately, associated with a movement toward deregulation. Indeed, his administration oversaw substantial deregulation across a variety of industries and areas of economic life. Yet this ended with Reagan.

2. *Bush Administration to Yellowstone: Bring in the Snowmobiles*, EARTH JUST. (Dec. 9, 2008), <https://earthjustice.org/news/press/2008/bush-administration-to-yellowstone-bring-in-the-snowmobiles> [<https://perma.cc/7GSJ-G5LU>].

3. *Bush Set to Relax Endangered Species Rules*, CNN (Nov. 20, 2008, 3:24 PM), <http://edition.cnn.com/2008/TECH/science/11/20/bush.environment/index.html> [<https://perma.cc/8W4Q-ZWF9>].

4. Gramm-Leach-Bliley Act, Pub. L. No. 106-102, 113 Stat. 1338 (1999).

5. See Michael A. Livermore & Daniel Richardson, *Administrative Law in an Era of Partisan Volatility*, 69 EMORY L.J. 1, 42-49 (2019); Rachel Augustine Potter, *Democratic Presidents Regulate. Republican Presidents Deregulate. Congress Could Stop the Pendulum Swing*, WASH. POST (Oct. 14, 2021, 5:00 AM), <https://www.washingtonpost.com/politics/2021/10/14/democratic-presidents-regulate-republican-presidents-deregulate-congress-could-stop-pendulum-swing> [<https://perma.cc/7KKE-CDG3>].

6. See *Deferred Action for Childhood Arrivals (DACA)*, U.S. DEP'T HOMELAND SEC., <https://www.dhs.gov/deferred-action-childhood-arrivals-daca> [<https://perma.cc/ZY95-5GYR>].

7. E.g., Russlynn Ali, *Dear Colleague Letter: Sexual Violence*, U.S. DEP'T EDUC. (Apr. 4, 2011), at 4, <http://www2.ed.gov/about/offices/list/ocr/letters/colleague-201104.pdf> [<https://perma.cc/DJZ7-96K8>] (subsequently rescinded); Candice Jackson, *Dear Colleague Letter*, U.S. DEP'T EDUC. (Sept. 22, 2017), <https://www2.ed.gov/about/offices/list/ocr/letters/colleague-title-ix-201709.pdf> [<https://perma.cc/C2US-ZWZZ>].

Obama's signature climate-change initiative.⁸ Unlike many of Trump's campaign pledges, this effort largely came to fruition.⁹ All of the Obama-era initiatives described above were reversed during the Trump administration, though some of those reversals were eventually delayed or struck down by courts.¹⁰

The Trump EPA was particularly active in this effort. In addition to reversing the Clean Power Plan, under Trump the EPA repealed or substantially weakened a number of other important Obama-era regulations, including a substantial increase in fuel economy standards¹¹ and strict curbs on mercury and other emissions from coal-fired power plants,¹² as well as others. These regulations would have affected air quality and pollution more generally, but they also would have had a substantial effect on greenhouse gas emissions and thus on climate change. Trump's focus on climate change was no accident. Political opinion on climate change is starkly divided between the parties and Trump in particular campaigned on promises to protect coal mining and other extractive industries.¹³ In the context of 28 years of increasing regulatory stringency, Trump's reversals represent quite a departure from past practice. But in our current political moment, they come as no surprise.

President Biden has promised to reinstate, or even strengthen, most if not all of the Obama-era regulatory initiatives that Trump eliminated.¹⁴ It is safe to assume that the EPA and other agencies are already at work on these new regulations. But Biden does not represent the end of history. Barring some seismic shift in political tectonics, some day in the future a Republican will again be elected president on a platform of ignoring climate change, protecting fossil

8. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60); Chelsea Harvey, *Trump Has Vowed to Kill the Clean Power Plan. Here's How He Might—and Might Not—Succeed*, WASH. POST (Nov. 11, 2016), <https://www.washingtonpost.com/news/energy-environment/wp/2016/11/11/trump-has-vowed-to-kill-the-clean-power-plan-heres-how-he-might-and-might-not-succeed> [<https://perma.cc/CR49-8K2M>].

9. In a recent paper, three scholars have observed that it is surprising that the Trump administration did not succeed in carrying out even more extensive deregulation, given his statements during the campaign. See Cary Coglianese, Natasha Sarin & Stuart Shapiro, *The Deregulation Deception* (U. Pa. L. Sch. Pub. L. Rsch. Paper No. 20-44, June 21, 2021), <https://ssrn.com/abstract=3723915> [<https://perma.cc/D7E7-GJ32>]. At the same time, the deregulation that did occur was quite significant, and it is likely that if Trump had been elected for a second term the extent of the deregulation would have been even much greater.

10. *E.g.*, *Dep't of Homeland Sec. v. Regents of the Univ. of Cal.*, 140 S. Ct. 1891 (2020) (striking down the Trump administration's rescission of DACA).

11. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 24,174 (Apr. 30, 2020) (to be codified at 40 C.F.R. pts. 85-86).

12. EPA National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2670 (proposed Feb. 7, 2019) (to be codified at 40 C.F.R. pt. 63); EPA National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 85 Fed. Reg. 31,286 (May 22, 2020).

13. See *infra* Part I.

14. See Potter, *supra* note 5.

fuel industries, and reversing the regulatory progress of his or her Democratic predecessors. That president will likely undertake a program of deregulation, much as Trump did. Subsequently, a Democrat will again someday be elected president. That president will likely undertake a program of re-regulation, much as Biden has promised to do. From administration to administration, across terms, regulations will blink into and out of existence. They will become more and less stringent on four, eight, or twelve-year cycles. We are now living in an era of regulatory oscillation.

This dynamic will be particularly strong with respect to climate change and the various regulations that affect it. Part of the reason is that climate change is such a deeply polarizing topic in our politics, with the parties starkly divided on whether and/or what action should be taken. Part of the reason is that the stakes are so high, with trillions of dollars and the potential transformation of the entire energy economy on the table.

The consequences of regulatory oscillation will be particularly severe in the context of climate change. Every moment in which regulations are weakened, more greenhouse gases will be emitted to the atmosphere—and those greenhouse gases will be much more difficult to remove from the atmosphere than they would have been to prevent in the first instance. The uncertainty and instability created by regulation will also wreak havoc on the United States's capacity to reach international agreements to curb greenhouse gas emissions, given the country's inability to credibly commit to a course of action. Uncertainty will similarly cause mayhem for regulated industries,¹⁵ whose decisions about whether to invest in cleaner technologies will be driven by guesses about which way the political winds will blow.¹⁶

At its core, the possibility of regulatory oscillation is driven by deference to agencies under the framework established in *Chevron v. NRDC*.¹⁷ *Chevron* deference, as it is known, is canonically viewed as pro-regulatory, in that it provides agencies with interpretive freedom to implement policy as they see fit. Under Trump, however, agencies learned to use *Chevron* to create *deregulatory* flexibility.¹⁸ Conversely, the strongest bulwark against regulatory flexibility may well be cost-benefit analysis, a decision procedure most frequently castigated as anti-regulatory.¹⁹ In an era of regulatory oscillation, these roles are reversed: *Chevron* and its model of deference present a grave threat to the possibility of combatting climate change; cost-benefit analysis and its model of constraint are perhaps the greatest available defense.

15. Jonathan S. Masur, *Judicial Deference and the Credibility of Agency Commitments*, 60 VAND. L. REV. 1021, 1037-41 (2007).

16. Jonathan S. Masur & Jonathan Remy Nash, *Promoting Regulatory Prediction*, 97 IND. L.J. 203 (2022).

17. *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

18. Jonathan S. Masur & Eric A. Posner, *Chevronizing Around Cost-Benefit Analysis*, 70 DUKE L.J. 1109 (2021).

19. See *infra* notes 66-72 and accompanying text.

This Article proceeds in three Parts. Part I describes the central role that regulation has come to play in the modern era and the forces of legislative gridlock that have promoted it. It introduces the concept of regulatory oscillation, in which regulatory stringency—and thus the relevant legal rules—oscillates back and forth over time with changing partisan administrations. Part II explains the tension between sources of discretion and forces of constraint within administrative law and the manner in which they can facilitate or hinder regulatory oscillation. Part III analyzes the multiple dimensions along which regulatory oscillation might occur in the context of climate-change regulation. In particular, it demonstrates the centrality of cost-benefit analysis and its role in the courts to debates over the degree of flexibility agencies will be afforded.

I. The Centrality of Administrative Action

Since at least the Clinton Administration, and probably long before that, scholars have understood that legislative gridlock in Congress has forced much of the important activity of government into the executive branch.²⁰ In this era of “presidential administration,” in then-Professor Elena Kagan’s famous phrase, presidents have been forced to use the administrative state to achieve policy goals that could not be passed by a divided Congress (including a Senate that maintains the filibuster rule).²¹ The fact that a single party is unlikely to control the presidency, the House, and a filibuster-proof majority in the Senate is a brute numerical fact in a country that is divided roughly evenly by politics.²² In the 42 years since 1979, there have only been *seven months* during which one party controlled all three arms of the lawmaking process, including the Senate by a filibuster-proof majority.²³ In most years, no party has even come close to doing so. The point is that sweeping legislation to address climate change (or any other problem of its scope) is unlikely to pass absent bipartisan agreement—and bipartisan agreement has become even harder to come by.²⁴

20. Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2246-2329 (2001).

21. *Id.*

22. See Jeffrey M. Jones, *Quarterly Gap in Party Affiliation Largest Since 2012*, GALLUP (Apr. 7, 2021), <https://news.gallup.com/poll/343976/quarterly-gap-party-affiliation-largest-2012.aspx> [<https://perma.cc/NY82-APAP>] (presenting polling stating 49% of those polled identify more with the Democratic party, compared with 40% Republican); *Official 2020 Presidential General Election Results*, FED. ELECTION COMM’N, (Jan. 28, 2021), <https://www.fec.gov/resources/cms-content/documents/2020presgeresults.pdf> [<https://perma.cc/9P2V-QSEU>] (showing 81.3 million votes for the Democratic presidential candidate compared to 74.2 million votes for the Republican presidential candidate).

23. *Party Divisions of United States Congresses*, WIKIPEDIA (2021), https://en.wikipedia.org/wiki/Party_divisions_of_United_States_Congresses [<https://perma.cc/M8RP-BJTP>]. This period lasted from July 7, 2009, when Al Franken won a recount of a Senate election in Minnesota to give the Democratic Caucus a total of 60 votes, until February 4, 2010, when Scott Brown won a special election in Massachusetts, thereby supplying the Republican Caucus a 41st vote. The true period of filibuster-proof control is actually 6 months, not seven. Edward Kennedy died during this seven-month period, depriving the Democratic Caucus of its 60th vote, and it took a month for his successor to be appointed and sworn in.

24. It is of course possible that one party or the other will eliminate the filibuster rule, and that the rule change will stick, though that currently seems unlikely. See John Bowden, *White House Says*

Yet in the twenty years since Kagan wrote *Presidential Administration*, the partisan divide has only intensified and Congress has become more gridlocked.²⁵ As partisan antipathy grows across broader American society,²⁶ the ideological

Biden Would Prefer to Not End the Filibuster, THE HILL (March 7, 2021 10:15 AM), <https://thehill.com/homenews/sunday-talk-shows/541999-white-house-says-biden-would-prefer-to-not-end-filibuster> [<https://perma.cc/BF52-ZWN6>]; Jonathan Martin, *In Washington, Policy Revolves Around Joe Manchin. He Likes It That Way.*, N.Y. TIMES (June 7, 2021), <https://www.nytimes.com/2021/03/27/us/politics/joe-manchin.html> [<https://perma.cc/X77J-ER4X>]; Tom Porter, *Democratic Sen. Joe Manchin Said He Remains Opposed to Removing the Filibuster, Amid Growing Pressure from Liberals to Erase It*, BUS. INSIDER (Mar. 28, 2021, 10:42 AM), <https://www.businessinsider.com/democratic-sen-manchin-opposed-to-removing-filibuster-2021-3> [<https://perma.cc/G8QP-NXFX>]; Felicia Sonmez, *Biden Says Eliminating Filibuster Would 'Throw the Entire Congress into Chaos'*, WASH. POST (July 21, 2021, 10:30 AM), https://www.washingtonpost.com/politics/biden-says-eliminating-filibuster-would-throw-the-entire-congress-into-chaos/2021/07/21/b9bf568a-ea87-11eb-8950-d73b3e93ff7f_story.html [<https://perma.cc/TG4N-AA48>]; Ali Zaslav & Ted Barrett, *Mitch McConnell Warns Democrats that Overhauling Filibuster Rules Will Lead to 'Completely Scorched Earth Senate'*, CNN (Mar. 26, 2021, 1:21 PM) <https://www.cnn.com/2021/03/16/politics/mitch-mcconnell-filibuster-comments/index.html> [<https://perma.cc/54YZ-DRDW>].

Alternatively, it is possible that some creative legislative drafter will determine some means by which climate-change legislation can be passed using reconciliation, which only requires a bare majority in the Senate. See Emily Cochrane, *Senate Passes \$3.5 Trillion Budget Plan, Advancing Safety Net Expansion*, N.Y. TIMES (Aug. 11, 2021), <https://www.nytimes.com/2021/08/11/us/politics/senate-budget-plan.html> [<https://perma.cc/MV23-4HWH>]; *Budget Reconciliation: The Basics*, HOUSE COMM. ON THE BUDGET (Aug. 11, 2021), <https://budget.house.gov/publications/fact-sheet/budget-reconciliation-basics> [<https://perma.cc/A36Q-LQFP>]. The Senate in August 2021 passed through a reconciliation budget blueprint which aims to address some climate-change concerns. Dino Grandoni & Brady Dennis, *Biden Aims for Sweeping Climate Action as Infrastructure, Budget Bills Advance*, WASH. POST (Aug. 11, 2021), <https://www.washingtonpost.com/climate-environment/2021/08/10/biden-climate-congress/> [<https://perma.cc/LCG4-NPKM>]. It remains to be seen, however, whether the final bill will include those provisions. Emily Cochrane, *Key Democrats Say the Price Tag on the \$3.5 Trillion Budget Blueprint is Too High.*, N.Y. TIMES (Aug. 11, 2021), <https://www.nytimes.com/2021/08/11/us/politics/key-democrats-say-the-price-tag-on-the-3-5-trillion-budget-blueprint-is-too-high.html> [<https://perma.cc/K2DG-B2AF>]; Grandoni & Dennis, *supra* note 24; Sarah Kaplan & Dino Grandoni, *One Coal State Senator Holds the Key to Biden's Ambitious Climate Agenda. And It's Not McConnell.*, WASH. POST. (January 25, 2021), <https://www.washingtonpost.com/climate-environment/2021/01/25/manchin-climate-congress/> [<https://perma.cc/SG2M-S8ZM>]; Manu Raju, *Joe Manchin Says He's "Very, Very" Disturbed About Reconciliation Proposals on Climate Change*, CNN (July 15, 2021, 10:46 AM), <https://www.cnn.com/2021/07/14/politics/joe-manchin-reconciliation-climate-change/index.html> [<https://perma.cc/9WN9-D52G>].

If a filibuster-proof majority in the Senate is no longer required to pass legislation of this type, then the calculus changes and regulation becomes much less significant. The parties would be more likely to trade unified control back and forth; Democrats had unified control during the 111th Congress and the 117th Congress, while Republicans held it during the 115th Congress. *History, Art & Archives, Party Government Since 1857*, U.S. HOUSE OF REPS. (2021), <https://history.house.gov/Institution/Presidents-Coinciding/Party-Government/> [<https://perma.cc/652B-TMPZ>]. JENNIFER E. MANNING, CONG. RSCH. SERV., R46705, MEMBERSHIP OF THE 117th CONGRESS: A PROFILE (2021). Legislation could then be used to address climate change; it could also be used to block regulatory efforts to address climate change. The back-and-forth regulatory flip-flopping that would characterize a no-cost benefit analysis (CBA) world would apply to this world in which legislation is easier.

25. SEAN M. THERIAULT, PARTY POLARIZATION IN CONGRESS (2012); *Vital Statistics on Congress*, BROOKINGS 15-28 (2017), https://www.brookings.edu/wp-content/uploads/2017/01/vitalstats_ch8_full.pdf [<https://perma.cc/S9TV-Y9L8>].

26. Shanto Iyengar, Yphtach Lelkes, Matthew Levendusky, Neil Malhotra & Sean J. Westwood, *The Origins and Consequences of Affective Polarization in the United States*, 22 ANN. REV. POL. SCI. 129 (2019); *Partisan Antipathy: More Intense, More Personal*, PEW RSCH. CTR. (Oct. 10, 2019), <https://www.pewresearch.org/politics/2019/10/10/partisan-antipathy-more-intense-more-personal> [<https://perma.cc/8RH2-MN44>].

gap between Democratic and Republican legislators has continued to widen.²⁷ Republicans are less likely to support significant Democratic legislation than ever before, and vice versa.²⁸ This trend shows no signs of abating.²⁹ While the causes of this polarization are still being debated,³⁰ it is the existence of polarization that is important for present purposes.

The upshot is that major legislation concerning any topic on which the parties are divided is less likely than ever to pass Congress.³¹ Climate change is, without question, one such topic.³² The parties are far apart on the issue, with 90% of Democrats believing that the government is doing too little to combat climate change, compared to 39% of Republicans who believe the same,³³ and 67% of Democrats believing climate change should a top policy priority, compared to 21% of Republicans.³⁴ The centerpiece Obama-era legislative

27. Christopher Hare & Keith T. Poole, *The Polarization of Contemporary American Politics*, 46 POLITY 411, 422-25 (2014).

28. Clio Andris, David Lee, Marcus J. Hamilton, Mauro Martino, Christian E. Gunning & John Armistead Selden, *The Rise of Partisanship and Super-Cooperators in the U.S. House of Representatives*, 10 PLOS ONE 1, 3-7 (2015).

29. *Id.*

30. The rise in partisanship continues to be attributed to varying causes. The list of possibilities includes conflict extension—the process by which diverse policy conflicts (e.g., gun control, abortion, immigration) which shouldn't be a priori logically correlated have collapsed into the dominant liberal-conservative divide—see Geoffrey C. Layman & Thomas M. Carsey, *Party Polarization and 'Conflict Extension' in the American Electorate*, 46 AM. J. POL. SCI. 786 (2002); Thomas M. Carsey & Geoffrey C. Layman, *Changing Sides or Changing Minds? Party Identification and Policy Preferences in the American Electorate*, 50 AM. J. POL. SCI. 464 (2006); increasing wealth and income stratification, see NOLAN MCCARTHY, KEITH T. POOLE & HOWARD ROSENTHAL, *POLARIZED AMERICA: THE DANCE OF IDEOLOGY AND UNEQUAL RICHES* (2006); redistricting, see Jamie L. Carson, Michael H. Crespin, Charles J. Finocchiaro & David W. Rohde, *Redistricting and Party Polarization in the U.S. House of Representatives*, 35 AM. POL. RSCH. 878 (2007); political realignment in the American South, see Jason M. Roberts & Steven S. Smith, *Procedural Contexts, Party Strategy and Conditional Party Voting in the U.S. House of Representatives 1971-2000*, 47 AM. J. POL. SCI. 305, 306 (2003); ideological polarization of and agitation by political elites, see Steven W. Webster & Alan I. Abramowitz, *The Ideological Foundations of Affective Polarization in the U.S. Electorate*, 45 AM. POL. RSCH. 621, 625-28 (2017); bias in mass media and the media's shift from prioritizing neutrality toward capturing market share, see JEFFREY M. BERRY & SARAH SOBIERAJ, *THE OUTRAGE INDUSTRY: POLITICAL OPINION MEDIA AND THE NEW INCIVILITY* (2013); EZRA KLEIN, *WHY WE'RE POLARIZED* (2020); James N. Druckman, Matthew S. Levendusky & Audrey McLain, *No Need to Watch: How the Effects of Partisan Media Can Spread Via Interpersonal Discussions*, 62 AM. J. POL. SCI. 99 (2018); and social media, see Christopher A. Bail, Lisa P. Argyle, Taylor W. Brown, John P. Bumpus, Haohan Chen, M. B. Fallin Hunzaker, Jaemin Lee, Marcus Mann, Friedolin Merhout & Alexander Volfovsky, *Exposure to Opposing Views on Social Media Can Increase Political Polarization*, 115 PROC. NAT'L ACAD. SCI. 9216 (2018).

31. See David R. Jones, *Party Polarization and Legislative Gridlock*, 54 POL. RSCH. Q. 125, 131, 133 (2001) (arguing that higher polarization increases the possibility of encountering gridlock); Olympia J. Snow, *The Effect of Modern Partisanship on Legislative Effectiveness in the 112th Congress*, 50 HARV. J. ON LEGIS. 21 (2013) (arguing that paralyzing partisanship has impeded the Senate's work and the rules make this worse); cf. DAVID R. MAYHEW, *DIVIDED WE GOVERN* (2001) (finding that in earlier periods, the production of major legislation was largely constant across periods of unified and divided government).

32. Cary Funk & Meg Hefferon, *U.S. Public Views on Climate and Energy*, PEW RSCH. CTR. (Nov. 25, 2019), <https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy> [https://perma.cc/GX7G-DW6F].

33. *Id.* at 2.

34. *Public's 2019 Priorities: Economy, Health Care, Education and Security All Near Top of List*, PEW RSCH. CTR. 4 (Jan. 24, 2019), <https://www.pewresearch.org/politics/2019/01/24/publics-2019->

effort, the Waxman-Markey bill,³⁵ died before reaching a senate vote,³⁶ and the recent Congress has not voted on the Green New Deal or any other significant legislative proposal to curb global warming.³⁷ It is always possible that the political dynamics of climate change will change—the degree to which Republicans disbelieve the existence of climate change, for example, tends to be exaggerated in popular media, and the majority of Republicans do believe that climate change is occurring.³⁸ But it seems unlikely there will be significant legislative action on climate change in the near future.³⁹

This has placed additional pressure on agency action as the only reliable means by which new legal rules can be enacted.⁴⁰ Indeed, essentially all of President Obama's major initiatives were enacted via regulation rather than legislation, including every new environmental rule (The exception is the Affordable Care Act, which was passed in part during the brief period when Democrats controlled a filibuster-proof majority in the Senate and in part using the budget reconciliation process⁴¹). But this also means that the creation and maintenance of new environmental rules is subject to all of the vagaries of regulation and the rulemaking process. Most notably, this includes the possibility of regulatory oscillation, a possibility that has now come to fruition.

As described in the introduction, President Obama's signature environmental initiative was the Clean Power Plan, a sweeping regulation that catalyzed a shift from coal-fired electricity generation to natural gas-fired and renewable energy on a national scale. In addition, the Obama Administration also issued a series of other regulations which, even if not aimed principally at climate change, would nonetheless have had substantial effects on the climate. These

priorities-economy-health-care-education-and-security-all-near-top-of-list [https://perma.cc/YR3J-GH7Y].

35. See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009).

36. Daniel J. Weiss, *Anatomy of a Senate Climate Bill Death*, CTR. FOR AM. PROGRESS (Oct. 12, 2010), <https://www.americanprogress.org/article/anatomy-of-a-senate-climate-bill-death> [https://perma.cc/7HV9-5PUN].

37. The Senate in 2019 blocked a vote on the Green New Deal. See Dino Grandoni & Felicia Somnez, *Senate Defeats Green New Deal, as Democrats Call Vote a 'Sham'*, WASH. POST (Mar. 26, 2019), https://www.washingtonpost.com/powerpost/green-new-deal-on-track-to-senate-defeat-as-democrats-call-vote-a-sham/2019/03/26/834f3e5e-4fdd-11e9-a3f7-78b7525a8d5f_story.html [https://perma.cc/MJZ5-MW9G]; Robinson Meyer, *The Green New Deal Does Not, Strictly Speaking, Exist*, ATLANTIC (July 13, 2021), <https://www.theatlantic.com/science/archive/2021/07/the-green-new-deal-doesnt-exist/619424/> [https://perma.cc/3XTT-VPX5].

38. Leaf Van Boven, Phillip J. Ehret & David K. Sherman, *Psychological Barriers to Bipartisan Public Support for Climate Policy*, 13 PERSP. PSYCHOL. SCI. 492, 495 (2018).

39. See Coral Davenport, *Climate Change Legislation Included in Coronavirus Relief Deal*, N.Y. TIMES (Dec. 21, 2021), <https://www.nytimes.com/2020/12/21/climate/climate-change-stimulus.html> [https://perma.cc/J9J6-4XKD] (discussing a bipartisan deal to reappropriate \$35 billion in spending towards climate goals as the biggest action in a decade despite no new spending and noting that climate change will remain a partisan landmine); Abby Fox, *What to Expect from Federal Climate Policy in 2021*, ABA (Apr. 28, 2021), https://www.americanbar.org/groups/environment_energy_resources/publications/natural_resources_environment/2020-21/spring/what-expect-federal-climate-policy-2021 [https://perma.cc/52ZP-TA6J].

40. Livermore & Richardson, *supra* note 5, at 46-48.

41. John Canaan, *A Legislative History of the Affordable Care Act: How Legislative Procedure Shapes Legislative History*, 105 L. LIBR. J. 131 (2013).

included regulations tightening fuel economy standards and regulation of mercury emissions into the atmosphere (which would have had the secondary effect of limiting carbon emissions), to name just a few. The Clean Power Plan, by itself, was the most significant regulatory step taken against climate change in U.S. history; in tandem with these additional environmental regulations, they represent a sweeping attempt to curb American greenhouse gas emissions.

And then came Trump. As the introduction noted, Trump campaigned on a series of pledges to undo essentially everything that Obama had done, including the Clean Power Plan and his environmental initiatives. Upon assuming office, this is precisely what the Trump EPA did. Over the course of four years, his administration promulgated regulations reversing many of President Obama's regulatory initiatives, including the Clean Power Plan,⁴² though that deregulation was blocked by the D.C. Circuit.⁴³ Trump also dramatically scaled back Obama's fuel economy regulation and repealed Obama's mercury and light bulb efficiency regulations, among many other environmental rules.

President Biden has vowed to reinstate many (if not all) of these rules, and it is likely that his EPA is at work on them as of this writing. By the end of Biden's first term, it would be surprising if environmental protections equal or greater in stringency to the regulations imposed by Obama were not in place. That almost certainly includes further regulation of greenhouse gases. Having been turned in one direction by Trump, the tide of regulation will oscillate back under Biden.

Of course, this is not how the story ends. At some later—but not too distant—point in time, a Republican president will take office. Indeed, in the 72 years between 1952 (when President Truman left office) and 2024 (when President Biden will conclude his first term), Republicans will have held the presidency for 40 years and Democrats will have held it for 32 years. No party will have controlled the presidency for more than 12 consecutive years. The political situation in the United States is largely one of dynamic equipoise, with neither party able to assert control over the long term (despite constant speculation to the contrary).⁴⁴ Given the schism in American politics regarding climate change, this Republican president will likely favor eliminating or dramatically scaling back existing climate regulation. The administration will then undertake this task of repealing or neutering the climate-change regulations

42. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60); *Affordable Clean Energy Rule*, ENV'T. PROT. AGENCY (2021), <https://www.epa.gov/stationary-sources-air-pollution/affordable-clean-energy-rule> [<https://perma.cc/A8ED-SQKN>]; *Fact Sheet: Overview of the Clean Power Plan*, ENV'T PROT. AGENCY (JAN. 19, 2017), https://19january2017snapshot.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan_.html [<https://perma.cc/G549-4N8B>].

43. For a longer discussion of the legal and political dynamics surrounding the Clean Power Plan repeal, see *infra* notes 102-109 and accompanying text.

44. DYLAN LOEWE, PERMANENTLY BLUE: HOW DEMOCRATS CAN END THE REPUBLICAN PARTY AND RULE THE NEXT GENERATION (2010); Steve Benen, *Republican Leader Envisions a 100-Year Majority*, MSNBC (Nov. 6, 2014, 8:01 AM), <https://www.msnbc.com/rachel-maddow-show/republican-leader-envisions-100-year-majority-msna452886> [<https://perma.cc/K5RM-HD4U>].

promulgated under the prior administration. And then, at some point even further beyond, a Democrat will again assume the presidency and reinstate the relevant climate regulations. Regulatory oscillation continues.

This type of long-term regulatory uncertainty is essentially always harmful, irrespective of the policy in question.⁴⁵ Businesses that face an uncertain regulatory environment will be reluctant to make long-term investments that depend upon the regulatory rules in place. A firm that doesn't know whether some regulatory incentive for wind-powered electricity generation will persist through the next administration may refrain from installing new wind-powered generation, to the detriment of the goal of reducing warming. But regulatory oscillation is especially damaging when the policy at issue is one that is so clearly beneficial to the world. Every year that climate-change regulation is not in effect—which could be roughly 50% of all years, given recent political history—is another year in which environmental damage is being done that could have been avoided but will be difficult to reverse.⁴⁶ Every additional ton of carbon dioxide will be much costlier to remove from the atmosphere than it was to emit in the first instance.⁴⁷

The problem is exacerbated in the context of climate change because of the international nature of the problem. Effectively curbing climate change requires international cooperation: even if the United States dramatically reduces its greenhouse gas emissions, the globe might continue to warm unless Europe, China, and other countries do the same.⁴⁸ In addition, climate change presents a collective action problem: it is in no country's interest to act alone, because it would incur the full costs of cutting carbon emissions while reaping only minimal benefits if other nations do not act similarly.⁴⁹ It is essential that the major polluting nations arrive at international agreements to jointly curb climate emissions. International agreements, like all contracts, depend critically on the ability to make credible commitments—one nation will only live up to its agreements to cut greenhouse gas emissions if it believes that other nations will do the same. But if the United States cannot create durable climate policy—if it

45. Livermore & Richardson, *supra* note 5, at 48.

46. *Is it Too Late to Prevent Climate Change?*, NAT'L AERONAUTICS & SPACE ADMIN. (2021), <https://climate.nasa.gov/faq/16/is-it-too-late-to-prevent-climate-change> [<https://perma.cc/83AZ-TKJV>]; David Herring & Rebecca Lindsey, *Can We Slow or Even Reverse Global Warming?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (Oct. 29, 2020), <https://www.climate.gov/news-features/climate-qa/can-we-slow-or-even-reverse-global-warming> [<https://perma.cc/U7YQ-9E6Q>].

47. Renee Cho, *Can Removing Carbon From the Atmosphere Save Us From Climate Catastrophe?*, COLUM. CLIMATE SCH.: STATE OF THE PLANET (Nov. 27, 2018), <https://news.climate.columbia.edu/2018/11/27/carbon-dioxide-removal-climate-change> [<https://perma.cc/TBX4-NUDS>]; Frank Swain, *The Device That Reverses CO₂ Emissions*, BBC (Mar. 11, 2021), <https://www.bbc.com/future/article/20210310-the-trillion-dollar-plan-to-capture-co2> [<https://perma.cc/643B-2CN6>].

48. Jonathan S. Masur & Eric A. Posner, *Climate Regulation and the Limits of Cost-Benefit Analysis*, 99 CALIF. L. REV. 1557, 1587-91 (2011).

49. Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 31 HARV. ENV'T L. REV. 1, 5-8 (2007).

is doomed to a world of regulatory oscillation—it will be extraordinarily difficult to form and maintain these essential international agreements.⁵⁰

Now, regulatory oscillation is not an immutable structural fact of American government. It is the contingent result of our politics and structure of government. A strong executive, coupled with hyper-partisanship, a roughly evenly divided polity, and the Senate filibuster rule combine to make regulation an enormously more feasible and attractive policy tool than legislation. American politics (or the politics of climate change) could always undergo another seismic realignment that would eliminate regulatory oscillation. Or, for that matter, the Senate could eliminate the filibuster rule (or the United States could shift to a parliamentary system of government), making legislation a much more plausible alternative.⁵¹ But until one or more of these things occur—and they do not appear to be on the horizon—the conditions for regulatory oscillation will remain in place.

Importantly, regulatory oscillation is also the contingent result of our system of administrative law. In particular, it depends upon the push and pull between the policy discretion afforded to agencies and the constraint to which they are subjected. In more familiar doctrinal terms, the existence of regulatory oscillation depends upon the balance and relationship between *Chevron* deference and (most notably) cost-benefit analysis. The next Part describes and analyzes this relationship.

II. *Chevron* and Cost-Benefit Analysis: A Dance of Discretion and Constraint

A. *Chevron*

At the core of regulatory oscillation lies *Chevron* deference. As any reader of the *Yale Journal on Regulation* must surely know, *Chevron v. NRDC* requires courts to defer to reasonable agency interpretations of ambiguous statutory language.⁵² Moreover, the meaning of ambiguous statutory language can never be settled. An agency might espouse one reasonable view, and the courts must defer to that view. If the agency later changes its mind and adopts a different reasonable view, the courts must similarly defer to that view, assuming that the agency offers a “detailed justification” for its shift in position.⁵³

50. See Bobby Magill, *Lawsuit Aims to Overturn Obama’s Clean Power Plan*, SCI. AM. (Apr. 12, 2016), <https://www.scientificamerican.com/article/lawsuit-aims-to-overturn-obama-s-clean-power-plan/> [<https://perma.cc/885X-S38R>] (noting that the court challenge could overturn a plan that scientists regarded as crucial to compliance with the Paris agreement).

51. This might then usher in an era of “legislative oscillation.” See Jonathan S. Masur, *Legislative Oscillation* (forthcoming 2031).

52. *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

53. *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967 (2005); see also Masur, *supra* note 15 (explaining that agencies can shift position and receive deference to their new views, assuming they are adequately justified).

For most of the past three decades, environmental advocates and other supporters of regulation have celebrated *Chevron* deference and the flexibility it provides to agencies. Precisely because it permits agencies to select their preferred policies, rather than being bound by a court's interpretation of the law, *Chevron* has been thought to make possible much broader and far-reaching regulation than could have occurred in a world without deference.

Yet it is also *Chevron* that creates space for regulatory oscillation.⁵⁴ If courts treated the meaning of the relevant provisions of the Clean Air Act as fixed and unchanging, agencies would have little—or in some cases, zero—room to maneuver. The EPA would be bound by whatever the courts declared the Clean Air Act to mean, full stop. That might involve a high level of regulatory stringency, if courts interpreted the relevant provisions of the Clean Air Act to require strict regulation irrespective of countervailing considerations.⁵⁵ It might require a low level of regulatory stringency, if courts interpreted the relevant provisions of the Clean Air Act to require only limited regulation. It might involve no regulation at all, if courts interpreted the Clean Air Act to not reach the pollutant at issue.⁵⁶ But it would involve *one* level of regulatory stringency, rather than a range of reasonable alternatives across which policy could oscillate over time.

The critical point is that *Chevron* facilitates deregulation just as much as it facilitates regulation.⁵⁷ Indeed, the Trump EPA used *Chevron* to defend several of its repeals of Obama-era regulation.⁵⁸ The Trump EPA argued that it had arrived at a different interpretation of the statute than the Obama EPA had adopted, and that this varying interpretation was entitled to deference under *Chevron*.⁵⁹ In the same vein, it is telling that anti-regulation conservatives were strong supporters of *Chevron* deference during the deregulatory Reagan years.⁶⁰ It is only in the decades since, during the period of increasing regulatory stringency, that the political valence of *Chevron* has flipped.⁶¹ Deference is a double-edged sword for the administrative state.

B. Cost-Benefit Analysis

At the other pole from *Chevron* lies the possibility of administrative constraint. There are any number of potential mechanisms by which agency decision-making might be constrained, either procedurally or substantively. Indeed, nearly all of administrative law, from notice-and-comment rulemaking

54. See Livermore & Richardson, *supra* note 5, at 69.

55. See *infra* Section III.C.

56. See *infra* Section III.B.

57. Jonathan S. Masur & Eric A. Posner, *Cost-Benefit Analysis and the Judicial Role*, 85 U. CHI. L. REV. 935, 945-949 (2018).

58. Masur & Posner, *supra* note 18, at 1113-14, 1136-48.

59. *Id.* at 1132-35.

60. See Jeffrey A. Pojanowski, *Without Deference*, 81 MO. L. REV. 1075, 1091-92 (2016).

61. Gregory A. Elinson & Jonathan S. Gould, *The Politics of Deference*, 75 VAND. L. REV. 475 (2022).

to arbitrary and capricious review, might be thought of as a series of mechanisms of administrative constraint.⁶² The absence or rejection of *Chevron* is itself a form of administrative constraint.⁶³ But perhaps the most important form of administrative constraint in the modern era has been cost-benefit analysis.

Again, as any reader of the *Yale Journal on Regulation* surely knows, cost-benefit analysis is a decision procedure used to determine whether a putative regulation or project is worth undertaking.⁶⁴ Using cost-benefit analysis, the decision-maker—here, an administrative agency—assesses the benefits of the regulation (whatever they may be) and translates those benefits into dollar terms, assesses the costs of the regulation and translate those costs into dollar terms, and then compares the two.⁶⁵ The regulation “passes a cost-benefit test” or “is cost-benefit justified” and thus worth undertaking if (and only if) the benefits exceed the costs.

In stark contrast to *Chevron*, cost-benefit analysis (CBA) has long been pilloried by supporters of regulation and environmental protection as inherently anti-regulatory. This critique has assumed two forms. First, opponents of cost-benefit analysis have claimed that the process of CBA will inherently lead to the under-counting of benefits and the over-counting of costs.⁶⁶ There are several reasons for this belief. One is that benefits are inherently harder to measure than costs.⁶⁷ Costs are typically economic—they are denominated in dollars and cents and thus are easier to price and to include in a CBA. Benefits, by contrast, often relate to health and safety, which makes their measurement or translation into dollars more challenging.⁶⁸ Or they may relate to even more ephemeral goods such as dignity or equality, in which case they are even more difficult to gauge and tabulate.⁶⁹ Relatedly, the parties who will be forced to bear regulatory costs—typically corporations—often know ahead of time that they will be bear those costs. This gives them an incentive to report those costs robustly—perhaps

62. See Cary Coglianese, Gabriel Scheffler & Daniel E. Walters, *Unrules*, 73 STAN. L. REV. 885, 892 (2021) (discussing the constraints administrative law places on agencies to impose obligations); Jacob Gersen & Adrian Vermeule, *Thin Rationality Review*, 114 MICH. L. REV. 1355, 1396-97 (2016).

63. See *United States v. Mead Corp.*, 533 U.S. 218 (2001); *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 155 (2000); Thomas W. Merrill & Kristin E. Hickman, *Chevron's Domain*, 89 GEO. L.J. 833, 834-35 (2001); Cass R. Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187, 190 (2006).

64. MATTHEW D. ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* 3-4 (2006).

65. *Id.*

66. See, e.g., David M. Driesen, Douglas A. Kysar & Amy Sinden, *Cost-Benefit Analysis: New Foundations on Shifting Sand*, 3 REG. & GOVERNANCE 48, 55-56 (2009); FRANK ACKERMAN & LISA HEINZERLING, *PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING* (2004); Frank Ackerman & Lisa Heinzerling, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, 150 U. PA. L. REV. 1553 (2002); Sidney A. Shapiro & Christopher H. Schroeder, *Beyond Cost-Benefit Analysis: A Pragmatic Reorientation*, 32 HARV. ENV'T L. REV. 433 (2008).

67. See Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405 (2005) (noting that regulation usually produces non-economic gains).

68. Ackerman & Heinzerling, *supra* note 66, at 1556-60, 1563-68.

69. Rachel Bayefsky, *Dignity as a Value in Agency Cost-Benefit Analysis*, 123 YALE L.J. 1732 (2014).

too robustly, in some cases.⁷⁰ By contrast, the beneficiaries of regulation can rarely be identified in advance. It is impossible to know precisely who will not die of lung cancer or contract emphysema because of cleaner air.⁷¹ Those parties thus have no ability and no interest in attempting to demonstrate the magnitude of the benefits they will receive.⁷²

This objection has some force with respect to CBA as it has historically been practiced. There are a wide variety of contexts in which agencies have failed to count or tabulate benefits that should have been part of its calculation.⁷³ At the same time, agencies have systematically undercounted costs throughout the history of CBA, particularly costs related to unemployment.⁷⁴ It is impossible to know whether CBA, across its entire history as part of the administrative state, has under- or over-counted benefits or costs more in the aggregate. Accordingly, it seems incorrect that CBA will inherently lead to under-counting of benefits and over-counting of costs. The opposite could be true and likely has been true in many contexts, depending on how CBA has been performed. Nonetheless, it seems incontrovertible that the process of performing cost-benefit analysis could be improved in a variety of ways.

The second critique relates to the bare fact that CBA imposes another procedural requirement on regulation. Anything that raises the costs of regulation will necessarily result in less regulation, critics argue.⁷⁵ Cost-benefit analysis raises the costs of regulation in multiple ways.⁷⁶ It forces agencies to undertake costly and time-consuming analyses involving thousands of hours of staff time. And it offers another reason for OIRA, or the agency itself, or some external body to reject the regulation, raising the possibility that all of the work involved in crafting the regulation will be for naught. This critique would apply to any additional procedural (or substantive) requirement imposed upon an agency before it was permitted to regulate. Indeed, the entire structure of notice-and-comment rulemaking has been subjected to the same type of criticism.⁷⁷ But it has particular resonance with regard to CBA because CBA was late to the game, having been introduced during the Reagan Administration after agencies had

70. Sinden, *supra* note 67, at 1412, 1436-46.

71. See Douglas A. Kysar, *Discounting . . . on Stilts*, 74 U. CHI. L. REV. 119, 119-20 (2007) (discussing this issue in the context of discounting).

72. See Sinden, *supra* note 67, at 1428-29.

73. Jonathan S. Masur & Eric A. Posner, *Unquantified Benefits and the Problem of Regulation Under Uncertainty*, 102 CORNELL L. REV. 87 (2016).

74. Jonathan S. Masur & Eric A. Posner, *Regulation, Unemployment, and Cost-Benefit Analysis*, 98 VA. L. REV. 579, 580-85 (2012).

75. See Henry S. Richardson, *The Stupidity of the Cost-Benefit Standard*, 29 J. LEG. STUD. 971 (2000).

76. David M. Driesen, *The Societal Cost of Environmental Regulation: Beyond Administrative Cost-Benefit Analysis*, 24 ECOLOGY L.Q. 545, 547-49, 579 (1997).

77. See Anne Joseph O'Connell, *Political Cycles of Rulemaking: An Empirical Portrait of the Modern Administrative State*, 94 VA. L. REV. 889, 907-14 (2008).

already been regulating for some time.⁷⁸ CBA thus feels unnecessary—what was wrong with the pre-CBA era of regulation?—which leads the costs to loom larger.

Defenders of CBA have typically demurred to this objection. It is true that CBA imposes costs on regulators and makes regulation more difficult—every procedural requirement would do the same. But CBA's benefits far outweigh its costs. Ensuring that agencies only promulgate regulations that do more good than harm is a fundamental goal of government. The costs of misguided regulation (or inadequate regulation) dwarf the process costs of CBA by many magnitudes. If CBA limits the amount of regulation, that is likely to be a feature, rather than a bug—the regulations that are rejected are likely to be welfare-diminishing. CBA is thus a worthwhile procedural investment, far more valuable than many of the other procedural requirements imposed on and by the government.

For many CBA critics, however, this defense has never been less satisfying than at the current moment. One reason is that it is by now beyond cavil that climate change presents an enormous, urgent global problem.⁷⁹ Something must be done about the warming of the planet, and immediately. Given that fact, why bother with CBA? If there is no question regarding the need for regulation to combat climate change, why should agencies be put to the trouble of analyzing it? In addition, the fact of legislative gridlock has magnified the costs of any process that inhibits agency action. Even if CBA might be justified in normal times, when Congressional legislation could relieve some of the pressure on agencies to act, it is not justified in these abnormal times.

On their face, these critiques may seem appealing. It *is* true that it's essential to take action immediately to combat climate change. And it *is* true that such action is extraordinarily unlikely to come from Congress—if any organ of government is going to act to curb climate change, it will almost surely be the EPA, the Department of Energy, or a similar agency.

One response from defenders of CBA might be that the details still matter. It is possible to create more or less effective climate regulations, regulations that do more or less to curb climate change at greater or lesser cost to society. How will an agency know which regulations to enact without performing a cost-benefit analysis? Even if the choice is between one type of climate regulation or another, CBA is still critical.

But that type of answer is weak beer to CBA's critics. It is not enough of a reason to justify CBA, writ large. Perhaps the agency should just enact any or all regulations, details be damned, and as quickly as possible. In addition, critics might say, it is not enough to justify CBA as a legal requirement. Perhaps the agency, of its own accord, should engage in some type of CBA in order to select the best possible regulation. But OIRA, much less the courts, should not be

78. Exec. Order No. 12,291, 3 C.F.R. § 127 (1982), *reprinted in* 5 U.S.C. § 601 note at 431 (1982), *revoked by* Exec. Order No. 12,866, 3 C.F.R. § 638 (1993), *reprinted in* 5 U.S.C. § 601 app. (2018).

79. *See infra* notes 45-50 and accompanying text.

looking over its shoulder, and agency regulation should not be rejected on account of the agency's failure to produce a CBA that satisfies an external institution.⁸⁰ Yet this entire debate, with defenders of CBA couched as anti-regulatory minimalists and critics of CBA positioned as pro-regulatory environmental advocates, misunderstands the operation of CBA in an era of potential deregulation. To be sure, cost-benefit analysis stands as a barrier to regulation when the benefits cannot be shown to exceed the costs. But it also stands as a barrier to *deregulation* when the benefits of that deregulation cannot be shown to exceed the costs.⁸¹ That is, if some existing regulation is producing benefits in excess of costs, eliminating that regulation would necessarily produce costs in excess of benefits.⁸² Deregulation would fail a cost-benefit test.

Cost-benefit analysis is thus better understood as status quo-reinforcing. Cost-benefit analysis would counsel rejection of any changes to the status quo that would not demonstrably produce greater benefits than costs. If the status quo is a state of zero or low regulation, then cost-benefit analysis will make regulation more difficult.⁸³ But if the status quo is a state of meaningful regulation, then cost-benefit analysis serves to entrench that regulation against attempts to uproot it. There is a symmetry to its operation that has gone unappreciated.

That symmetry depends, however, on the mechanics of CBA remaining relatively constant. Different administrations could conceivably tinker with how their agencies conduct cost-benefit analysis to serve their own purposes. Regulatory administrations could alter CBA so as to emphasize regulatory benefits and de-emphasize regulatory costs, perhaps by ignoring unemployment costs; deregulatory administrations could do the opposite, perhaps by ignoring collateral benefits or global benefits. This would usher in a period of "cost-benefit oscillation," which might then facilitate regulatory oscillation. Indeed, the deregulatory Trump administration appears to have attempted this latter strategy.⁸⁴ Yet CBA proved to be highly resilient, as this essay will detail further below.⁸⁵ Despite all of the Trump administration's machinations, it could not make the costs of the Clean Power Plan or a number of other Obama-era regulations exceed their benefits.⁸⁶ To some degree, then, cost-benefit analysis is robust to even the most aggressive attempts to manipulate it.

Consequently, CBA is one potential check—perhaps the most important check—on regulatory oscillation. By depriving agencies of the freedom to enact whatever regulation or deregulation they wish and limiting them to only

80. The legal requirements that attend CBA are discussed at much greater length in Section III.C *infra*.

81. Masur & Posner, *supra* note 58, at 942-43, 946.

82. *Id.* at 942.

83. *Id.* at 946.

84. Masur & Posner, *supra* note 18.

85. Jonathan S. Masur, *Cost-Benefit Analysis Under Trump: A Comment on Dan Farber's "Regulatory Review in Anti-Regulatory Times,"* 94 CHI.-KENT L. REV. ONLINE 665 (2019).

86. Masur & Posner, *supra* note 18.

regulations that pass a cost-benefit test, CBA would inhibit an agency from flipping its regulatory stance back and forth across administrations. CBA and *Chevron* thus stand in tension, but not necessarily as critics and advocates of regulation have long believed. CBA is not inherently anti-regulatory, and *Chevron* is not inherently pro-regulatory. Under the right conditions, and in an era of potential regulatory oscillation, it is entirely possible that *Chevron* might function as an anti-regulatory lever and CBA as a pro-regulatory constraint. In fact, the modern politicization of climate change offers precisely those conditions. The next Part analyzes the effects of administrative deference and constraint on efforts to cool a warming world.

III. Discretion and Constraint in the Regulation of Greenhouse Gases

Efforts to regulate climate-change-producing gases under the Clean Air Act raise at least three important questions at the intersection of discretion and constraint. First, there is the question of whether the EPA can regulate carbon dioxide as an air pollutant under the Clean Air Act in the first place. Second, there is the question of what mode of regulation the EPA may employ when attempting to curb greenhouse gas emissions. In particular, is it limited to traditional modes of regulation, by which it mandated that individual polluters meet an emissions standard based on pollution-reducing technology? Or may it mandate broader-scale, systemic changes that are less focused on one particular polluter? And third, there is the substantive issue of how stringently or loosely greenhouse gas emissions should be regulated. That is, how should the EPA strike the balance between the many benefits from curbing change and the cost and disruption that climate-change regulation will necessarily impose upon people's lives and livelihoods? Each of these issues highlights the consequences of affording agencies greater discretion or imposing greater constraint upon them. And each of them demonstrates the myriad ways in which regulatory oscillation could seep into the regulation of climate change.

A. Carbon Dioxide as “Air Pollutant”

For carbon dioxide to fall within the EPA's purview under the Clean Air Act, it must qualify as an “air pollutant” per the terms of the Clean Air Act.⁸⁷ During the George W. Bush administration, the EPA argued that carbon dioxide was not an air pollutant because it did not remain close to the ground and inflict localized harm on individuals when they breathed it in.⁸⁸ Rather, it entered the

87. See 42 U.S.C. § 7408(a)(1) (2018); *Massachusetts v. E.P.A.*, 549 U.S. 497, 500 (2007) (“Because greenhouse gases fit well within the Act’s capacious definition of ‘air pollutant,’ EPA has statutory authority to regulate emission of such gases from new motor vehicles.”).

88. Memorandum from Robert E. Fabricant, EPA General Counsel, to Marianne L. Horinko, EPA Acting Administrator, 1, 6-7 (Aug. 28, 2003), <https://web.archive.org/web/20040713054423/http://www.epa.gov/airlinks/co2petitioncmemo8-28.pdf> [<https://perma.cc/V4GF-NHNZ>] [hereinafter Fabricant Memo]; see *Massachusetts*, 549 U.S. at 522; Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, 52,925-27 (Sept. 8, 2003).

upper atmosphere, and the harm that inflicted was global and occurred through the trapping of heat.⁸⁹ The Supreme Court rejected this argument in *Massachusetts v. EPA* and declared that carbon dioxide was unambiguously an air pollutant.⁹⁰ Notably, because the Supreme Court viewed the term as unambiguously including carbon dioxide, it did not award *Chevron* deference to the EPA's contrary interpretation.⁹¹

This decision has been treated as settled law by courts and EPA administrators alike since it was handed down, across a time period that spans the Bush, Obama, Trump, and Biden administrations. Yet it is not obvious that it will remain settled law forever. With the retirement of Justice Stephen Breyer, none of the five justices who made up the majority in this case will be on the court for the next term. And of the four justices who dissented and would have deferred to the EPA's interpretation, three of them—Chief Justice Roberts and Justices Thomas and Alito—remain on the Court as part of a six-justice conservative majority.

One possibility is that the Justices might decide that carbon dioxide is *unambiguously* not an air pollutant. If that were to occur, then direct regulation of carbon dioxide under the Clean Air Act would be impossible. This would be a tremendous blow to efforts to slow or reverse global warming via regulation. But it would also be quite a drastic step, given that the dissenters in *Massachusetts v. EPA* did not argue that the statute was unambiguous and the Court held that it unambiguously meant the opposite.

A more likely possibility is for the Court to hold, contrary to *Massachusetts v. EPA*, that the term “air pollutant” is ambiguous. If the Supreme Court reached this result, a subsequent EPA could conclude that carbon dioxide does not qualify as an air pollutant and repeal all climate-change regulation on that basis. Of course, the EPA would have to provide a detailed justification for its change of heart.⁹² But the same Supreme Court that was inclined to overrule *Massachusetts v. EPA* would almost certainly accept whatever reason the EPA proffered, so long as it was plausible. In any event, regardless of how inclined the Supreme Court might be to take such a step, the important point is that climate-change regulation rests on an anti-*Chevron* foundation. With *Chevron* deference to the EPA's interpretation of “air pollutant,” regulatory efforts by one administration could be undone by a subsequent administration. The persistence of climate-change regulation relies on the rejection of *Chevron* deference as to this critical term.

89. Fabricant Memo, *supra* note 88, at 6; *Massachusetts*, 549 U.S. at 523.

90. *Id.* at 525, 529.

91. *Id.* at 529 n.26.

92. *Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 220-223 (2016); *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009).

B. Modes of Environmental Regulation

The second critical issue relates to the mode of regulation required to combat climate change. Most environmental regulation, including most regulation under the Clean Air Act, involves regulation of the pollution source itself.⁹³ Factories or power plants might be required to install a scrubber on their smokestacks or some other type of technology that reduces their emissions.⁹⁴ Firms might be required to switch from using one sort of chemical to another type of chemical that produces less pollution.⁹⁵ But whatever modifications are required by the regulation will take place within the four walls of the pollution source. Carbon dioxide, however, cannot be easily regulated in this fashion.⁹⁶ There is currently no effective “scrubber” that will capture carbon dioxide as it leaves the smokestack and no piece of technology that will reduce the carbon emissions from burning fossil fuels.⁹⁷ The way to reduce carbon dioxide emissions is to change the sources of energy production across the entire energy sector. The Clean Power Plan thus would have effectively required states and utilities to shutter coal-burning power plants and shift electricity generation to clean sources (primarily wind and solar) or, in some cases, natural gas.⁹⁸ That is, the regulatory effect would have been sector-wide, or “outside the fence line,” as opposed to the traditional “inside the fence line” regulation employed against other pollutants.⁹⁹

93. Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48,035, 48,037 (proposed Oct. 16, 2017) (to be codified at 40 C.F.R. pt. 60); Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44,746, 44,748 (proposed Aug. 31, 2018) (to be codified at 40 C.F.R. pts. 51-52, 60).

94. See China Zmuida, *How to Remove Pollutants from Smokestacks*, SCIENCING (Nov. 22, 2019), <https://sciencing.com/how-6340282-remove-pollutants-smokestacks.html> [<https://perma.cc/Y6ET-NK6W>]; *Capturing CO2 Directly from Truck Exhaust and Reducing Emissions 90%*, SCI. TECH. DAILY (Dec. 31, 2019), <https://scitechdaily.com/capturing-co2-directly-from-truck-exhaust-and-reducing-emissions-90> [<https://perma.cc/EY6S-GEUE>]; Masur & Posner, *supra* note 18.

95. See, e.g., National Emission Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Pulp, Paper, and Paperboard Category, 63 Fed. Reg. 18,504, 18,585-87 (Apr. 15, 1998) (requiring pulp and paper producers to switch to less harmful chemicals).

96. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015) (describing carbon capture technology as “energy resource intensive” and expensive).

97. See *U.S. Department of Energy Announces \$110M for Carbon Capture, Utilization, and Storage*, U.S. DEP’T OF ENERGY (Sept. 13, 2019), <https://www.energy.gov/articles/us-department-energy-announces-110m-carbon-capture-utilization-and-storage> [<https://perma.cc/TZU6-STCJ>] (describing the “transformative potential” of carbon capture technology).

98. Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520, 32,523 (July 8, 2019) [hereinafter Repeal of Clean Power Plan].

99. David Roberts, *Obama’s Carbon Rule Hangs on This One Legal Question*, GRIST (Feb. 9, 2015), <https://grist.org/climate-energy/obamas-carbon-rule-hangs-on-this-one-legal-question> [<https://perma.cc/4PP5-V83M>].

Opponents of the Clean Power Plan brought a lawsuit claiming that the EPA had exceeded its statutory authority by regulating in this fashion.¹⁰⁰ The relevant statutory text permits the EPA to create a “system of emission reduction;” the legal question was whether such a “system” could include regulation that extended beyond the fence line to encompass an entire industrial sector.¹⁰¹ That lawsuit was eventually stayed when it became clear that the Trump EPA planned to rescind the Clean Power Plan.¹⁰² Then, the Trump EPA elected to justify its rescission of the Clean Power Plan on precisely these grounds: that the regulation exceeded EPA authority because the Clean Air Act did not permit regulation outside the fence line.¹⁰³ The Trump EPA’s rescission of the Clean Power Plan was *also* challenged in court, now on opposite grounds.¹⁰⁴ The challengers argued that the Clean Air Act *did* permit regulation outside the fence line, and thus that the basis for the Trump EPA’s rescission was itself legally invalid.

The Trump EPA initially claimed that “system of emission reduction” was ambiguous and that its interpretation was entitled to *Chevron* deference.¹⁰⁵ Interestingly, however, it eventually dropped that claim and argued that the language *unambiguously* did not permit the type of regulation called for by the Clean Power Plan.¹⁰⁶ The reasons behind this decision are not disclosed in the regulatory documents and not available in the public record, and so one can only speculate. But it does not seem unreasonable to imagine that the Trump EPA made a strategic decision to seek a judicial ruling that would have permanently tied the EPA’s hands and prevented this type of regulation of carbon dioxide emissions. After all, if the EPA had prevailed under a theory that the text was ambiguous and it deserved *Chevron*, a subsequent EPA could have adopted a contrary interpretation of the text and won *Chevron* deference for its interpretation as well.¹⁰⁷ Republican administrations could have rescinded greenhouse gas regulation; Democratic administrations could have reinstated it. The Trump EPA may have gambled on a more permanent victory rather than settling for regulatory oscillation.

The Trump EPA’s gambit failed. The day before President Trump left office, the D.C. Circuit held that the Clean Air Act permitted the EPA to regulate

100. Bobby Magill, *Lawsuit Aims to Overturn Clean Power Plan*, SCI. AM. (Apr. 12, 2016) <https://www.scientificamerican.com/article/lawsuit-aims-to-overturn-obama-s-clean-power-plan/> [<https://perma.cc/X258-PFFS>].

101. Clean Air Act, 42 U.S.C. § 7411(d)(1) (2018).

102. *D.C. Circuit Scraps Clean Power Plan Litigation*, BLOOMBERG L. (Sept. 17, 2019), <https://news.bloomberglaw.com/environment-and-energy/d-c-circuit-scraps-clean-power-plan-litigation> [<https://perma.cc/9FEG-PLM5>].

103. Repeal of Clean Power Plan, 84 Fed. Reg. at 32,523-24.

104. *Am. Lung Ass’n v. EPA*, 985 F.3d 914 (D.C. Cir. 2021).

105. Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48,035, 48,039 (proposed Oct. 16, 2017) (to be codified at 40 C.F.R. pt. 60).

106. Repeal of Clean Power Plan, 84 Fed. Reg. at 32,532.

107. *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967 (2005); Masur, *supra* note 15.

outside of the fence line as it had done in the Clean Power Plan.¹⁰⁸ This of course meant that the statute did not unambiguously bar the EPA’s actions, as the Trump EPA had argued. Importantly, however, the court also did not hold that the statute *unambiguously permitted* regulation outside of the fence line.¹⁰⁹ It is thus possible that a subsequent Republican EPA might claim the statute is ambiguous, interpret the statute to bar regulation outside the fence line, and request *Chevron* deference as to this interpretation. There are few tea leaves in the D.C. Circuit’s opinion that would shed light on how the court might view that argument, and in any event the judges who voted in this current case may not be the ones drinking the tea at the relevant future moment in time. Nonetheless, the point is that here too, a holding that the statute is ambiguous—which seems well within the realm of possibility—could lead to regulatory oscillation over the long run. The future stability of climate-change regulation may depend to a substantial degree on the latitude the courts choose to award agencies over the meaning of “system of emission reduction.”

C. *The Substantive Regulatory Standard*

The final, and perhaps most important, issue of administrative discretion relates to the substantive pollution standard itself. That is, how stringent or relaxed should EPA’s carbon dioxide emissions standard be? This question, which has been substantially overlooked in the legal debate over climate-change regulation, is obviously of critical importance. Highly stringent emissions rules could dramatically impact the pace of climate change; minimal or meaningless rules could allow it to continue unabated.

The relevant statutory text requires the EPA to select the “best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”¹¹⁰ Greenhouse gas regulation, like nearly all types of environmental regulation, will necessarily involve substantial tradeoffs. The benefits of curbing climate change are substantial, but so are the costs—electricity costs will likely rise for many consumers, new generation facilities will have to be built and old ones shuttered, coal miners will need training for new jobs, and so forth.¹¹¹ The statute explicitly instructs the EPA to assess these tradeoffs when regulating. Whether a particular system of emission reduction has been “adequately demonstrated” depends upon the “cost of achieving such reduction.”¹¹² But how, precisely, should EPA evaluate the tradeoff? What is the

108. *Am. Lung Ass’n*, 985 F.3d 914.

109. Such a ruling would have been unnecessary to the outcome and thus dicta, in any event.

110. 42 U.S.C. § 7411(a)(1) (2018).

111. *Regulatory Impact Analysis for the Clean Power Plan Final Rule*, EPA (Oct. 23, 2015), https://www3.epa.gov/ttnecas1/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf [<https://perma.cc/5ZVW-B39Q>] (describing the relevant costs and benefits of greenhouse gas regulation).

112. 42 U.S.C. § 7411(a)(1) (2018).

proper balance between the value of reducing harm from climate change and the economic and social costs of doing so?

One option is to think of this tradeoff in cost-benefit terms. It is by now well-established that the benefits of acting to curb climate change substantially outweigh the costs.¹¹³ This has been a commonplace within the popular press and advocacy groups for some time.¹¹⁴ But the most thorough and rigorous academic and governmental studies confirm this fact as well.¹¹⁵ In particular, the cost-benefit analysis that accompanied President Obama's Clean Power Plan—the most ambitious climate-change mitigation effort to date—showed benefits that dramatically exceeded costs.¹¹⁶ Some of the assumptions built into that assessment are contestable, but even if those contestable assumptions are resolved against the Obama EPA, the Clean Power Plan still produces far greater benefits than costs.¹¹⁷ Indeed, under the Trump Administration, the EPA conducted a second, separate cost-benefit analysis of the Clean Power Plan using

113. Stephanie T. Waldhoff, Jeremy Martinich, Marcus Sarofim, Benjamin DeAngelo, Jim McFarland, Lesley Jantarasami, Kate Shouse, Allison Crimmins, Sara Ohrel & Jia Li, *Overview of the Special Issue: A Multi-Model Framework to Achieve Consistent Evaluation of Climate Change Impacts in the United States*, 131 CLIMATIC CHANGE 1, 9-18 (2015); *Pathways to a Low-Carbon Economy*, MCKINSEY & CO. 8-16 (2009), <https://www.cbd.int/financial/doc/Pathwaystoalowcarboneyconomy.pdf> [<https://perma.cc/FR94-2JA6>]; Working Group III to the Fourth Assessment Report, *Summary for Policymakers*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 9-18 (2007), <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg3-spm-1.pdf> [<https://perma.cc/6PDA-X57L>]. I was overly pessimistic about how much uncertainty surrounded this question in earlier work. See Masur & Posner, *supra* note 48.

114. Justin Gillis, *Fixing Climate Change May Add No Costs, Report Says*, N.Y. TIMES (Sept. 16, 2014), <https://www.nytimes.com/2014/09/16/science/earth/fixing-climate-change-may-add-no-costs-report-says.html> [<https://perma.cc/G675-DRLP>]; *The 2018 Report of the Global Commission on the Economy and Climate*, THE NEW CLIMATE ECONOMY (Aug. 2018), <https://newclimateeconomy.report/2018/executive-summary> [<https://perma.cc/Q3CR-4V7B>]; *Adapt Now: A Global Call for Leadership on Climate Resilience*, GLOBAL CTR. ON ADAPTATION (Sept. 13, 2019), https://gca.org/wp-content/uploads/2019/09/GlobalCommission_Report_FINAL.pdf [<https://perma.cc/E8AS-U3B7>]; *COP24 Special Report: Health & Climate*, W.H.O. (Dec. 3, 2018), <https://www.who.int/publications/i/item/cop24-special-report-health-climate-change> [<https://perma.cc/95ZN-QY8X>].

115. Marshall Burke, W. Matthew Davis & Noah S. Diffenbaugh, *Large Potential Reduction in Economic Damages Under UN Mitigation Targets*, 557 NATURE 549, 549-53 (2018); Nicole Glanemann, Sven N. Willner & Anders Levermann, *Paris Climate Agreement Passes the Cost-Benefit Test*, 11 NATURE COMM'NS 110 (2020); *2018: Global Warming of 1.5°C*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2018), <https://www.ipcc.ch/sr15/> [<https://perma.cc/NX9Z-Y92T>].

116. *Regulatory Impact Analysis*, *supra* note 111, at ES-10-11. The Clean Power Plan was expected to produce significant benefits related to the reduction in carbon emissions, including benefits to human lives and economic interests worldwide. It was also expected to produce significant benefits related to reductions in pollutants that are similarly released when fossil fuels (especially coal) are burnt. In particular, by shifting electricity generation away from coal-fired (and to some extent natural gas-fired) power plants and toward non-polluting sources, the Clean Power Plan would have dramatically reduced the emission of particulate matter in the United States. Particulate matter is a dangerous carcinogen that causes significant morbidity and mortality every year.

117. In particular, the Obama EPA included in its benefits calculation the global benefits of reducing carbon dioxide emissions, meaning the benefits to all nations and people around the globe. An alternative would have been to include only the national benefits of cost-benefit analysis, namely those benefits that redound to Americans. See Masur & Posner, *supra* note 48, at 1591-92; Daniel A. Farber, *Regulatory Review in Anti-Regulatory Times*, 94 CHI.-KENT L. REV. 383, 415-17 (2019); Arden Rowell, *Foreign Impacts and Climate Change*, 39 HARV. ENV'T L. REV. 371 (2015). This is a contestable choice, as subsequent discussion will illustrate. See *infra* notes 160-172 and accompanying text.

many less favorable assumptions.¹¹⁸ At this point, given the political climate, the agency's leaders had every reason to attempt to skew the CBA so as to disfavor the Clean Power Plan. And yet, even the highly motivated Trump EPA could not help but produce a CBA showing that the Clean Power Plan would yield benefits that substantially exceeded costs.¹¹⁹ Other Obama-era regulations, while not necessarily targeted directly at climate change, would have also impacted greenhouse gas emissions significantly and similarly produced benefits in excess of costs. One example was a regulation raising fuel economy standards.¹²⁰ This regulation was expected to produce a variety of benefits, including a significant reduction in greenhouse gases due to reduced gasoline use.¹²¹ A cost-benefit analysis of this regulation similarly indicated that it would generate benefits that substantially outweighed its costs.¹²² All of this is to say that when a regulation to curb climate change is analyzed under a cost-benefit test, the analysis reveals that the regulation produces greater benefits than costs. Although analyses have not been done for every variety of regulation, there is reason to believe that the more stringent the regulation, the greater the net benefits.¹²³ Indeed, it is entirely possible that cost-benefit analysis would support dramatic climate-change regulation, perhaps even including complete de-carbonization of the American economy.¹²⁴ Cost-benefit analysis is much friendlier to climate-change regulation than its critics assume.

In the alternative, one could imagine the language of the Clean Air Act to require something like “feasibility analysis,” which the EPA and the Occupational Safety and Health Administration have used when regulating under other statutory provisions.¹²⁵ Feasibility analysis calls for the agency to adopt the most stringent regulation that is both technologically and economically

118. *Regulatory Impact Analysis for the Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program*, EPA at ES-10-12 (2018), https://www.epa.gov/sites/production/files/2018-08/documents/utilities_ria_proposed_ace_2018-08.pdf [<https://perma.cc/EM6N-X2NM>] [hereinafter *Regulatory Impact Analysis*].

119. *Id.* at ES-16 tbl.ES-12.

120. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624 (Oct. 15, 2012) (codified at 40 C.F.R. pts. 85-86, 600; 49 C.F.R. pts. 523, 531, 533, 536-37).

121. *Final Regulatory Impact Analysis, Corporate Average Fuel Economy for MY 2017-MY 2025 Passenger Cars and Light Trucks*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN. 3-4, tbl.2 (2012), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/fria_2017-2025.pdf. [<https://perma.cc/4EQA-4LVW>].

122. *Id.*

123. This was certainly the case for the Clean Power Plan. See *Regulatory Impact Analysis*, *supra* note 118.

124. The science and politics of greenhouse gas mitigation are still surrounded by enough uncertainty that a truly decisive conclusion is not yet possible. See Masur & Posner, *supra* note 48. But this conclusion is at least plausible given the current state of science and the apparent willingness of other countries to take steps to curb climate change if and only if the United States acts.

125. Jonathan S. Masur & Eric A. Posner, *Against Feasibility Analysis*, 77 U. CHI. L. REV. 657 (2010).

“feasible.”¹²⁶ Technological feasibility means that the technology to implement the standard actually exists; in the context of climate change, where non-polluting sources of energy are already in use, that is not an issue.¹²⁷ Economic feasibility means that the regulation will not cause widespread bankruptcies or mass layoffs within the regulated industry.¹²⁸ For many years, feasibility analysis was thought of as more regulation-friendly than cost-benefit analysis because everyday costs alone were not reason enough to hold off on regulation—only decimation of an industry sufficed as a possible counterweight.¹²⁹ However, it should be clear that in the context of climate change, feasibility analysis might compel much *less stringent* regulation than cost-benefit analysis.¹³⁰ The reason is that many particularly effective forms of climate-change regulation will bankrupt or even eliminate some industries, such as the coal mining industry. A regulation that led to 100% unemployment among coal miners might well pass a cost-benefit test but fail a feasibility test.

Though they are likely the most plausible, cost-benefit analysis and feasibility analysis are not the only conceivable interpretations of this statutory test. In the direction of greater regulatory stringency, one could also imagine even more permissive versions of the feasibility test. For instance, an agency could decide that a system of emission reduction is adequately demonstrated if it does not lead to widespread bankruptcies or massive permanent layoffs across the American economy as a whole—that is, if it does not massively debilitate the American economy. We might call this “weak feasibility.” One could imagine the statutory language being interpreted in this fashion, though so far as is evident no agency has ever attempted to construe the Clean Air Act or a similar statute in this manner. Such an extreme position—maximal environmental regulation, unless it causes huge economic dislocation—also seems like an imperfect fit with the statutory language, which requires that the technology be “adequately demonstrated” and explicitly requires consideration of cost. But it is an imaginable interpretation nonetheless.

Finally, one could imagine an interpretation that dictated much more lax regulation. This hypothetical interpretation might place much greater emphasis on the costs involved and much less on the environmental benefits to be realized. Under this interpretation, any system of emissions reduction that imposed substantial costs would be viewed as not “adequately demonstrated” and thus not permitted, irrespective of how great the benefits from regulation might be. Or,

126. David M. Driesen, *Distributing the Costs of Environmental, Health, and Safety Protection: The Feasibility Principle, Cost-Benefit Analysis, and Regulatory Reform*, 32 B.C. ENV'T AFF. L. REV. 1 (2005); Lisa Heinzerling, *Statutory Interpretation in the Era of OIRA*, 33 FORDHAM URBAN L.J. 1097 (2006); Shapiro & Schroeder, *supra* note 66.

127. See Driesen, *supra* note 126, at 2-3. It is worth noting, however, that technological feasibility depends upon whether regulation outside the fence line is permitted. See *supra* Section III.B.

128. *United Steelworkers of Am. V. Marshall*, 647 F.2d 1189, 1272 (D.C. Cir. 1980); Masur & Posner, *supra* note 125.

129. See Heinzerling, *supra* note 126 at 1101-04; Shapiro & Schroeder, *supra* note 66.

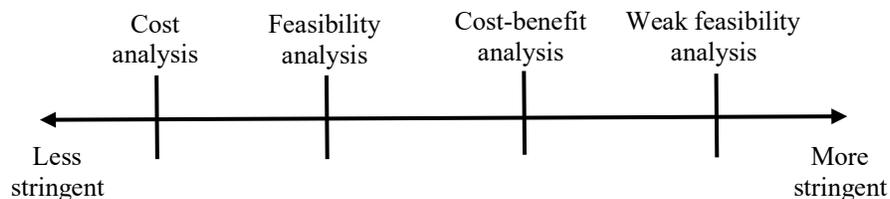
130. Eric Posner and I suggested this more than a decade ago, though at that point we didn't have the example of climate change in mind. Masur & Posner, *supra* note 125, at 697-98.

one could imagine a slight variant on this rule that says that regulation is only permissible if benefits exceed costs by a vast margin, or by some predetermined multiple. We might call this “cost analysis” due to its focus on costs.

This interpretation would be highly anti-regulatory. Even regulation likely to produce benefits well in excess of costs—such as climate regulation—might be understood to exceed the agency’s statutory authority. Like “weak feasibility analysis,” this seems like an unlikely candidate for how a court might understand the statute. The statute calls for the “best system of emission reduction,” and it would appear inconsistent with the thrust of the text to hold that an effective system is not “adequately demonstrated” just because it will impose costs. All regulation imposes costs of some type, and the question is usually whether those costs outweigh the benefits. Yet it too is within the realm of possibility, though perhaps distantly so.

We can array these possibilities on a line based on the stringency of climate regulations that the interpretation produces. Figure 1 displays this graphically, from least stringent to most stringent.

Figure 1: Possible Substantive Interpretations of the Clean Air Act



If a court were to interpret the relevant language in the Clean Air Act to *unambiguously* require that the agency regulate according to cost analysis or, much more plausibly, feasibility analysis, this would likely prevent the EPA from using the Clean Air Act to regulate greenhouse gases. And if a court were to interpret the relevant statutory language to *unambiguously* require that the agency regulate according to cost-benefit analysis or weak feasibility analysis, that would require the EPA to regulate greenhouse gases and do so in a way that was entrenched against changes in administration. Even though agencies traditionally receive substantial deference to decisions not to regulate,¹³¹ the relevant statutory section states that the EPA administrator “shall prescribe regulations.”¹³² As the Court made clear in *Massachusetts v. EPA*, discretion not to regulate is cabined by language of that type.¹³³ Thus, if a court were to interpret the Clean Air Act to require regulation according to cost-benefit analysis or something even more stringent, it would effectively lock the EPA into significant greenhouse gas mitigation regulation.

131. *Massachusetts*, 549 U.S. at 527-28; see *Chevron*, 467 U.S. at 842-45.

132. 42 U.S.C. § 7411(d)(1) (2018).

133. *Massachusetts*, 549 U.S. at 533.

On the other hand, if the courts were to view the language of the Clean Air Act as ambiguous and permitting of multiple reasonable interpretations, the result could be regulatory oscillation.¹³⁴ So long as both cost-benefit analysis and feasibility analysis were within the realm of reasonableness, an administration favorable or hostile to climate-change regulation would have at its disposal at least one interpretive option that would permit it to regulate (or de-regulate) as it chose.¹³⁵ Thus, the stakes of this interpretive decision are high.

Yet the law on this question is surprisingly unsettled given its centrality to administrative regulation and the four decades of history of regulation under the Clean Air Act. Cost-benefit analysis was originally a creature of executive order. It was first required in the administrative state by an executive order issued by President Reagan,¹³⁶ and subsequently reaffirmed and expanded by further executive orders issued by Presidents Clinton¹³⁷ and Obama.¹³⁸ All of these executive orders state explicitly that the requirement that agencies conduct cost-benefit analysis creates no rights enforceable by anyone in court.¹³⁹ That is to say, under the plain understanding of these executive orders, no private party can bring suit against an administrative agency for failing to conduct a cost-benefit analysis, for conducting a shoddy cost-benefit analysis, or for issuing a regulation despite the fact that the CBA reveals that it will produce greater costs than benefits. Cost-benefit analysis was thus conventionally understood as internal to the executive branch. The Office of Information and Regulatory Affairs could reject agency action on account of the results (or non-existence) of a cost-benefit analysis. But no party outside of the executive branch had authority to call a regulation into question on account of its CBA or lack thereof.

This view of CBA as internal to the executive branch was, for many years, mirrored by hostility from the courts. In 2001, in *Whitman v. American Trucking*, the Court interpreted a similar provision of the Clean Air Act to bar any consideration of costs in regulation.¹⁴⁰ That is, when choosing whether or how stringently to regulate, the Court held that the agency could not take into consideration the magnitude of regulatory costs that its regulation would create.

134. The D.C. Circuit has, in the past, deferred to EPA regulations that both did and did not rely on cost-benefit analysis. Compare *Portland Cement Ass'n v. Train*, 513 F.2d 506, 507-08 (D.C. Cir. 1975) (suggesting that CBA should be “considered” but is not necessary); *Lignite Energy Council v. EPA*, 198 F.3d 930, 933 (D.C. Cir. 1999) (same, noting the EPA’s “considerable discretion” under the Clean Air Act), with *Portland Cement Ass'n v. EPA*, 665 F.3d 177, 190-91 (D.C. Cir. 2011) (holding that the EPA had appropriately employed cost-benefit analysis).

135. See *Portland Cement Ass'n*, 513 F.2d at 507-08 (suggesting a type of feasibility analysis in which regulation should not be implemented when the “costs of meeting standards would be greater than the industry could bear and survive”); *Sierra Club v. EPA*, 499 F.3d 653, 655 (7th Cir. 2007) (holding, with respect to another section of the Clean Air Act, that EPA need not consider an option that would have required a complete replacement of a coal-fired power plant).

136. Exec. Order No. 12,291, 3 C.F.R. § 127 (1982), reprinted in 5 U.S.C. § 601 note at 431 (1982), revoked by Exec. Order No. 12,866, 3 C.F.R. § 638 (1993), reprinted in 5 U.S.C. § 601 app. (2018).

137. Exec. Order No. 12,866, 3 C.F.R. § 638 (1993), reprinted in 5 U.S.C. § 601 app. (2018).

138. Exec. Order No. 13,563, 3 C.F.R. § 215 (2011), reprinted in 5 U.S.C. § 601 app. (2018).

139. See, e.g., *id.*

140. *Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 458 (2001).

There were scattered lower-court decisions that rejected regulations for failing to perform cost-benefit analysis or for promulgating regulations that did not pass a cost-benefit test.¹⁴¹ But for the most part, CBA was the province of the executive branch, and the quality (or absence) of an agency CBA was not a means by which agency regulation could be overturned.¹⁴²

By 2009, the Supreme Court's stance had softened. Interpreting a statute similar to § 111 of the Clean Air Act, the Court held that agencies could regulate according to a cost-benefit analysis, though they were not required to.¹⁴³ That case involved a section of the Clean Water Act that required the EPA to implement the “best technology available for minimizing environmental impact.”¹⁴⁴ Despite language that seemed to favor regulation irrespective of costs, the Court held that the EPA could take costs into account when determining the appropriate level of regulation. Wrote the Court:

“[B]est technology” may also describe the technology that *most efficiently* produces some good. In common parlance one could certainly use the phrase “best technology” to refer to that which produces a good at the lowest per-unit cost, even if it produces a lesser quantity of that good than other available technologies.¹⁴⁵

Put into *Chevron* terms, the Court held that this statutory text was ambiguous. It would have been reasonable for the agency to have chosen a level of regulation that maximized environmental protection irrespective of costs; it was reasonable for the agency to have chosen a level of regulation that maximized benefits net of costs pursuant to a cost-benefit analysis. Other interpretations, including interpretations much less friendly to regulation, might also have been viewed as reasonable. Needless to say, this understanding of the statute opened the door to regulatory oscillation.

Then, six years later, the Court held in *Michigan v. EPA* that the EPA was required to weigh costs and benefits when regulating under a statute that permitted regulation only when it was “appropriate and necessary.”¹⁴⁶ Perhaps more importantly, the Supreme Court held that an agency could not proceed with regulation when the costs seemed to substantially outweigh the benefits.¹⁴⁷ The Court stopped short of requiring full-blown CBA or specifying the form that it must take. But it made clear that benefits well in excess of costs would likely be rejected.

Importantly, the Court arrived at this holding despite agency claims to *Chevron* deference for its contrary interpretation. We should thus understand this

141. See, e.g., *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991); *Bus. Roundtable v. S.E.C.*, 647 F.3d 1144 (D.C. Cir. 2011); Caroline Cecot & W. Kip Viscusi, *Judicial Review of Agency Benefit-Cost Analysis*, 22 *GEO. MASON L. REV.* 575, 608 (2015).

142. Gersen & Vermeule, *supra* note 62, at 1396-97.

143. *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 218 (2009).

144. 33 U.S.C. § 1326(b) (2018).

145. *Entergy*, 556 U.S. at 218.

146. *Michigan v. E.P.A.*, 576 U.S. 743, 747-749 (2015).

147. *Id.* at 751-53.

holding to mean that the statute unambiguously does not permit regulation where costs would dramatically exceed benefits. That does not necessarily mean that the Court believed that the statute would *require* regulation where benefits exceeded costs—that is, that the agency would violate the statute if it did not regulate under those circumstances. Nonetheless, the decision substantially narrowed the range of potential interpretations of the statute and thus substantially reduced the possibility of regulatory oscillation.

The Supreme Court was somewhat opaque regarding its source of law. Cass Sunstein has argued that it falls under the heading of “hard look” or “arbitrary and capricious review,” per Section 706 of the Administrative Procedure Act.¹⁴⁸ Eric Posner and I have separately argued that it is better understood as a species of administrative common law, driven by an interpretation of the text of the Clean Air Act.¹⁴⁹ As Posner and I detailed, the sections of the Clean Air that might conceivably be used to regulate greenhouse gases appear to require cost-benefit analysis at least as explicitly as the statute under which the Supreme Court imposed a cost-benefit mandate.¹⁵⁰ Accordingly, if it is impermissible for the EPA to regulate under a statute requiring “appropriate and necessary regulation” where costs dramatically exceed benefits, it seems quite likely that the Court would hold it unlawful for an agency to regulate greenhouse gases under § 111 of the Clean Air Act if costs dramatically exceeding benefits.

Michigan v. EPA was widely viewed as an anti-regulatory decision and panned by environmentalists.¹⁵¹ And it did invalidate an existing environmental regulation. But the subsequent history of that regulation is far more telling for the future of environmental regulation. The regulation at issue in *Michigan v. EPA* was re-promulgated by the Obama EPA just a year later.¹⁵² Crucially, both versions of the regulation pass a cost-benefit test easily; the expected benefits from regulating mercury outweigh the costs of doing so by billions of dollars.¹⁵³ The principal function of the EPA’s reformulated regulation was to make that point clear in a manner that the Court would accept. Yet just a few years later,

148. 5 U.S.C. § 706 (2018).

149. Masur & Posner, *supra* note 57.

150. *See id.* app. A.

151. *See e.g.*, *Clean Air Act—Cost-Benefit Analysis—Michigan v. EPA*, 129 HARV. L. REV. 311, 315-16 (2015) (noting the case’s potential to “set in motion doctrinal and practical changes that will hinder agencies’ efforts to aggressively regulate public-health hazards.”); Ruby Khallouf, *Michigan v. EPA: Money Matters When Deciding Whether to Regulate Power Plants*, 27 VILL. ENV’T L.J. 275, 298-99 (2016) (highlighting the case’s diminution of the deference granted to administrative agencies in decisions to regulate); Timothy Cama & Lydia Wheeler, *Supreme Court Overturns Landmark EPA Air Pollution Rule*, THE HILL (June 29, 2015), <https://thehill.com/policy/energy-environment/246423-supreme-court-overturns-epa-air-pollution-rule> [<https://perma.cc/49HN-DVYA>] (presenting negative comments from multiple environmental groups regarding the case).

152. Supplemental Finding that It Is Appropriate and Necessary To Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units; Final Rule, 81 Fed. Reg. 24,420, 24,420-21 (Apr. 25, 2016).

153. Masur & Posner, *supra* note 18, at 1111-13.

the Trump EPA repealed the regulation, claiming under *Chevron* that it had the discretion to exclude certain benefits from the cost-benefit calculation.¹⁵⁴

In a recent article, Eric Posner and I referred to this as *Chevronizing* around cost-benefit analysis.¹⁵⁵ The Trump EPA was faced with a cost-benefit analysis revealing that the regulation would produce far more benefits than costs. The EPA might plausibly have believed that, after *Michigan v. EPA*, the courts would have rejected a repeal of the regulation that itself would have produced far greater costs than benefits (because that repeal would have reversed a regulation that produced far greater benefits than costs). The Trump EPA was thus attempting to use *Chevron* to evade the strictures of cost-benefit analysis.

As should be clear by now, the success of this type of maneuver carries dramatic, long-term consequences for climate-change regulation (and much other environmental regulation as well). If the relevant sections of the Clean Air Act are ambiguous, and the EPA can interpret them to require “cost analysis” or some other type of anti-regulatory substantive rule, then there will be nothing to stop an environmentally antagonistic administration from undoing extant climate-change regulation. The result will be regulatory oscillation: Democratic administrations will interpret the Clean Air Act to permit or even require climate-change regulation; Republican administrations will interpret it so as to bar such regulation. The country will oscillate between regulatory and deregulatory states over time, every few years, at the whim of the electorate.

Much thus depends on whether courts will mandate some version of cost-benefit analysis as a condition of regulating under the Clean Air Act (and many other statutes), or whether cost-benefit analysis will revert to its original status as a judicially unenforceable rule internal to the executive branch. The Supreme Court can chart a stable course for environmental regulation by resolving the CBA-*Chevron* dance in favor of the former. Or it can chart an unstable course by resolving it in favor of the latter.

This understanding of the lay of the land collides awkwardly with stereotypes of Republican-appointed judges and justices. The current Supreme Court, which includes six Republican-appointed justices, is conventionally thought of as hostile to *Chevron* deference,¹⁵⁶ hostile to environmental

154. EPA National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2670 (proposed Feb. 7, 2019) (to be codified at 40 C.F.R. pt. 63); EPA National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 85 Fed. Reg. 31,286 (May 22, 2020).

155. Masur & Posner, *supra* note 18, at 1114.

156. David Yaffe-Bellany, *Biden's Agenda Faces a Supreme Court More Hostile to Agency Power*, BLOOMBERG L. (Dec. 15, 2020, 4:00 AM), <https://news.bloomberglaw.com/us-law-week/courts-skeptical-of-chevron-may-stymie-bidens-agenda> [<https://perma.cc/LR3Z-QZQ8>].

regulation,¹⁵⁷ and friendly to cost-benefit analysis.¹⁵⁸ As this article demonstrates, those three characteristics do not necessarily move in lockstep as they were once thought to do. It remains entirely possible that a Supreme Court hostile to the administrative state will find ways to impede regulatory action, either through narrow statutory interpretations that preclude regulation (*Chevron* or no *Chevron*) or via other legal means, such as the nondelegation doctrine.¹⁵⁹ But simply eliminating *Chevron* deference or promoting cost-benefit analysis are not the obvious anti-regulatory mechanisms they were once believed to be.

D. Oscillation in Microcosm: The Case of the Social Cost of Carbon

One of the inputs to cost-benefit analysis is the social cost of carbon (SCC). The SCC is a measure (in dollars) of how much harm is done—including to the lives and livelihoods of people—from the emission of a ton of carbon dioxide.¹⁶⁰ The SCC thus makes it possible to calculate the benefits of reducing carbon emissions: simply determine how much a given regulation or policy will reduce carbon emissions and multiply by the social cost of carbon.¹⁶¹ During his first term, President Obama created an Interagency Working Group, comprising representatives from twelve different agencies, to undertake the first systematic governmental calculation of the SCC.¹⁶² The Working Group eventually arrived at a central estimate of \$22 per ton of carbon dioxide, and the Obama administration incorporated this figure into its regulations.¹⁶³

The Working Group's methodology and conclusions were hardly unassailable, and one could quarrel with a number of their analytic choices.¹⁶⁴ But the selection of a particular number that could be incorporated into cost-benefit analysis was essential both to attempts to limit climate change and to the

157. Benjamin J. Hulac, *Environmental Action, Laws May Face New Hurdles on High Court*, ROLL CALL (Sept. 29, 2020, 6:00 AM), <https://www.rollcall.com/2020/09/29/supreme-court-barrett-ginsburg-environmental-laws-new-hurdles/> [<https://perma.cc/5E96-6D7T>].

158. See *Michigan v. EPA*, 576 U.S. 743 (2015) (holding that the EPA must consider costs when deciding whether or not to regulate. Justices Kavanaugh, Barrett, and Gorsuch were not on the Court when *Michigan v. EPA* was decided, but it is reasonable to suspect that their views largely mirror those of Justices Scalia and Kennedy).

159. See Cass R. Sunstein, *Is the Clean Air Act Unconstitutional?*, 98 MICH. L. REV. 303, 317 (1999) (discussing the operation of the nondelegation doctrine).

160. Isabella Backman, *Stanford Explainer: Social Cost of Carbon*, STANFORD NEWS (June 7, 2021), <https://news.stanford.edu/2021/06/07/professors-explain-social-cost-carbon> [<https://perma.cc/NTM3-3KQY>].

161. *Id.*

162. Brad Plumer, *Trump Put a Low Cost on Carbon Emissions. Here's Why It Matters.*, N.Y. TIMES (Aug. 23, 2018), <https://www.nytimes.com/2018/08/23/climate/social-cost-carbon.html> [<https://perma.cc/H2CA-CSMS>].

163. In 2010, the Working Group determined the cost of carbon was \$21 per ton in 2010, rising to \$22 in 2013 and upwards beyond. Brad Plumer, *An Obscure New Rule on Microwaves Can Tell Us A Lot About Obama's Climate Policies*, N.Y. TIMES (June 5, 2013), <https://www.washingtonpost.com/news/wonk/wp/2013/06/05/what-an-obscure-microwave-rule-says-about-obamas-climate-plans> [<https://perma.cc/F7HH-6BFU>]. Some agencies began using estimates of \$36 per ton in 2013. *Id.* By the end of Obama's presidency, estimates were as high as \$50 per ton. Plumer, *supra* note 162.

164. Masur & Posner, *supra* note 48.

operation of the regulatory state more generally. Because so many regulations—particularly regulations issued by the EPA, the Department of Energy, and the Department of Transportation—affect carbon emissions, the optimal stringency (or laxity) of these regulations necessarily depends on the value of curbing carbon emissions. The SCC made it possible to produce better regulations by more accurately gauging their true costs and benefits. In 2016, at the end of the Obama administration, the Working Group revised its central estimate of the SCC upwards to \$50 per ton of carbon dioxide.¹⁶⁵

Trump did not accept the Obama administration’s SCC any more than he accepted any of Obama’s other regulatory initiatives. Trump issued an executive order disbanding the Working Group and requiring the EPA to determine a new SCC.¹⁶⁶ The Trump EPA eventually set the SCC at \$7, nearly a full order of magnitude lower than it had been just a year earlier under Obama.¹⁶⁷ This dramatic change was due predominantly to the fact that the Trump EPA elected to count only the *domestic* costs of greenhouse gas emissions—that is, the harms that would be felt by Americans—rather than the *global* costs, the costs that the world at large would bear.¹⁶⁸ Trump’s SCC was then reflected in the cost-benefit analyses performed by Trump administration agencies, most notably regarding the repeal of the Clean Power Plan.

The Trump SCC did not last one day in the Biden administration. On his first day in office, President Biden issued an executive order reinstating the Working Group and requiring it to produce a new SCC within thirty days.¹⁶⁹ Using the same methodology as the Obama working group, Biden’s “new” working group arrived at an SCC of \$51.¹⁷⁰ Biden’s plans to increase the social cost of carbon have already been challenged in court, and so it is entirely possible that the number will be revised upward or downward in the coming years.¹⁷¹

As noted above, the Clean Power Plan turned out to be cost-justified irrespective of whether one used the Obama SCC or the much lower Trump SCC. The reason is that reducing greenhouse gas emissions by reducing the burning of coal—which is predominantly what the SCC does—also reduces the emissions of many other harmful pollutants, including cancer-causing particulate matter.

165. Noah Kaufman, *The Use of Current Social Cost of Carbon Estimates in Taxes and Subsidies*, COLUM. SCH. OF INT’L AND PUB. AFF.: CTR. ON GLOBAL ENERGY POL’Y (Mar. 27, 2018), <https://www.energypolicy.columbia.edu/research/commentary/use-current-social-cost-carbon-estimates-taxes-and-subsidies> [<https://perma.cc/725G-LZL2>].

166. Exec. Order No. 13,783, 82 Fed. Reg. 16,093 (Mar. 28, 2017).

167. See Plumer, *supra* note 162; Cass R. Sunstein, *Arbitrariness Review* (with Special Reference to the Social Cost of Carbon) 16-17 (June 26, 2021), <https://ssrn.com/abstract=3874312> [<https://perma.cc/93G3-F5V4>].

168. Backman, *supra* note 160.

169. Exec. Order No. 13,990, 86 Fed. Reg. 7,030, 7,040 (Jan. 20, 2021), *reprinted in* 42 U.S.C. § 4321 app. (2018).

170. Jean Chemnick, *Cost of Carbon Pollution Pegged at \$51 a Ton*, SCI. AM. (Mar. 1, 2021), <https://www.scientificamerican.com/article/cost-of-carbon-pollution-pegged-at-51-a-ton/> [<https://perma.cc/FT8Y-TPQL>].

171. Climate Wire, Maxine Joselow, ‘*Seriously Flawed*’: *Experts Clash over Social Cost of Carbon*, CLIMATE WIRE (Aug. 24, 2021, 5:38 AM) <https://www.eenews.net/articles/seriously-flawed-experts-clash-over-social-cost-of-carbon> [<https://perma.cc/8U9S-TU42>].

Even if one essentially disregards the climate benefits, as Trump did, the Clean Power Plan more than pays for itself in non-climate benefits. But this hardly means that the choice of SCC is irrelevant to regulation. Rather, a higher SCC justifies more stringent regulation—in some cases *much* more stringent regulation—across a wide variety of regulatory domains.¹⁷² Even though the particular version of climate-change regulation that Obama promulgated is justified irrespective of the choice of SCC, a higher SCC would militate in favor of significantly stricter regulation. The choice of SCC is thus central to the question of how aggressively the economy should be decarbonized.

To the extent that cost-benefit analysis has any legal purchase in the administrative state, oscillation of the SCC threatens to wreak havoc with attempts to regulate climate change. Here too, administrative discretion—the freedom to choose between competing valuations of the SCC—could derail regulation or cause it to flip back and forth with the prevailing political winds.

Conclusion

The legislative gridlock and partisan balance that characterizes modern governance has thrust regulation to the fore. Yet the general consensus in favor of an ever-expanding regulatory state, which prevailed for nearly three decades across four presidents, has crumbled. It has given way to a period of regulatory oscillation, in which alternating Democratic and Republican administrations enact, repeal, and then re-enact critical environmental regulations. Regulatory oscillation is a creature of administrative law. It is facilitated by doctrines, principally *Chevron* deference, that afford interpretive and policy flexibility to agencies. It could be curbed by other doctrines, principally cost-benefit analysis, that impose policy constraints on agencies' freedom of action. But those doctrines do not yet have sufficient foothold in the courts to fully impede regulatory oscillation.

These dynamics are of particular importance for climate change regulation. Along multiple dimensions, climate-change regulation is highly susceptible to oscillation over time. Indeed, oscillation has already taken place across the Obama, Trump, and Biden administrations, to varying degrees. This oscillation will likely only increase, particularly as subsequent administrations become more adept at leveraging the relevant administrative tools. But the courts could put an end to it by imposing meaningful cost-benefit constraints on agencies, forcing them to regulate (or deregulate) only when doing so will create greater benefits than costs.

Perhaps regulatory oscillation is desirable; perhaps we believe that, as a matter of democratic principle, regulation should move in lockstep with election results. But it is important not to be blind to the consequences of such an attitude. There is irony in the fact *Chevron*, long venerated by environmental and

172. Masur & Posner, *supra* note 48 (demonstrating that taking climate benefits into account reveals that a variety of regulations should be made significantly stricter).

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regulatory advocates for the discretion is permits agencies, could stand in the way of progress against climate change, while cost-benefit analysis, long pilloried as anti-regulatory, could be the key that unlocks durable efforts to slow global warming. But that is the consequence of living in a time of regulatory oscillation.