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OLD STATUTES, NEW PROBLEMS

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INTRODUCTION

Congress is more ideologically polarized now than at any time in the modern regulatory era,¹ which makes legislation ever harder to pass.² One of the consequences of this congressional dysfunction is a reduced probability that Congress will update regulatory legislation in response to significant new economic, scientific, or technological developments. This predicament, we argue here, has important implications for the federal agencies charged

¹ By “the modern regulatory era,” we mean the period from the 1960s to the present; the data on polarization, however, show that Congress is more polarized now than at any time since well before World War II. For evidentiary support for this claim, see *infra* Part II.

² See Chris Cillizza, *The Least Productive Congress Ever*, WASH. POST (July 17, 2013), <http://www.washingtonpost.com/blogs/the-fix/wp/2013/07/17/the-least-productive-congress-ever/>, archived at <http://perma.cc/J2XV-EJRH> (noting that the 112th Congress passed fewer bills than any Congress “since they began keeping these stats way back in 1947” and ascribing the problem in part to “factionalism”).

with implementing statutes over time and for courts adjudicating challenges to agency statutory implementation.³

We explain how federal agencies coping with new regulatory challenges often encounter problems of “fit” with older statutes, which require them to make delicate legal and political judgments in the face of congressional silence. And we show how, following the Goldilocks principle, agencies seek to get this process *just right* by balancing the perceived need for regulatory innovation with a concern about potential overreach.

Agencies, we claim, do not simply “go for broke” when wrestling with problems of fit. Instead they proceed strategically, cognizant of the preferences of their political overseers and the risk of being overturned in the courts. Sometimes agencies interpret their enabling legislation so as to expand their jurisdiction; other times, agencies manage problems of fit by intentionally shrinking their jurisdiction, proceeding incrementally, and engaging in deliberate restraint.⁴ Our examples show that agencies can be persistent, flexible, bold, cautious, expert, political, and, above all, strategic. The examples also suggest that even—and perhaps especially—when adapting old statutes to new problems, agencies are surprisingly accountable, not just to the President, but also to Congress, the courts, and the public.

There is a significant literature on statutory “obsolescence,” dating to the 1920s, on which we hope to build, in which prominent jurists, such as Roscoe Pound, Justice Cardozo, and Judge Calabresi, lamented “static law” and expounded on the need to update regularly both common law and statutes.⁵ This literature has historically focused on the role of the judge in statutory interpretation; the central debate has been over the extent to which judges should feel free to declare law obsolete and fill in the gaps themselves. Judge Calabresi’s seminal work on outdated statutes, which

³ These new developments might stem from changing economic or social circumstances beyond those anticipated or fully addressed by the statute, technological innovation or evolving scientific understandings that change the circumstances on the ground, or new information about the costs and benefits of different regulatory strategies based on experience with them over time.

⁴ For an article describing agency techniques of strategic restraint, inaction, and delay as salutary rather than evidence of shirking, see Sharon Jacobs, *The Administrative State’s Passive Virtues*, 66 ADMIN. L. REV. (forthcoming 2014).

⁵ See, e.g., GUIDO CALABRESI, A COMMON LAW FOR THE AGE OF STATUTES 33 (1982); Benjamin N. Cardozo, *A Ministry of Justice*, 35 HARV. L. REV. 113, 114 (1921) (“Legislature and courts move on in proud and silent isolation.”); Henry J. Friendly, *The Gap in Lawmaking—Judges Who Can’t and Legislators Who Won’t*, 63 COLUM. L. REV. 787, 792 (1963) (“What I do lament is that the legislator has diminished the role of the judge by occupying vast fields and then has failed to keep them ploughed.”); Roscoe Pound, *Anachronisms in Law*, 3 J. AM. JUDICATURE SOC’Y 142, 144 (1920) (describing “institutions, doctrines, and rules which have survived the original reasons of their contrivance . . . , but now impede effective administration of justice”).

spawned considerable commentary,⁶ was unambiguously negative about the prospect of agencies filling those gaps; he was skeptical that agency officials are adequately trained or sufficiently independent to assess legal principles and make accurate findings of obsolescence. More recently, however, legal scholars have recognized that the agencies entrusted by Congress with statutory implementation may in fact be the most appropriate “statutory updaters” in our separation of powers system, because they are more nimble than Congress, more accountable than courts, and more expert than both in responding to changing conditions.⁷ The discussion about statutory obsolescence overlaps naturally with the vast literature on statutory interpretation; both lead inexorably to debates over the merits of different interpretive methodologies and the normative justification for more or less deferential judicial review.

Yet while this literature has identified the problem of static statutes, it has not fully explored the implications for agencies and courts in an era of unprecedented congressional paralysis. Indeed, because of its historical origins and the limitations of available institutional reforms, congressional paralysis is likely to be enduring.⁸ The challenge of managing statutes over time is profoundly important in a period of rapid change and limited congressional productivity. When agencies charged with a regulatory

⁶ See, e.g., Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 544 (1983) (arguing against roving authority to engage in judicial common law revision of statutes); William N. Eskridge, Jr., *Dynamic Statutory Interpretation*, 135 U. PA. L. REV. 1479, 1481 n.7, 1530-34 (1987) (advocating for judges to engage in dynamic statutory interpretation to counteract the effect of legislative inattention to general public interests, claiming that judges are more trustworthy than agencies because they are less influenced by regulated groups, and expressing the view that his proposal “stops far short” of Calabresi’s proposal); Richard A. Posner, *Legal Formalism, Legal Realism, and the Interpretation of Statutes and the Constitution*, 37 CASE W. RES. L. REV. 179, 197 (1986) (criticizing Calabresi’s proposal on grounds that the concept of “statutory obsolescence” is too vague to constrain judicial behavior, among other reasons); Abner J. Mikva, *The Shifting Sands of Legal Topography*, 96 HARV. L. REV. 534, 540-43 (1982) (reviewing CALABRESI, *supra* note 5) (proposing an alternative solution to the problem of obsolescence, namely that lawmakers make “specific and limited delegations” of updating power to courts).

⁷ See, e.g., Jeffrey E. Shuren, Essay, *The Modern Regulatory Administrative State: A Response to Changing Circumstances*, 38 HARV. J. ON LEGIS. 291, 292 (2001) (“[O]ne of the primary reasons for granting agencies broad judicial deference in the implementation of statutory mandates is that agencies are the governmental entities best equipped to respond to changing circumstances.”); Cass R. Sunstein, *Law and Administration After Chevron*, 90 COLUM. L. REV. 2071, 2102-03 (1990) (concluding that agencies “are far better situated than courts to soften statutory rigidities or to adapt their terms to unanticipated conditions” due to their “fact-finding capacities, electoral accountability, and continuing attention to changed circumstances”).

⁸ See Richard H. Pildes, *Why the Center Does Not Hold: The Causes of Hyperpolarized Democracy in America*, 99 CALIF. L. REV. 273, 275-76 (2011) (arguing that polarization cannot be addressed effectively by various institutional solutions, is caused by long-term historical processes, and is likely to be enduring).

mission fail to address new policy problems that arguably fall within their core domain, society might be deprived of important gains—public health, safety, environmental benefits, consumer protection, and market efficiencies—which may be hard to recapture later. Yet if agencies exceed their legal authority when addressing new problems, they realize our worst fears about bureaucracy run amok.⁹

This is of course the central challenge posed by the modern administrative state: how to balance the pragmatic need for administrative flexibility with respect for the rule of law and democratic values. Our point is simply that typical statutory obsolescence made worse by atypical congressional dysfunction puts tremendous pressure on agencies to do *something* to address new problems, making that central challenge all the more acute.

We focus on examples from environmental law and energy law, the regulatory domains we know best. Congress has not passed a major environmental statute in nearly a quarter-century, nor has it produced more than incremental reforms to federal energy legislation during that time, despite dramatic technological, economic, and social changes in these fields that would seem to demand a legislative response. There are notable instances in other fields, such as telecommunications¹⁰ and food and drug regulation,¹¹ where agencies

⁹ As Chief Justice Roberts wrote in *City of Arlington*,

[t]he administrative state “wields vast power and touches almost every aspect of daily life.” The Framers could hardly have envisioned today’s “vast and varied federal bureaucracy” and the authority administrative agencies now hold over our economic, social, and political activities. . . . It would be a bit much to describe the result as “the very definition of tyranny,” but the danger posed by the growing power of the administrative state cannot be dismissed.

City of Arlington, Tex. v. FCC, 133 S. Ct. 1863, 1878–79 (2013) (Roberts, C.J., dissenting) (citations omitted). *But cf.* *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004) (Roberts, J.) (adopting an expansive view of FERC’s authority under the Federal Power Act to spread the costs of new transmission investment).

¹⁰ The Communications Act is arguably again out of date, as the FCC continues to strain to adapt it to emerging technologies. *See, e.g., Verizon v. FCC*, 740 F.3d 623, 658–59 (D.C. Cir. 2014) (rejecting the FCC’s attempt to adopt “net neutrality” rules requiring broadband providers to adhere to open-access network requirements given that only common carriers are subject to such requirements and the FCC did not classify broadband providers as such).

¹¹ The FDA’s governing statute has been amended in numerous small ways over the years, but there have also been long periods during which the FDA struggled to implement the statute under the supervision of the courts. *See* Richard A. Merrill, *FDA’s Implementation of the Delaney Clause: Repudiation of Congressional Choice or Reasoned Adaptation to Scientific Progress?*, 5 YALE J. ON REG. 1, 3–13 (1988) (recounting the FDA’s struggle to adapt the language of the “Delaney Clause,” which prohibited FDA approval of food additives that “induce cancer,” when post-enactment advances in science revealed a multitude of popular food additives pose at least a minimal risk of cancer). The food safety regime under the Food, Drug, and Cosmetic Act (FDCA) was not significantly updated until 2011. *See* FDA Food Safety Modernization Act, Pub. L. No. 111-353, 124

have been left for relatively long periods to adapt existing law to new challenges, leading to problems of fit between an older statute and contemporary reality.¹² The same might be said for financial regulation, which has failed to keep pace with market innovation, leaving the responsible regulatory agencies scrambling to adapt old tools to new problems.¹³ Thus, the lessons learned about the consequences of congressional dysfunction in the environment and energy domains may apply more generally to policymaking in other fast-moving fields where Congress fails to “modernize” statutes on a regular basis.

This Article proceeds as follows. In Part II, we describe how Congress’s capacity to enact legislation has diminished over time. Drawing on theoretical and empirical work by political scientists, we illustrate why congressional gridlock has reached levels unseen in the last fifty years. Briefly stated, Congress’s ability to cobble together legislative majorities has traditionally been a function of its ideological heterogeneity. For the last two decades, parties have been at once more ideologically homogenous and farther apart ideologically than at any time in the modern regulatory era, making legislative action more difficult and leaving agencies to deal with new policy problems using old and aging statutory mandates.

In Part III, we provide two detailed examples of how federal agencies have responded to problems of bad fit by adapting existing laws to new challenges: the Environmental Protection Agency’s (EPA) implementation

Stat. 3885 (2011) (codified in scattered sections of 7 U.S.C., 21 U.S.C., and 42 U.S.C. (2012)); *see also infra* note 51 and accompanying text.

¹² In the mid-twentieth century, Congress repeatedly failed to amend the Federal Communications Act in the face of sweeping technological and economic innovations, despite numerous pleas from both the FCC and commentators. As a result, the FCC struggled to apply its dated statute to modern radio, television, and cable, and the D.C. Circuit often overruled its efforts. *See* John C. Roberts, *The Sources of Statutory Meaning: An Archaeological Case Study of the 1996 Telecommunications Act*, 53 SMU L. REV. 143, 146-47 (2000) (describing a fifty-year period during which Congress repeatedly rebuffed FCC appeals to modernize the Communications Act to address new technologies, leaving the FCC to “stagger blindly” on its own); *see also* Jessica Litman, *Copyright Legislation and Technological Change*, 68 OR. L. REV. 275, 342-54 (1989) (noting that new communications media and increased private use outpaced the inflexible statutory provisions in the Copyright Act of 1976).

¹³ *See* Donald C. Langevoort, *Statutory Obsolescence and the Judicial Process: The Revisionist Role of the Courts in Federal Banking Regulation*, 85 MICH. L. REV. 672, 673-74 (1987). Only after the financial crisis of 2008–2009 did Congress adopt a variety of reforms intended to curb the risks of new financial products (such as mortgage-backed securities) and new market practices (such as proprietary trading by banks) that had produced extremely high systemic risk. *See* Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of 2 U.S.C., 5 U.S.C., 12 U.S.C., 15 U.S.C., 18 U.S.C., 28 U.S.C., 31 U.S.C., 42 U.S.C., and 44 U.S.C. (2012)).

of the Clean Air Act (CAA)¹⁴ to address climate change and the Federal Energy Regulatory Commission's (FERC) implementation of the Federal Power Act (FPA)¹⁵ to modernize electricity policy. The two examples are not identical. EPA's authority under the CAA has remained literally unchanged for over twenty years, while Congress has modified FERC's authority over electric power in targeted ways over that time. Still, they illustrate a common problem. In both policy domains, the responsible federal agencies have had to wrestle with the rise of important new problems requiring attention, but in neither domain has Congress spoken decisively and comprehensively about the central pressing issues.

In Part IV, we discuss the implications of this dynamic for the institutions in our separation of powers scheme: the President, Congress, the courts, and the agencies. It stands to reason that if Congress is unable to speak via legislation, agencies face a reduced likelihood that their decisions will be overridden. To the extent that agencies do the President's bidding, congressional weakness can also enhance presidential influence over policy. Of course, the courts become relatively more important too, since they will decide whether an agency may follow the course it has chosen.

Put most plainly, congressional dysfunction invites agencies and courts to do the work of updating statutes. We argue that agencies are better suited than courts to do that updating work and that the case for deferring to agencies in that task is stronger than ever with Congress largely absent from the policymaking process. Indeed, because the agency is the legally designated custodian of the statute (so designated by the enacting Congress), the agency has the superior claim to interpret the statute's application to new problems during periods of congressional quiescence. Persistent congressional gridlock also means that agency policy initiatives that do survive judicial review could prove to be quite durable. Once an agency charts a new policy course, and the regulated community begins to respond, it may be difficult to reverse the consequences. In this way, an agency's adaptive strategy is not merely a stopgap; it meaningfully changes the policy status quo, reconfiguring the options for Congress should it ultimately choose to act.

¹⁴ Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified as amended at 42 U.S.C. §§ 7401–7671q (2012)).

¹⁵ Federal Power Act, ch. 687, 49 Stat. 803 (1935) (codified as amended at 16 U.S.C. §§ 791–828c (2012)).

I. CONGRESSIONAL “DYSFUNCTION”

A central premise of our argument is that Congress’s capacity to react to changed circumstances by lawmaking has diminished sharply over time, particularly its ability to respond to new developments that arise at the intersection of environmental and energy policy. We are not the first to recognize the lack of congressional action in these fields. Others have lamented the failure of Congress to pass major environmental legislation over the past two decades, particularly legislation addressing climate change, but also legislation to update environmental statutes last amended in the 1970s and 1980s.¹⁶ Congress has produced a few pieces of significant energy legislation over that same time period,¹⁷ but in both the energy policy and environmental policy realms, Congress appears to have lost the capacity to react to new policy challenges as efficiently or effectively as it did in the past.

A. Congressional (Un)Responsiveness

The twentieth century is replete with examples of Congress responding to emerging energy and environmental policy exigencies with legislation. For example, New Deal energy legislation like the FPA and the Natural Gas Act of 1938 (NGA)¹⁸ responded to concerns about state regulation of energy in interstate commerce,¹⁹ market power of public utilities,²⁰ and the need for federal coordination of rapidly changing energy technologies, such as

¹⁶ See Jonathan H. Adler, *Conservative Principles for Environmental Reform*, 23 DUKE ENVTL. L. & POL’Y F. 253, 253-54 (2013) (claiming that “[m]ajor environmental policy reform is long overdue” and lamenting the application of twentieth century regulatory measures to twenty-first century problems); Carol A. Casazza Herman et al., *Breaking the Logjam: Environmental Reform for the New Congress and Administration*, 17 N.Y.U. ENVTL. L.J. 1, 1 (2008) (“For almost 20 years, political polarization and a lack of leadership have left environmental protection in the United States burdened with obsolescent statutes and regulatory strategies.”).

¹⁷ See *infra* note 42 and accompanying text.

¹⁸ Natural Gas Act, ch. 556, 52 Stat. 821 (1938) (codified as amended at 15 U.S.C. §§ 717-717z (2012)).

¹⁹ The Federal Power Act, in particular, was partly a response to the Supreme Court’s decision in *Public Utilities Commission of Rhode Island v. Attleboro Steam & Electric Co.*, 273 U.S. 83, 89-90 (1927) (striking down state regulation of cross-border electricity sales on Commerce Clause grounds); see also *Natural Gas: Hearing on H.R. 11662 Before a Subcomm. of the H. Comm. on Interstate and Foreign Commerce*, 74th Cong. 13 (1936) (statement of Dozier A. DeVane, Solicitor, Fed. Power Comm’n) (discussing Congress’s power under the Commerce Clause).

²⁰ The Supreme Court has said that the primary aim of the NGA was “to protect consumers against exploitation at the hands of natural gas companies.” *Fed. Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591, 610-11 (1944).

natural gas pipelines.²¹ Likewise, the CAA of 1970, the Clean Water Act of 1972 (CWA),²² and the spate of environmental legislation of the 1970s²³ embody Congress's response to newly understood threats to health and the environment posed by pollution.²⁴ These examples were more than legislative tinkering; they were legislative responses to important new problems.

Moreover, until the mid-1990s, Congress showed the willingness and ability to modify these existing regulatory regimes in substantive ways as necessary to adapt to new and changing understandings of the policy environment. For example, Congress amended the CAA a mere seven years after its passage to fill gaps it had identified in the statute.²⁵ Congress amended the statute again in 1990 in response to a newly understood air pollution problem (acid rain) and to dissatisfaction with aspects of EPA's regulation of toxic air emissions under the law.²⁶ Similarly, Congress responded to the energy crises of the late 1970s by passing the Natural Gas

²¹ In section 7 of the Natural Gas Act, Congress delegated to FERC the power to site interstate natural gas pipelines, in part because natural gas (unlike electricity) could not be produced everywhere it was needed, therefore necessitating transmission of natural gas across state lines. *See* 15 U.S.C. § 717f(c) (2012). A variety of other New Deal-era statutes addressed energy needs. *See, e.g.,* Rural Electrification Act of 1936, ch. 432, 49 Stat. 1363 (codified as amended at 7 U.S.C. §§ 901–918c (2012)) (seeking to promote electricity service in rural areas not served by investor-owned utilities); National Industrial Recovery Act, ch. 90, 48 Stat. 195 (1933) (codified at 15 U.S.C. §§ 701–712 (1934)) (seeking to relieve boom-bust cycles and price volatility in the domestic oil production industry), *invalidated by* A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495 (1935) (overturning the law on nondelegation grounds).

²² Clean Water Act, Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified as amended at 33 U.S.C. §§ 1251–1387 (2012)).

²³ The period from 1969 through 1980 is sometimes referred to as “the environmental decade.” *See generally* LETTIE M. WENNER, *THE ENVIRONMENTAL DECADE IN COURT* 1, 15-19 (1982) (chronicling the proliferation of environmental laws in the decade following the passage of the National Environmental Policy Act in 1969).

²⁴ Several other foundational environmental laws were enacted during this period, including the Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. §§ 1531–1544 (2012)), the Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976) (codified as amended at 15 U.S.C. §§ 2601–2692 (2012)), the Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901–6987 (2012)), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended at 42 U.S.C. §§ 9601–9675 (2012)), better known as “Superfund.”

²⁵ Among other things, the 1977 amendments codified the “prevention of significant deterioration” (PSD) permit program, which imposed emissions limits on sources of air pollution in attainment areas—that is, areas in compliance with national ambient air quality standards. *See* 42 U.S.C. §§ 7470–7492 (2012).

²⁶ The 1990 amendments established the acid rain program for coal-fired power plants, *see* 42 U.S.C. §§ 7651–76510 (2012), and strengthened the regulation of toxic emissions by listing 189 specific toxics and substituting technology-based standards for health-based ones, *see* 42 U.S.C. § 7412 (2012).

Policy Act of 1978²⁷ and the Public Utility Regulatory Policies Act of 1978 (PURPA)²⁸ to promote the development of domestic energy sources and new, cleaner sources of electricity. All of this legislative activity helped guide the agencies to which Congress had delegated regulatory responsibility over these problems—EPA and FERC—as they tackled these new environmental and energy challenges, respectively.

Since the mid-1990s, EPA and FERC have continued to confront new and important environmental and energy challenges, but Congress has been largely absent from the policy response. During this time, we have come to new and better understandings of the ways in which our use of energy poses significant threats to our environment, health, and security. Just as a scientific consensus coalesced in the 1980s around the conclusions that acid rain was a real problem caused by emissions of sulfur dioxide and nitrogen oxides²⁹ and that a variety of common aerosol products were eroding the stratospheric ozone layer,³⁰ a new scientific consensus coalesced in the first few years of the twenty-first century around the conclusion that greenhouse gas (GHG) emissions, largely from burning fossil fuels for energy consumption, are driving climate change.³¹ Unlike the cases of acid rain and ozone depletion,

²⁷ The Natural Gas Policy Act of 1978, Pub. L. No. 95-621, 92 Stat. 3350 (codified as amended at 15 U.S.C. §§ 3301–3432 (2012)), was a response to the natural gas price spikes and shortages of the 1970s, which were themselves, by most accounts, the product of regulatory dysfunction caused by the Supreme Court's decision in *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954). See Richard J. Pierce, Jr., *State Regulation of Natural Gas in a Federally Deregulated Market: The Tragedy of the Commons Revisited*, 73 CORNELL L. REV. 15, 18 (1987) (noting that in 1954, “the federal government began regulating the price of all producer sales of gas for resale in interstate commerce under the Natural Gas Act”).

²⁸ The Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 7 U.S.C., 15 U.S.C., 16 U.S.C., 30 U.S.C., 42 U.S.C., and 43 U.S.C. (2012)), established incentives for the construction of non-utility-owned electric generating facilities using renewable resources or more efficient technologies.

²⁹ See 42 U.S.C. § 7651 (2012) (finding that “acidic compounds . . . in the atmosphere . . . represent[] a threat to natural resources, ecosystems, materials, visibility, and public health” and that “the principal sources of the acidic compounds and their precursors in the atmosphere are emissions of sulfur and nitrogen oxides from the combustion of fossil fuels”).

³⁰ See 42 U.S.C. §§ 7671a–7671q (2012) (authorizing EPA to phase out production and import of ozone depleting substances); Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 1522 U.N.T.S. 29, 26 I.L.M. 1541 (entered into force Jan. 1, 1989).

³¹ See LENNY BERNSTEIN ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 30, 37 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (stating that warming of the climate system is “unequivocal” and reporting with “very high confidence” that the net effect of human activities since 1750, primarily fossil fuel use, has been one of warming); see also CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 17 (Thomas F. Stocker et al. eds., 2013), available at http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf (reporting that human activities are the dominant cause of observed warming since the twentieth century).

however, the identification of the problem has not been followed by a congressional policy response.

Over the same period of time, technology and competition transformed electricity markets. A drastic increase in the number and distance of bulk power sales now strain an aging transmission system; meanwhile, revolutionary technological innovations known collectively as the “smart grid,” and a sea change in thinking about the role of competition and market pricing in those markets, has transformed them in other ways.³² Congress’s responses to these developments have stopped short of giving FERC the clear guidance it needs to adapt to these changing circumstances. As the agencies charged with primary responsibility for managing this new policy environment, EPA and FERC have tried to discharge what they see as their statutory responsibilities nonetheless, prompting concern that they may be stretching their statutes too far.

B. Legislative Action and Gridlock

Of course, the policymaking process has always been characterized by principal-agent problems that can grow more pronounced as time passes. Congress routinely delegates regulatory authority and policy discretion to agencies, and statutes perpetually age, raising questions about how well they “fit” the new circumstances.³³ Yet we contend that these fit problems are more severe now than at any time in the modern regulatory era. Understanding the basis for this claim requires an explanation of the determinants of legislative action—the conditions under which legislation is more or less likely to pass and how those conditions have changed over time.

Political scientists offer competing explanations of why regulatory legislation passes or fails to pass at any given point in time. Rational choice models (and other approaches based on purposive behavior) conceive of the legislative process as the product of pressure exerted by interest groups on legislators concerned with reelection. This family of explanations, which

³² See *infra* Section II.B.

³³ Over time, circumstances change, and the preferences of voters, regulatory agencies, and successive congresses may diverge from those of the enacting Congress, while agencies continue to operate under the legislative mandate established by the enacting Congress. Some scholars call this “legislative drift” or “coalitional drift.” See Murray J. Horn & Kenneth A. Shepsle, *Commentary on Administrative Arrangements and the Political Control of Agencies: Administrative Process and Organizational Form as Legislative Responses to Agency Costs*, 75 VA. L. REV. 499, 503-07 (1989) (noting the “multifaceted nature of ‘drift’” and the inseparability of bureaucratic and legislative drift); see also Jonathan R. Macey, *Organizational Design and Political Control of Administrative Agencies*, 8 J.L. ECON. & ORG. 93, 94-99 (1992) (critiquing the use of procedural rules to address bureaucratic drift).

includes both traditional interest group theory and public choice models,³⁴ emphasizes the advantages that smaller, more tightly organized groups (like business interests) have in the contest to influence legislative decisions.³⁵ Such groups may be able to use their advantages to kill or forestall regulatory legislation. By contrast, organization theorists conceive of the policy process as far more anarchic—the product of inertia, luck, and other forces.³⁶ For example, the “garbage can model” of politics posits the existence of “streams” of problems, politics, and policies that must intersect in particular ways in order to produce legislative decisions.³⁷ Only rarely, say organization theorists, do these conditions exist.

Despite their differences, however, both sets of models explain the passage of major regulatory legislation as the product of interaction between public pressure and a partisan environment in Congress that is conducive to building a majority. In group pressure and rational choice models, the advantages enjoyed by business interests can be overcome when siding with business interests exposes legislators to electoral risk.³⁸ This can happen when an issue becomes particularly salient and important to the general public. Public pressure, however, is necessary but not sufficient to produce

³⁴ For a summary of the enormous public choice literature on delegation to agencies, see David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 GEO. L.J. 97, 102-06 (2000).

³⁵ Mancur Olson’s analysis of group formation implied that policy processes would systematically undervalue the preferences of large diffuse groups compared with those of small cohesive groups. See MANCUR OLSON, JR., *THE LOGIC OF COLLECTIVE ACTION* 128 (1965). For a good summary of economic analysis of interest groups following Olson, see RUSSELL HARDIN, *COLLECTIVE ACTION* 38-49 (1982), which offers a discussion Olson’s work on the relationship between group size and group success, and TODD SANDLER, *COLLECTIVE ACTION: THEORY AND APPLICATIONS* 63-94 (1992), for information on developments in collective action theory.

³⁶ JOHN W. KINGDON, *AGENDAS, ALTERNATIVES, AND PUBLIC POLICIES* 124-31 (2d ed. 2003); Michael D. Cohen et al., *A Garbage Can Model of Organizational Choice*, 17 ADMIN. SCI. Q. 1, 2 (1972) (“[O]ne can view a choice opportunity as a garbage can into which various kinds of problems and solutions are dumped by participants as they are generated.”); Charles E. Lindblom, *The Science of “Muddling Through,”* 19 PUB. ADMIN. REV. 79, 81-83 (1959) (describing the method of successive limited comparisons and its role in policy formulation); Herbert A. Simon, *The Proverbs of Administration*, 6 PUB. ADMIN. REV. 53, 62-67 (1946) (addressing criticisms of the administrative theory and proposing broader solutions).

³⁷ KINGDON, *supra* note 36, at 87. For a critique of Kingdon’s model, see Gary Mucciaroni, *The Garbage Can Model & the Study of Policy Making: A Critique*, 24 POLITY 459, 466-67, 473-74 (1992), where Mucciaroni criticizes the model’s indeterminacy and questions its usefulness.

³⁸ Scholars sometimes call these groundswells of public interest “republican moments.” This idea comes from James Gray Pope, *Republican Moments: The Role of Direct Popular Power in the American Constitutional Order*, 139 U. PA. L. REV. 287, 310-13 (1990). Dan Farber adapted it to environmental politics in Daniel A. Farber, *Politics and Procedure in Environmental Law*, 8 J.L. ECON. & ORG. 59, 66-67 (1992).

legislative action. Public concern must actually produce electoral risk for a sufficient number of otherwise reluctant legislators to produce legislation.

Garbage can models describe this same phenomenon as the product of policy cycles.³⁹ In other words, legislation (rather than inaction) is the likely outcome when (i) people perceive the problem as important, (ii) the policy community has identified the apparent solution, and (iii) *the partisan political environment is conducive* to the formation of a legislative majority.⁴⁰

These explanations imply that regulatory change is possible given the right *combinations* of public pressure and partisan conductivity: that is, when the partisan environment in Congress is particularly conducive to regulatory change, less public pressure is required; when the partisan environment is particularly resistant, it takes more public pressure to produce that change. This theory easily explains the environmental and energy legislation of the 1970s. In the early 1970s, high-profile pollution problems led voters to perceive air and water pollution problems as serious, leading to the passage of the CAA, CWA, and other environmental laws.⁴¹ Likewise, when energy supply and security issues became salient to voters in the late 1970s, Congress responded by passing the energy legislation of the Carter administration.⁴² These laws were passed in large part because politicians responded to bottom-up electoral pressure and cobbled together legislative majorities that crossed party lines.

³⁹ KINGDON, *supra* note 36, at 93. Economist Anthony Downs, a rational choice political theorist, also conceived of republican moments as cyclical. See Anthony Downs, *Up and Down with Ecology—The “Issue-Attention Cycle,”* 28 PUB. INT. 38, 38-43 (1972) (noting that only during times of intense public pressure for action is it possible to overcome the usual legislative inertia and produce major regulatory legislation).

⁴⁰ Cf. *supra* note 39.

⁴¹ See Farber, *supra* note 38, at 67-69. Cf. E. Donald Elliott, Bruce A. Ackerman & John C. Millian, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 326-334 (1985) (noting that public pressure to fix pollution problems led to stringent environmental legislation).

⁴² Carter-era energy legislation included major regulatory initiatives like the Natural Gas Policy Act of 1978, Pub. L. No. 95-621, 92 Stat. 3350 (codified as amended at 15 U.S.C. §§ 3301-3432 (2012)), which deregulated wellhead prices of natural gas, the Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (codified as amended at 42 U.S.C. §§ 8301-8484 (2012)), which restricts uses of natural gas, and the Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 7 U.S.C., 15 U.S.C., 16 U.S.C., 30 U.S.C., 42 U.S.C., and 43 U.S.C. (2012)), which established incentives for alternative energy projects. Earlier in the decade, Congress passed the Energy Policy and Conservation Act, Pub. L. No. 94-163, 89 Stat. 871 (1975) (codified as amended in scattered sections of 15 U.S.C. (2012), 42 U.S.C. (2012), and 50 U.S.C. App. (2006)), creating national fuel economy standards for automobiles (commonly known as “CAFE standards”) and establishing the Strategic Petroleum Reserve.

Today the political environment in Congress is far less conducive to legislation than it was in the 1970s or than it was even two decades ago. This is because Congress is more likely to produce legislation, all else equal, when the ideological middle in Congress is strong—that is, when legislators’ preferences are not ideologically polarized. Today, however, the ideological middle is unprecedentedly weak and growing weaker.

As illustrated in the Appendix, spatial modeling and data on congressional ideology, drawn from a burgeoning literature in political science, can demonstrate more precisely why this is true.⁴³ To summarize the key insight, imagine a legislative chamber in which the preferences of legislators are distributed normally (as a bell curve) along an ideological dimension from left to right, with some members of the left-leaning party lying to the right of some members of the right-leaning party. Now imagine a second legislative chamber in which the distribution of preferences is bimodal, with all the members of one party clustered near the left pole and all the members of the other party clustered near the right pole. Assume that in both legislatures there is a majority party that controls the legislative agenda and that the minority may prevent legislative action by a filibuster that can be overcome only by supermajority vote.

It is not difficult to intuit why, at any given level of public or interest-group pressure to change the status quo policy, passing legislation to do so will be more difficult in the second chamber than in the first. In the second chamber, each party’s preferences lie far from the middle, making any proposal to move the policy closer to the middle that much more unappealing to party members. In such a situation, the majority party is more likely to use its agenda-setting power to prevent consideration of, or the minority party is more likely to filibuster, any such proposals. Political scientists refer to this domain of policies that cannot be moved toward the center as the “gridlock interval.”⁴⁴

By any of several measures, Congress is more ideologically polarized (and the gridlock interval larger) than ever before in the modern regulatory era. The parties have grown steadily farther apart ideologically since the 1970s, making bipartisan action to address important problems significantly more difficult. A large and growing academic literature has documented this

⁴³ See Appendix.

⁴⁴ For an overview of the literature from which this notion is derived, and for a fuller and more precise explanation of this intuition, see *id.*

growing polarization.⁴⁵ Keith Poole and Howard Rosenthal's DW-NOMINATE dataset places members of Congress on an ideological spectrum based upon members' voting behavior,⁴⁶ and Poole and Rosenthal conclude from their data that polarization in Congress is at its highest level since the end of Reconstruction.⁴⁷

This situation stands in stark contrast with the 1970s, when a Republican (Richard Nixon) created EPA and a Democrat (Jimmy Carter) signed legislation to deregulate portions of the natural gas industry. As late as the early 1990s, the Republican George H.W. Bush signed major CAA amendments and ran for office claiming to be "the environmental president."⁴⁸ Today, not only are the parties' ideologies farther apart, there are also fewer moderates of either party in Congress. Based on the Poole and Rosenthal data, it appears that moderates in the House and Senate have fallen from more than thirty percent in both chambers in 1970 to less than ten percent in both chambers today.⁴⁹

This is not to say that Congress is incapable of enacting regulatory legislation. Rather, the current partisan and ideological makeup of Congress

⁴⁵ For an overview of the data on and theories of congressional polarization, and for an application of some of those data to the theories, see JOHN H. ALDRICH, *WHY PARTIES? THE ORIGINS AND TRANSFORMATION OF POLITICAL PARTIES IN AMERICA* 82-96 (1995); KEITH T. POOLE & HOWARD ROSENTHAL, *IDEOLOGY & CONGRESS* 301-05 (2d rev. ed. 2007); SEAN M. THERIAULT, *PARTY POLARIZATION IN CONGRESS* 11-42 (2008); Morris P. Fiorina & Samuel J. Abrams, *Political Polarization in the American Public*, 11 ANN. REV. POL. SCI. 563 (2008) (highlighting a divergence between elite polarization and mass polarization); Morris P. Fiorina, *Whatever Happened to the Median Voter?* (Oct. 2, 1999) (unpublished manuscript), available at <http://web.stanford.edu/~mfiorina/Fiorina%20Web%20Files/MedianVoterPaper.pdf> (discussing possible explanations for increasing polarization between candidates).

⁴⁶ For a thorough explanation of these data and how they document increasing polarization in American politics, see NOLAN MCCARTY, KEITH T. POOLE & HOWARD ROSENTHAL, *POLARIZED AMERICA: THE DANCE OF IDEOLOGY AND UNEQUAL RICHES* 15-70 (2006). For a striking visual illustration of polarization in Congress, see Nolan McCarty, Keith T. Poole & Howard Rosenthal, *Polarized America: The Dance of Ideology and Unequal Riches*, VOTEVIEW.COM, <http://voteview.com/polarizedamerica.asp> (last visited Oct. 3, 2014), archived at <http://perma.cc/9X5B-8XY4>.

⁴⁷ See MCCARTY, POOLE & ROSENTHAL, *supra* note 46, at 23-28.

⁴⁸ Lynda Lee Kaid et al., *An Analysis of George Bush's 1988 and 1992 Campaign Advertising: Revisiting the Definition of a Presidential Candidate*, in HONOR AND LOYALTY: INSIDE THE POLITICS OF THE GEORGE H. W. BUSH WHITE HOUSE 8 (Leslie D. Feldman & Rosanna Perotti eds., 2002).

⁴⁹ See Keith T. Poole & Howard Rosenthal, *The Polarization of the Congressional Parties*, VOTEVIEW.COM, http://voteview.com/political_polarization.asp (last updated Jan. 19, 2014), archived at <http://perma.cc/CA74-8R6E>. There are a number of competing explanations for why ideological polarization has intensified, including safer and more homogenous legislative districts and institutional changes in Congress that strengthen veto points in the policy process, leading members to behave in more partisan and retributive ways and making them less willing to share credit and compromise to enact legislation. See generally *supra* note 45.

renders such action much less likely, all else equal, than at any time in the modern regulatory era. Certainly, highly salient emergencies can create the kind of electoral risk that motivates members of Congress to reach agreement, or (in the language of garbage can models) causes the streams of problems, politics, and policies to intersect in ways that produce significant legislation. The Dodd–Frank Act, for example, which responded to the financial crisis of 2008–2009, seems to have been the result of this dynamic,⁵⁰ and there are other examples as well.⁵¹ Many of the agency policy choices we examine in this Article, however, arise at the intersection of the environment and energy (GHG regulation, renewable energy, conservation), where the partisan divide seems especially wide and strong and where debates over fundamental issues, such as the scientific basis for regulatory action, are particularly intense.⁵² This suggests that an especially significant and salient

⁵⁰ See Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of 2 U.S.C., 5 U.S.C., 12 U.S.C., 15 U.S.C., 18 U.S.C., 28 U.S.C., 31 U.S.C., 42 U.S.C., and 44 U.S.C. (2012)). The financial crisis of 2008–2009 mobilized public support for additional regulation of the financial services industry, and the support was sufficiently strong to overcome prior partisan divisions on the issue. *Cf., e.g.,* Karlyn Bowman & Andrew Rugg, *5 Years After the Crash, What Do Americans Think of Wall Street, Banks, and Free Enterprise?*, AMERICAN (Sept. 13, 2013), <http://www.american.com/archive/2013/september/five-years-after-the-crash-what-do-americans-think-of-wall-street-banks-and-free-enterprise>, archived at <http://perma.cc/ZZ3R-ZT84> (summarizing public opinion toward Wall Street before and after the financial crisis).

⁵¹ Congress finally updated the FDCA in the FDA Food Safety Modernization Act, Pub. L. No. 111-353, 124 Stat. 3885 (2011) (codified in scattered sections of 7 U.S.C., 21 U.S.C., and 42 U.S.C. (2012)). The 2011 reforms shifted the FDA's focus from reactive to preventive, expanded FDA powers to inspect and recall, established risk-based priorities, and addressed major weaknesses in import safety assurances. These changes were in part a response to a number of crises involving contamination, but also were prompted by developments such as greater consumption of imported and unprocessed foods, new technologies like genetically modified organisms, and an evolution in regulatory thinking about the benefits of risk analysis and cost–benefit analysis.

⁵² For example, Republican leaders in Congress continue to express skepticism about climate science and oppose GHG regulation on that basis, despite an overwhelming scientific consensus that the climate is warming largely as result of human fossil fuel consumption. *See, e.g.,* Ned Resnikoff, *Senate Committee Again Debates Existence of Climate Change*, MSNBC, <http://www.msnbc.com/all/senate-republicans-what-climate-change> (last updated Jan. 30, 2014), archived at <http://perma.cc/C25R-6YCN> (highlighting Senator Jim Inhofe's view that climate change science is a hoax); *see also* BERNSTEIN ET AL., *supra* note 31 (summarizing the scientific consensus); NAT'L CLIMATE ASSESSMENT & DEV. ADVISORY COMM., NATIONAL CLIMATE ASSESSMENT REPORT: DRAFT FOR PUBLIC COMMENT 25, 27 (2013), available at <http://www.globalchange.gov/sites/globalchange/files/NCAJan11-2013-publicreviewdraft-chap2-climate.pdf> (stating that “[g]lobal climate is changing now” and the “primary drivers of [climate] change are human in origin”). Poole and Rosenthal describe the ideological divide captured by their data as one centered on the role of government intervention in the economy. *See* Royce Carroll et al., *DW-NOMINATE Scores with Bootstrapped Standard Errors*, VOTEVIEW.COM, <http://voteview.com/dwnominate.asp> (last updated Feb. 17, 2013), archived at <http://perma.cc/95KT-5MZN> (“[T]he first dimension can be interpreted in most periods as government intervention in the economy or liberal-conservative in the modern era.”). Because

crisis would be required to produce congressional action in these policy domains.

II. POLICYMAKING IN THE ABSENCE OF CONGRESS

The obsolescence of numerous federal environmental statutes initially passed in the 1970s has already prompted significant academic commentary and spurred a number of reform proposals.⁵³ Time, science, and experience have revealed many deficiencies in this suite of laws, some of which can be addressed administratively, but many of which require congressional action. Commentators have noted, for example, that the CWA would benefit from a substantial update to address modern challenges.⁵⁴ The CAA too, which has produced both the most beneficial and the most costly federal regulations,⁵⁵ has not been amended since 1990 and could use an overhaul to fix flawed programs and address new problems.⁵⁶ The Endangered Species Act

regulation of the energy industry provides a diffuse public benefit while ostensibly imposing concentrated costs on firms, it seems like a quintessential example of a policy domain in which the divide is growing wider.

⁵³ See, e.g., DAVID SCHOENBROD ET AL., *BREAKING THE LOGJAM: ENVIRONMENTAL REFORM FOR THE NEW CONGRESS AND ADMINISTRATION* (N.Y. Univ. Sch. of Law Breaking the Logjam Project ed., 2009), available at <http://www.breakingthelogjam.org/wp-content/uploads/sites/23/2014/06/BreakingLogjamReportfinal.pdf> (proposing specific reforms targeted at improving the efficiency and efficacy of environmental regulations). For a comprehensive set of recommendations on these topics and many others (not exclusively aimed at Congress but including many recommendations for federal legislation), see BIPARTISAN POLICY CTR., *AMERICA'S ENERGY RESURGENCE: SUSTAINING SUCCESS, CONFRONTING CHALLENGES* (2013), available at <http://bipartisanpolicy.org/sites/default/files/BPC%20SEPI%20Energy%20Report%202013.pdf>.

⁵⁴ For example, recent science has suggested that the CWA's assumption that waters could be returned to their full state of integrity was an unrealistic one. See Adler, *supra* note 16, at 260-61. Scholars have also pointed out that Congress did not fully recognize the dynamic nature of aquatic ecosystems in enacting the CWA, and misguidedly focused on concepts of stability and equilibrium rather than resilience. While the CWA was written primarily to address industrial water pollution, urban sprawl is currently the more pressing challenge to protection of waterways. The CWA is also faulted for failing to protect marine ecosystems adequately, see Robin Kundis Craig, *Climate Change, Regulatory Fragmentation, and Water Triage*, 79 U. COLO. L. REV. 825, 914 (2008), and for not taking climate change explicitly into account, see H. M. Zamudio, Note, *Predicting the Future and Acting Now: Climate Change, the Clean Water Act, and the Lake Champlain Phosphorus TMDL*, 35 VT. L. REV. 975, 994-95 (2011).

⁵⁵ See OFFICE OF INFO. & REGULATORY AFFAIRS, OFFICE OF MGMT. & BUDGET, 2011 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 16 (2011), available at http://www.whitehouse.gov/sites/default/files/omb/infoereg/2011_cb/2011_cba_report.pdf (concluding that rules from EPA produced sixty-two to eighty-four percent of the total monetized benefits and forty-six to fifty-three percent of the total monetized costs of all federal regulations—with most of the benefits and costs stemming from air quality rules).

⁵⁶ Among other things, scholars have argued that Congress should revise the New Source Review program—which requires sources to control their emissions as they “modify” their facilities—and the

(ESA), last amended in 1988, seems ripe for reconsideration as well, given that some of its core assumptions have been called into serious question.⁵⁷ So too with the National Environmental Policy Act (passed in 1970 and never substantively amended), which governs federal agency environmental impact assessment,⁵⁸ and the Toxic Substances Control Act (TSCA), which sought to address risks to the public and the environment posed by the manufacture and sale of chemicals.⁵⁹ These are just a few examples of statutes widely believed to be in need of makeovers.

While Congress more frequently revisits energy legislation than it does environmental statutes, it has nevertheless let languish a host of energy-related policy questions in recent decades. Commentators have called for significant reforms to meet an array of new challenges in the energy domain. These include proposals to, among other things, amend the federal regulatory process for both onshore and offshore oil and gas drilling to respond to dramatic technological advances and new risks;⁶⁰ address the economic and

regime for addressing interstate pollution, both of which have been highly controversial, heavily litigated, and minimally effective. See SCHOENBROD ET AL., *supra* note 53, at 10-13.

⁵⁷ These assumptions include the belief that there are a limited number of species at risk of extinction and that recovery programs are most effective when targeted to listed species. See Katrina Miriam Wyman, *Rethinking the ESA to Reflect Human Dominion Over Nature*, 17 N.Y.U. ENVTL. L.J. 490, 492-99 (2008) (noting the failings of the statute's listing process for at-risk species); see also Holly Doremus, *The Endangered Species Act: Static Law Meets Dynamic World*, 32 WASH. U. J.L. & POL'Y 175, 182-83 (2010) (criticizing the ESA as implemented for its inflexibility). For reform proposals, see John Charles Kunich, *The Fallacy of Deathbed Conservation Under the Endangered Species Act*, 24 ENVTL. L. 501, 572-73 (1994), where the author suggests a shift from focusing on endangered species to endangered ecosystems.

⁵⁸ National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified at 42 U.S.C. §§ 4321-4347 (2012)); see also Paul S. Weiland, *Amending the National Environmental Policy Act: Federal Environmental Protection in the Twenty-First Century*, 12 J. LAND USE & ENVTL. L. 275, 290-93 (1997).

⁵⁹ TSCA's central provisions have not been reformed since the law was first passed in 1976. Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976) (codified as amended at 15 U.S.C. §§ 2601-2692 (2012)).

⁶⁰ Congress has not updated the regulatory and liability schemes governing oil and gas extraction offshore, despite technological change that has enabled offshore drilling in environments and at depths previously unimaginable. To offer an illustration of the difference between past congresses and more recent ones, compare Congress's response following the 1989 Exxon Valdez oil spill in Alaska, with Congress's reaction to the 2010 blowout in the Gulf of Mexico. After the Exxon Valdez spill, Congress passed the Oil Pollution Act of 1990, which required new regulations for oil tankers traveling in U.S. waters, adopted a liability regime for recovering damages, and created a national incident response system for coordinating the government's response to oil spills. See Oil Pollution Act of 1990, Pub. L. No. 101-380, 104 Stat. 484 (codified as amended in scattered sections of 14 U.S.C., 16 U.S.C., 23 U.S.C., 26 U.S.C., 33 U.S.C., 43 U.S.C., 46 U.S.C., and 46 U.S.C. App. (2012)). Yet in the wake of the 2010 Macondo well blowout—the worst oil spill in U.S. history—Congress took no steps to reform the existing regulatory and liability system, notwithstanding numerous reports, including one from a bipartisan commission created by

reliability implications of natural gas displacement of coal in the electric power sector; promote efficiency and conservation in state-level utility rate setting; and revise the Nuclear Waste Policy Act to address the festering problem of long-term storage of nuclear waste.⁶¹

Each of these examples could merit its own article because each has created monumental challenges for the agencies charged with implementing outdated statutory provisions. Our focus here, though, is on two dramatic examples of agency adaptation in an era of congressional dysfunction: EPA's deployment of the CAA to address climate change and FERC's use of the FPA to modernize electricity policy. These examples illustrate the predicament in which agencies find themselves as they grapple with problems of fit and obsolescence. They show how agencies approach this task deliberately and strategically and suggest they are anything but out-of-control. The stories also highlight the crucial dialectic between agencies and courts, which determines policy during periods of congressional inaction.

the President, indicating that the system had become inadequate and outdated. *See* NAT. COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING—REPORT TO THE PRESIDENT 55-127, 249-87 (2011), available at <http://www.gpo.gov/fdsys/pkg/GPOOILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf> (finding that numerous regulatory failures contributed to the spill and recommending legislation to address them). Nor has Congress responded to concerns that onshore drilling requires additional oversight given technological advances, such as horizontal drilling and hydraulic fracturing, which have introduced new risks at a large scale. In fact, so-called "fracking" is exempt from federal regulation under the Safe Drinking Water Act, Pub. L. No. 93-523, 88 Stat. 1860 (1974) (codified as amended at 42 U.S.C. §§ 300f-300j-9 (2012)), Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901-6987 (2012)), and the Emergency Planning and Community Right-to-Know Act of 1986, Pub. L. No. 99-499, 100 Stat. 1728 (codified as amended at 42 U.S.C. §§ 11001-11050 (2012)), and is regulated primarily by the states. *See* David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PA. L. REV. 431, 447-52 (2013) (describing the federal regulatory regime governing fracking); Jody Freeman & David Spence, *Should the Federal Government Regulate Fracking?*, WALL ST. J. (Apr. 14, 2013), <http://online.wsj.com/news/articles/SB10001424127887323495104578314302738867078>, archived at <http://perma.cc/PW8W-TRVZ> (debating the merits of federal versus state regulation).

⁶¹ Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 (1983) (codified as amended at 42 U.S.C. §§ 10101-10270 (2012)). The Nuclear Waste Policy Act set a deadline of 1998 for the federal government to take possession of the nation's nuclear waste, *see* 42 U.S.C. § 10222 (2012), and the Nuclear Waste Policy Amendments Act of 1987 created a process for establishing a permanent repository for high-level nuclear waste, *see* 42 U.S.C. §§ 10172-10175 (2012). The Nuclear Regulatory Commission's (NRC) and Department of Energy's (DOE) attempts to discharge their responsibilities under these laws have been fraught with legal and political conflict over the Yucca Mountain site. Most recently, litigation has ensued over whether DOE has discretion to withdraw its license application for approval of Yucca as a repository. *See In re Aiken County*, 645 F.3d 428, 437-38 (D.C. Cir. 2011) (explaining that the NRC is required by statute to review DOE's license application to use Yucca Mountain as a repository). Congress has remained silent on these questions throughout this decades-long ordeal.

A. *EPA's Application of the Clean Air Act to Climate Change*

Perhaps the most prominent recent example of an agency wrestling with problems of “fit” is EPA’s application of the CAA to address climate change. EPA undertook this task in the wake of the Supreme Court’s decision in *Massachusetts v. EPA*, in which the Court held that GHGs are “pollutants” subject to regulation under the CAA.⁶² The Court also deemed unlawful EPA’s policy reasons for failing to determine whether GHG emissions from new cars and trucks endanger public health or welfare, a threshold finding necessary to trigger standard-setting, and remanded the decision to EPA.⁶³

Following this decision, it was widely anticipated that Congress would amend the CAA, either to add a specific regulatory program designed to reduce GHGs cost-effectively or to clarify that EPA lacked the authority to address climate change under the existing law. Such action was believed to be necessary because, while it is possible to regulate GHG emissions under several of the CAA’s programs, and while Congress may have intended to provide EPA with the flexibility to address such new risks, the statute as written is not especially well designed for controlling GHG pollution.⁶⁴ The general consensus among economists is that an economy-wide cap-and-trade regime, or a carbon tax, would reduce GHG emissions more cost-effectively than deploying the CAA as-is.⁶⁵

Yet while the House of Representatives passed the American Clean Energy and Security Act of 2009,⁶⁶ which would have established an

⁶² 549 U.S. 497, 528-32 (2007).

⁶³ *Id.* at 532-35; see also Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,516 (Dec. 15, 2009) (finding that “elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations”).

⁶⁴ The statute arguably reflects a conception of air pollutants as substances that do harm when inhaled or ingested since it focuses on establishing both safe concentrations of so-called “criteria” pollutants in the ambient air (national ambient air quality standards) and emissions limits for both toxic and criteria pollutants. See 42 U.S.C. §§ 7409–7412 (2012). These programs are not well suited for GHG regulation. The CAA’s other significant programs, however, which establish performance standards for both mobile and stationary sources of air pollution, may have the flexibility to address GHG emissions effectively. See 42 U.S.C. § 7411 (2012) (establishing the New Source Performance Standards program); 42 U.S.C. §§ 7470–7492 (2012) (formalizing the Prevention of Significant Deterioration program); 42 U.S.C. § 7521 (2012) (addressing mobile sources of air pollution). Still, as we explain below, they must be adapted to do so.

⁶⁵ This consensus, however, may overstate the CAA’s inflexibility. See Nathan Richardson & Arthur G. Fraas, *Comparing the Clean Air Act and a Carbon Price* 12-15 (Res. for the Future, Discussion Paper 13-13) (2013) (arguing that the CAA may not be as inflexible as economists suppose and might allow cost-effective GHG reductions, at least in the short term).

⁶⁶ H.R. 2454, 111th Cong. (2009).

economy-wide cap-and-trade system to reduce GHGs, the bill foundered in the Senate.⁶⁷ Numerous other proposals to adopt a modified national cap-and-trade scheme,⁶⁸ a more limited utility sector-based approach,⁶⁹ a national clean energy standard,⁷⁰ or a carbon tax⁷¹ also failed, as did efforts to override *Massachusetts v. EPA* and strip EPA of its authority to regulate GHGs.⁷² All such policies, it seems, fell within the gridlock interval. Without clear congressional direction then, EPA has been left to manage climate change with the 1990 Clean Air Act—a statute written before the scientific consensus on the nature and causes of climate change and its attendant risks had crystallized. As a result, the agency has been forced to engage in interpretive jujitsu to wrest a GHG control program from a statute not principally designed for that purpose. Part of EPA’s strategy to do so has been quite prosaic. For example, the agency has issued rules aimed at reducing *conventional* and toxic pollution but which would also deliver

⁶⁷ See *id.* Following passage of the House bill, the Senate Committee on Environment and Public Works reported the Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2010), which would have reduced GHG emissions twenty percent below 2005 levels by 2020. Republican committee members boycotted the markup, and the bill was not taken seriously by Senate leadership. See Lisa Lerer, *Senators Look Past Boxer Bill*, POLITICO, Nov. 6, 2009, at 1 (describing opposition from both parties towards climate change legislation). Senators John Kerry (D-Mass.), Joe Lieberman (I-Conn.), and Lindsey Graham (R-S.C.) began working on a new piece of climate legislation, but failed to secure a floor vote in Congress. See *id.*; see also Darren Samuelsohn, *Closed-Door Talks Might Not Save Climate Bill*, POLITICO, July 22, 2010, at 1 (discussing the decision to abandon a proposed climate change bill in 2010).

⁶⁸ For example, Senators Maria Cantwell (D-Wash.) and Susan Collins (R-Me.) argued for a “cap-and-dividend” proposal, under which proceeds from the purchase of carbon credits would be returned to U.S. taxpayers in the form of an annual dividend. Maria Cantwell & Susan Collins, *An Energy Bill That Pays Dividends*, WASH. POST, June 18, 2010, at A27.

⁶⁹ For example, Senator Tom Carper (D-Del.) proposed a multi-pollutant trading scheme. See Clean Air Act Amendments of 2010, S. 2995, 111th Cong. (2010).

⁷⁰ Senator Lindsey Graham (R-S.C.) introduced legislation calling for a clean energy standard of thirteen percent for 2013–2014 to increase incrementally to fifty percent in 2050. See Clean Energy Standard Act of 2010, S. 80, 111th Cong. § 3(b)(1)(B) (2010). An alternative proposal by Senator Jeff Bingaman (D-N.M.), based on carbon intensity, would begin at twenty-four percent in 2015, ramping up to eighty-four percent by 2035. See Clean Energy Standard Act of 2012, S. 2146, 112th Cong. § 2(c)(2) (2012).

⁷¹ Carbon taxes were introduced in Congress but failed to gain traction. For example, the Save Our Climate Act of 2009, H.R. 594, 111th Cong. (2009), sponsored by Representative Pete Stark (D-Cal.-13) and three others, proposed a ten dollar per ton fee on carbon dioxide, increasing each year by ten dollars until climate objectives were met; America’s Energy Security Trust Fund Act of 2009, H.R. 1337, 111th Cong. (2009), sponsored by Representative John Larson (D-Conn.-1) and twelve others, proposed a tax of fifteen dollars per ton, increasing by ten dollars each year; and the Raise Wages, Cut Carbon Act of 2009, H.R. 2380, 111th Cong. (2009), sponsored by Representatives Bob Inglis (R-S.C.-4), Jeff Flake (R-Ariz.-6), and Dan Lipinski (D-Ill.-3), proposed a fifteen-dollar per ton tax, increasing incrementally. None of the bills passed.

⁷² See Stop the War on Coal Act, H.R. 3409, 112th Cong. (2012).

important GHG reduction “co-benefits.”⁷³ Yet other aspects of EPA’s plan have required notable legal and technical ingenuity. And EPA has approached this challenge in a considered stepwise fashion.

1. The “Tailpipe Rule”

In response to *Massachusetts v. EPA*, EPA made a formal endangerment finding, issuing a rule stating that GHGs from new cars and trucks endanger health or welfare.⁷⁴ This finding automatically triggered a non-discretionary duty under the CAA to set emission standards for these sources,⁷⁵ which EPA promulgated in conjunction with the U.S. Department of Transportation, setting both fuel efficiency and GHG standards in the so-called “Tailpipe Rule.”⁷⁶ This first rule regulating GHGs under the CAA was novel, taking the form of a joint rulemaking that harmonized the two agencies’ standards and created a uniform compliance program. The rule was especially notable because it garnered the support of the entire auto industry, which pledged not to challenge it if the final version substantially conformed to the agencies’ initial proposal.⁷⁷ Importantly, the new rule rendered GHGs a “regulated pollutant” under the CAA for the first time, which in turn tripped another wire in the statute requiring the agency to set standards for GHG emissions from stationary sources as well.⁷⁸

⁷³ For example, EPA has set national emission standards under section 112 of the CAA that will reduce both toxic pollutants and GHG emissions. See National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012) (to be codified at 40 C.F.R. pts. 60, 63); see also Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,490, 49,539 (Aug. 16, 2012) (to be codified at 40 C.F.R. pts. 60, 63) (limiting emissions of volatile organic compounds, but in the process, requiring capture of methane, a potent GHG).

⁷⁴ Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,516 (Dec. 15, 2009) (to be codified at 40 C.F.R. ch. 1).

⁷⁵ See Clean Air Act § 202(a), 42 U.S.C. § 7521(a) (2012).

⁷⁶ Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25,324 (May 7, 2010) (to be codified at 40 C.F.R. pts. 85, 86, and 600 and 49 C.F.R. pts. 531, 533, 536, 537, and 538).

⁷⁷ That proposal reflected the pains the two agencies took to ensure that every auto manufacturer, regardless of its product mix, could meet the stringent new requirements. See Jody Freeman, *The Obama Administration’s National Auto Policy: Lessons from the “Car Deal,”* 35 HARV. ENVTL. L. REV. 343 346-58 (2011) (describing the unique rulemaking process and the variety of compliance flexibilities made available by the government).

⁷⁸ For an explanation of the trigger, see *id.* at 351-53. The Prevention of Significant Deterioration Program in the CAA requires all new and modified sources to obtain permits and apply

The immediate consequence of the Tailpipe Rule was to trigger a permitting requirement for stationary sources of pollution under the law's "prevention of significant deterioration" (PSD) program, which is aimed chiefly at ensuring that good quality air does not get worse because of new construction that brings additional air pollution. Under the PSD program, it is unlawful to construct or modify a "major" stationary source in certain areas of the country (those designated as "in attainment" with at least one national air pollution standard) without first obtaining a permit⁷⁹ and meeting emission standards that reflect the "best available control technology" (BACT) for "each pollutant subject to regulation under" the CAA.⁸⁰ For this program, the CAA defines "major" facilities as having the potential to emit (depending on the type of source) either 100 or 250 tons per year (TPY) of "any air pollutant."⁸¹

Once EPA set a standard for GHGs under any part of the statute (as it had done for new cars and trucks), the agency considered them to be regulated pollutants to which the PSD requirements would apply. Because GHGs tend to be emitted in amounts that are orders of magnitude greater than conventional pollutants, however, many thousands of small sources that had never been regulated under the CAA would be swept into the PSD program and made subject to onerous permitting requirements with the 100/250-TPY threshold.⁸²

In addition, the Tailpipe Rule triggered another permitting program for stationary sources. Under Title V of the CAA, all major sources, defined as those emitting over 100 TPY of "any air pollutant," must obtain a general operating permit.⁸³ Applying for a Title V permit can be time-consuming and expensive for sources, even if the operating permit itself does not impose any regulatory requirements. Again, because of the low numerical threshold to reach "major" source status, literally millions of small sources of GHG pollution—including large residential complexes, farms of a

"best available control technology" for all pollutants "subject to regulation" under the CAA. Under the statute and EPA regulations, once a standard for GHGs is set under the mobile source provisions of the statute, the pollutant becomes "subject to regulation." *See id.*

⁷⁹ *See* Clean Air Act § 165(a), 42 U.S.C. § 7475(a) (2012) (requiring preconstruction review); *see also id.* at § 169(1), 42 U.S.C. § 7479(1) (2012) (defining "major emitting facility").

⁸⁰ *Id.* at § 165(a)(4), 42 U.S.C. § 7475(a)(4) (2012).

⁸¹ *Id.* at § 169(1), 42 U.S.C. § 7479(1) (2012).

⁸² For a discussion of the implications of this situation, see Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,533 (June 3, 2010) (to be codified at 40 C.F.R. pts. 51, 52, 70, and 71) (projecting the number of sources expected to require permits under the PSD and Title V programs and proposing to tailor the program initially to the largest sources).

⁸³ Clean Air Act §§ 502–504, 42 U.S.C. §§ 7661a–7661c (2012).

modest size, and municipal landfills—which had never before needed a CAA permit for anything, would be required to obtain one for the first time. How to manage these automatic triggers in the CAA thus raised crucial strategic questions for EPA.

EPA's plan to address emissions from stationary sources under these programs required the agency to balance different kinds of risks. If the low-emission thresholds for triggering permit requirements applied, EPA would need to approve permits for literally millions of small sources. This burden would have overwhelmed the agency and the states, frustrated small businesses, and led to accusations that the Obama administration was over-regulating while the economy was still recovering from an economic crisis. Moreover, imposing permitting burdens on these sources would yield relatively little in the way of meaningful reductions while imposing significant costs. Yet to relieve these small sources from regulation would require risk-taking of a different kind. The agency would either have to declare that the PSD program could not be triggered by GHGs—reversing its thirty-year-old legal position that pollutants other than the six criteria pollutants could trigger the program's application—or ignore the specific numerical thresholds Congress had written into the law.⁸⁴

2. The “Tailoring Rule”

Of course, the obvious solution would be to ask Congress to fix this feature of the statute by adjusting the thresholds upward for GHGs. In the past, this kind of small fix might have been routine; it makes good economic and political sense to limit the program to major emitters and ultimately reduces a regulatory burden. But Congress was gridlocked over climate policy. With little chance of congressional resolution, EPA issued a rule “tailoring” the permitting requirements of both the PSD and Title V programs by administratively raising the thresholds for “major” source status to cover only the largest stationary sources—those producing over 100,000 TPY of GHGs.⁸⁵ The agency justified this approach by relying on

⁸⁴ See Tailoring Rule, 75 Fed. Reg. at 31,550-31,551 (noting that since 1977, EPA has interpreted the PSD program to apply to any air pollutant *subject to regulation*).

⁸⁵ The Tailoring Rule also specified a lower threshold—75,000 TPY—for so-called “anyway” sources: those sources required to obtain permits “anyway” because of their emission of conventional pollutants. See Tailoring Rule, 75 Fed. Reg. at 31,540-31,541 (exempting smaller sources but otherwise allowing the Clean Air Act's Prevention of Significant Deterioration program to begin to require “best available control technology” to control GHGs at new and modified sources); see also EPA, OFFICE OF AIR QUALITY PLANNING & STANDARDS, EPA-457/B-11-001, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES 17-46 (2011) (describing how states should determine “best available control technology” for new and modified sources).

the little-used doctrines of absurd results and administrative necessity, arguing that a temporary suspension of the statutory thresholds was necessary to deal with the volume of new permits.⁸⁶ Applying the low thresholds literally, EPA argued, would radically expand the program and render it “unrecognizable” to the Congress that adopted it.⁸⁷ Notably, in this instance, EPA sought to narrow rather than enlarge its regulatory responsibilities and to reduce the burdens imposed on industry, believing it to be the more rational, cost-effective, and politically palatable approach.

Industry groups and a number of states challenged the rule.⁸⁸ The petitioners made three main arguments.⁸⁹ First, the PSD program should not be read to apply to GHGs at all, since the program was intended by Congress to prevent backsliding from the national ambient air quality standards.⁹⁰ Second, and alternatively, sources that emit only GHGs should not trigger the program’s permit requirements (even if sources covered by the program anyway may need to control their GHGs along with their emissions of other pollutants).⁹¹ Finally, claimed petitioners, EPA lacks the authority to rewrite the numerical statutory thresholds in the CAA to make them four hundred times higher due to an “administrative necessity” that the agency itself created by interpreting the PSD program to apply to GHGs.⁹²

The D.C. Circuit upheld EPA’s view that the program applied to GHGs on a plain reading of the statute.⁹³ The court noted that the CAA mandates pre-construction review and permitting under the PSD program whenever “any pollutant” is emitted over the threshold amount and that in *Massachusetts v. EPA* the Supreme Court had interpreted the word “pollutant” to include

⁸⁶ See Tailoring Rule, 75 Fed. Reg. at 31,541-31,549.

⁸⁷ *Id.* at 31,555.

⁸⁸ See *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012). The litigation challenged four rules that EPA promulgated under the CAA: (1) the Endangerment Finding, (2) the Tailpipe Rule, (3) the Timing Rule, and (4) the Tailoring Rule. In upholding the rules set forth by EPA, the court dismissed challenges to the endangerment finding and the Tailpipe Rule on their merits and found that petitioners lacked standing to challenge the Timing Rule and the Tailoring Rule. *Id.* at 113-114.

⁸⁹ Petitioners’ Joint Opening Brief at 14-23, *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (No. 09-1322).

⁹⁰ On this view, Congress meant to exempt GHGs from the phrase “any air pollutant” in the definition of major facility (for purposes of the program’s applicability) *and* to exclude them from the requirement that BACT apply to “each pollutant subject to regulation” under the CAA (for purposes of the program’s coverage). See Clean Air Act § 169(1), 42 U.S.C. § 7479(1) (2012) (defining “major emitting facility”); see also *id.* at § 165(a)(4), 42 U.S.C. § 7475(a)(4) (2012) (requiring BACT for “each pollutant subject to regulation” under the CAA).

⁹¹ Petitioners’ Joint Opening Brief at 18, *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (No. 09-1322).

⁹² *Id.* at 22-23.

⁹³ *Coal. for Responsible Regulation*, 684 F.3d at 136.

GHGs.⁹⁴ The court never reached EPA's administrative necessity justification for temporarily raising the thresholds, finding that none of the petitioners could demonstrate the harm required for standing because the agency's rule had relieved them of a regulatory burden.⁹⁵

The Supreme Court granted review on whether the PSD program applied to GHGs—the interpretive question on which EPA had taken the greatest legal risk.⁹⁶ The Court reversed the D.C. Circuit, finding that the definition of “any air pollutant” in the PSD program was ambiguous and that EPA's interpretation to include GHGs was, in these circumstances, unreasonable.⁹⁷ EPA could not, in the Court's view, reasonably adopt an interpretation that it had conceded would render the program unrecognizable to Congress and then resort to rewriting the statutory thresholds out of a claimed “administrative necessity.”⁹⁸ The Court also struck down the Tailoring Rule as an impermissible rewriting of clear statutory thresholds.⁹⁹ At the same time, the Court upheld the agency's view that it was required to regulate GHGs from those stationary sources that trigger preconstruction

⁹⁴ *Id.* at 134.

⁹⁵ *Id.* at 146. The petition for rehearing en banc was denied by the D.C. Circuit over a strong dissent by Judge Kavanaugh, who explained how EPA could have avoided the need for the Tailoring Rule and saved itself from the overwhelming administrative burdens of which it was complaining by simply interpreting the ambiguous phrase “any pollutant” to mean (at least in the context of this one program) only conventional pollutants. *See* Order on Petitions for Rehearing En Banc, *Coal. for Responsible Regulation, Inc. v. EPA*, No. 09-1322, 2012 WL 6621785, at *14-16 (D.C. Cir. Dec. 20, 2012) (Kavanaugh, J., dissenting).

⁹⁶ *See* *Utility Air Regulatory Grp. v. EPA*, No. 12-1146, slip op. at 2 (U.S. June 23, 2014) (noting that the Court had been asked to “decide whether it was permissible for EPA to determine that its motor-vehicle greenhouse-gas regulations automatically triggered permitting requirements under the [CAA] for stationary sources that emit greenhouse gases”); Jody Freeman, *Symposium: Soft Landings and Strategic Choices*, SCOTUSBLOG (Feb. 5, 2014, 10:58 AM), <http://www.scotusblog.com/2014/02/symposium-soft-landings-and-strategic-choices/>, archived at <http://perma.cc/J66U-ZXWS> (explaining how EPA might have interpreted the program to exclude GHGs and apply only to NAAQS pollutants without losing too much).

⁹⁷ *Utility Air Regulatory Grp.*, No. 12-1146, slip op. at 15-16 (“[T]here is no insuperable textual barrier to EPA's interpreting ‘any air pollutant’ in the permitting triggers of PSD and Title V to encompass only pollutants emitted in quantities that enable them to be sensibly regulated at the statutory thresholds, and to exclude those atypical pollutants that, like greenhouse gases, are emitted in such vast quantities that their inclusion would radically transform those programs and render them unworkable as written.”).

⁹⁸ *Id.* at 20 (“[I]t would be patently unreasonable—not to say outrageous—for EPA to insist on seizing expansive power that it admits the statute is not designed to grant.”).

⁹⁹ *Id.* at 21 (“An agency has no power to ‘tailor’ legislation to bureaucratic policy goals by rewriting unambiguous statutory terms. . . . It is hard to imagine a statutory term less ambiguous than the precise numerical thresholds at which the [CAA] requires PSD and Title V permitting.”).

review “anyway” because they emit over the 100/250–TPY threshold for conventional pollution.¹⁰⁰

Practically, the decision amounts mostly to a victory for EPA, since regulating these “anyway” sources (which tend to be the biggest emitters of both conventional pollutants and GHGs) allows the agency to control the overwhelming majority of the GHGs it would have otherwise regulated had the agency’s Tailoring Rule been upheld.¹⁰¹ Indeed, the agency had signaled in its brief that it could accept precisely the mixed result the Court delivered,¹⁰² and there is some reason to think that the agency even prefers it.¹⁰³ Yet any loss in the Supreme Court—even a partial one—leaves a sting, and the decision is replete with stern warnings about regulatory overreach that could prove troublesome in future cases.¹⁰⁴ Writing for the majority, Justice Scalia noted that when an agency’s interpretation will “bring about an enormous and transformative expansion in EPA’s regulatory authority without clear congressional authorization . . . [and the] agency claims to discover . . . an unheralded power to regulate ‘a significant portion of the American economy,’” the Court will greet that interpretation with skepticism.¹⁰⁵ Notably, the Court also appeared to retreat somewhat from its

¹⁰⁰ *Id.* at 28 (“[A]pplying BACT to greenhouse gases is not so disastrously unworkable, and need not result in such a dramatic expansion of agency authority, as to convince us that EPA’s interpretation is unreasonable.”).

¹⁰¹ In announcing the Court’s decision from the bench, Justice Scalia reportedly said that, “EPA is getting almost everything it wanted in this case. It sought to regulate sources that it said were responsible for 86 percent of all the greenhouse gases emitted from stationary sources nationwide. . . . EPA will be able to regulate sources responsible for 83 percent of those emissions.” Robert Barnes, *Justices: EPA Can Regulate Emissions*, WASH. POST, June 24, 2014, at A1.

¹⁰² Brief for the Federal Respondents at 33-34, *Utility Air Regulatory Grp. v. EPA*, No. 12-1146 (Jan. 21, 2014).

¹⁰³ The agency had opted for the most ambitious reading of its authority, even where narrower alternatives were available that might not have cost the agency much, a risk that in retrospect may not have been worthwhile. See Freeman, *supra* note 96 (explaining why losing on the issue of PSD applicability is likely better for EPA as a practical matter).

¹⁰⁴ Indeed, the Court remarked,

Were we to recognize the authority claimed by EPA in the Tailoring Rule, we would deal a severe blow to the Constitution’s separation of powers. . . . The Power of executing the laws . . . does not include a power to revise clear statutory terms that turn out not to work in practice. . . .

. . . EPA asserts newfound authority to regulate millions of small sources . . . and to decide, on an ongoing basis and without regard for the thresholds prescribed by Congress, how many of those sources to regulate. We are not willing to stand on the dock and wave goodbye as EPA embarks on this multiyear voyage of discovery.

Utility Air Regulatory Grp., No. 12-1146, slip op. at 23; see also *id.* at 12 (“It takes some cheek for EPA to insist that it cannot possibly give ‘air pollutant’ a reasonable, context-appropriate meaning in the PSD and Title V contexts when it has been doing precisely that for decades.”).

¹⁰⁵ *Id.* at 19.

decision in *Massachusetts v. EPA*, by rejecting the view that GHGs are always “air pollutants” under the CAA and requiring the agency to justify its regulation of GHGs program-by-program.¹⁰⁶

The *Utility Air Regulatory Group (UARG)* case is the third case related to climate change to have reached the Supreme Court since 2007.¹⁰⁷ It is unlikely to be the last. EPA had already announced additional GHG regulations for the electricity sector when *UARG* was handed down.¹⁰⁸ The Court’s sharp rebuke of EPA, its skeptical tone, and its new gloss on *Massachusetts v. EPA* can be interpreted as cautionary signals to EPA as it continues to pursue GHG regulation under different CAA programs. Above all, however, this back-and-forth dynamic between EPA and the courts shows which two institutions are now driving U.S. climate policy—and neither one of them is Congress.

3. Greenhouse Gas Standards for New Power Plants

In its New Source Performance Standards (NSPS) program, the CAA requires EPA to set baseline pollution standards for all industrial source categories that emit pollution found to endanger public health.¹⁰⁹ The general principle motivating the NSPS program is that as new sources come online or are modified, they are expected to meet increasingly stringent emission standards made possible by the best demonstrated system of emission reduction, taking into account cost and other considerations.¹¹⁰

¹⁰⁶ *Id.* at 14 (“*Massachusetts* does not strip EPA of authority to exclude greenhouse gases from the class of regulable air pollutants under other parts of the [CAA] where their inclusion would be inconsistent with the statutory scheme. . . . [It] does not foreclose the Agency’s use of statutory context to infer that certain of the [CAA’s] provisions use “air pollutant” to denote not every conceivable airborne substance, but only those that may sensibly be encompassed within the particular regulatory program.”).

¹⁰⁷ See *Massachusetts v. EPA*, 549 U.S. 497 (2007); *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011).

¹⁰⁸ See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60); Standards of Performance for Greenhouse Gas Emissions From New Power Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1462-1463 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, and 98).

¹⁰⁹ Clean Air Act § 111(b), 42 U.S.C. § 7411 (2012). President Obama announced that he would direct EPA to establish a standard for new power plants and to set standards for existing power plants. Michael O’Brien, *Obama Aims to Sidestep Congress with New Initiatives to Reduce Carbon Emissions*, NBC NEWS (June 25, 2013, 3:11 AM), http://nbcpolitics.nbcnews.com/_news/2013/06/25/19119744-obama-aims-to-sidestep-congress-with-new-initiatives-to-reduce-carbon-emissions?lite, archived at <http://perma.cc/6QSJ-HMTY>.

¹¹⁰ See Clean Air Act § 111(a), 42 U.S.C. § 7411(a)(1) (2012) (defining “standard of performance”); Clean Air Act § 111(b), 42 U.S.C. § 7411(b) (2012) (requiring the EPA Administrator to set performance standards for categories of stationary sources).

The program is meant to ratchet up standards as the potential for pollution control increases over time due to new technology and expertise. Based on EPA's past practice and prior court precedent, "best demonstrated" systems may be forward-looking and technology-forcing, and are not limited to technology already in operation at the time standards are set.¹¹¹

These NSPS standards differ from the PSD program described above in two principal ways: NSPS standards are set by EPA, not the states, and they apply uniformly to entire industrial categories as defined by EPA, rather than to individual sources.¹¹² The PSD program, which is implemented by the states, is more of a gap-filling program meant to keep air quality from backsliding during periods (typically eight years or longer) between rounds of NSPS. As individual facilities propose to build or refurbish their equipment in areas that already comply with one or more of the national air quality standards, these sources must apply for state permits and apply "best available control technology" (BACT), which must be at least as stringent as NSPS.¹¹³ Thus, because it is federally driven, technology-forcing, national in scope, and applicable to entire source categories, NSPS is the much more significant driver of emissions reductions—for all pollutants, including GHGs—than is the PSD program.¹¹⁴

In 2012, EPA proposed for the first time to set NSPS for carbon dioxide from new power plants. These sources have long been subject to NSPS regulation for other pollutants that endanger health or welfare,¹¹⁵ which they emit in abundance along with carbon dioxide.¹¹⁶ In EPA's view, GHGs from

¹¹¹ See Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1463 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, 98) [hereinafter Second Proposed Power Plant Rule] (discussing technical feasibility and citing *Sierra Club v. Costle*, 657 F.2d 298, 347 (D.C. Cir. 1981), in support of EPA's authority to set technology-forcing standards).

¹¹² Compare Clean Air Act § 111(b), 42 U.S.C. § 7411(b)(1)(B) (2012) (requiring standards for source "categories"), with Clean Air Act § 169, 42 U.S.C. § 7479(1) (2012) (defining individual "major emitting facilities" subject to preconstruction review under section 165).

¹¹³ 42 U.S.C. § 7479(3) (2012). Note that as EPA sets new NSPS, EPA also establishes a new floor for BACT.

¹¹⁴ Compared with the NSPS program, the PSD program is far less uniform. State administration allows for greater variation not just across states, but also across sources in the same industrial category, since state regulators establish BACT on a case-by-case basis through plant-level analysis. See 42 U.S.C. § 7475(d) (2012) (describing the state permitting process). PSD is also small in scope; the states generally entertain fewer than three hundred PSD permit applications each year. See *RACT/BACT/LAER Clearinghouse*, EPA, <http://cfpub.epa.gov/rblc/> (last visited Oct. 3, 2014), archived at <http://perma.cc/GC74-SBDN>.

¹¹⁵ See generally 40 C.F.R. pt. 60 (2013).

¹¹⁶ See Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 Fed. Reg. 22,392 (proposed Apr. 13, 2012) (to be codified at 40 C.F.R. pt. 60) [hereinafter First Proposed Power Plant Rule].

these sources now qualify for regulation because they are “pollutants” that have been found to pose an endangerment to health and welfare and are emitted by power plants in large quantities.¹¹⁷ Setting a standard for new sources is especially important from a policy perspective because the utility industry is expected to invest billions of dollars in new electricity generation in the coming years—infrastructure that will presumably be long-lived.¹¹⁸

The proposed rule went through two very controversial and highly visible iterations. This in itself is not unusual; agencies propose and reconsider rules all the time. Indeed, that is the point of notice-and-comment. Yet this particular rule, freighted with significant policy and political implications, illustrates the careful calibration process required when agencies adapt statutes to new problems. EPA initially proposed to set a single standard for both coal and natural gas-fired electricity-generating units, based on what the most efficient natural gas plants can achieve and which coal-fired units cannot achieve without applying carbon capture technology.¹¹⁹ The proposal attracted a firestorm of comment.¹²⁰ Industry stakeholders objected to the unprecedented grouping of the two categories, arguing that it was a weakly veiled effort to circumvent the statutory requirement that technology be both demonstrated and available; that the agency never could have required carbon capture as the best demonstrated technology standard for coal units as a separate category, because the technology is not yet commercially available.¹²¹

In response, EPA withdrew the 2012 proposal and issued a new one setting separate targets for natural gas-fired and coal-fired units and easing stringency

¹¹⁷ *Id.*

¹¹⁸ See Ralph Cavanagh, *Reinventing Competitive Procurement of Electricity Resources*, ELECTRICITY-POLICY.COM, <http://electricitypolicy.com/cavanagh-10-2-10-correct.pdf> (last visited Oct. 3, 2014), archived at <http://perma.cc/4DV2-CLL3> (explaining that U.S. utilities have announced the intention to invest up to \$2 trillion in “resource procurement and integration” over the next two decades).

¹¹⁹ First Proposed Power Plant Rule, *supra* note 116, at 22,395 (classifying different electric generating units as a single source category); *id.* at 22,396-22,398 (proposing to require that all new fossil fuel-fired EGUs emit no more than 1000 pounds of carbon dioxide per megawatt-hour on an average annual basis—a target which is based on the carbon dioxide emissions from an efficient, natural gas combined cycle facility).

¹²⁰ EPA received 2.5 million comments. See Second Proposed Power Plant Rule, *supra* note 111, at 1445.

¹²¹ See, e.g., Comments Submitted by the American Public Power Association, on Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units (June 25, 2012) (on file at Docket No. EPA-HQ-OAR-2011-0660), available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0660-10039>; Comments Submitted by The National Rural Electric Cooperative Association, on Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units (June 25, 2012) (on file at Docket No. EPA-HQ-OAR-2011-0660), available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0660-9916>.

somewhat for the latter.¹²² While EPA claims that it has always enjoyed considerable flexibility to define industrial categories under the NSPS program,¹²³ in this instance it chose to rethink its decision to conflate the different types of electricity generating units—presumably to reduce the rule’s legal vulnerability. Yet the new proposal does not eliminate legal risk entirely. It relaxes the limits applicable to coal-fired generators only slightly, from 1000 to 1100 pounds of carbon dioxide per megawatt-hour, such that “partial” carbon capture will be necessary for new coal-fired power plants to comply.¹²⁴

As a result, the new proposal still raises a difficult legal question: whether carbon capture and storage is “demonstrated” and “available” technology within the meaning of the CAA. The D.C. Circuit has held that NSPS standards may be technology-forcing¹²⁵; the question is how much so. EPA relied in its proposal on the fact that four power plants with carbon capture and storage are currently either under construction and expected to be operational within a few years, or under active development.¹²⁶ But a reviewing court may nevertheless determine that it is arbitrary or capricious to base a standard on technology that has yet to be deployed at commercial scale for power plants and which remains extremely expensive.¹²⁷

¹²² See Second Proposed Power Plant Rule, *supra* note 111, at 1433 (proposing to allow coal-fired units to emit 1100 pounds of carbon dioxide per megawatt-hour).

¹²³ See *id.* at 1465-67.

¹²⁴ See *id.* at 1436. EPA also offered an alternative compliance option that would permit averaging over seven years to allow units to emit more in early years and less in later years through application of carbon capture and storage. *Id.* at 1482. EPA’s stated intent in designing the rule was to ensure a viable pathway for coal to continue to be a part of the nation’s energy mix, even in a carbon-constrained world. *Id.* at 1468-69. At the time the rule was proposed, the Energy Information Administration was already predicting that few if any new coal plants would be built by 2025, due largely to low natural gas prices. The new standard is essentially a regulatory hedge; in the event that natural gas prices rise, or electricity consumption spikes, new coal plants cannot be built without being carbon capture-ready. Indeed, EPA explicitly justified the rule as necessary to “lock in” the market-driven dynamic. *Id.* at 1433-34.

¹²⁵ See *Sierra Club v. Costle*, 657 F.2d 298, 347 (D.C. Cir. 1981). Section 111(a) requires EPA to set reductions based on what is “achievable” using the “best system of emission reduction” that the Administrator determines to be “adequately demonstrated.” The D.C. Circuit has interpreted the “achievable” standard for “best system of emission reduction” as technology that is “available” to new plants. See Second Proposed Power Plant Rule, *supra* note 111, at 1434, 1463.

¹²⁶ The four plants are Southern Company’s Kemper County Energy Facility, which was seventy-five percent complete in 2013, SaskPower’s Boundary Dam project, which was expected to be operational in 2014, Summit Power’s Texas Clean Energy Project, which was under development, and the Hydrogen Energy California Project, which was also under development. Second Proposed Power Plant Rule, *supra* note 111, at 1434.

¹²⁷ Industry argues that this standard is a major obstacle to the construction and development of any new coal-fired generation capacity because, as EPA concedes, the limits cannot be achieved by a new coal-fired EGU using presently available technology. See *The American Energy Initiative*,

The fate of this first power plant standard is important for three reasons. First, a restrictive interpretation of “demonstrated” and “available” could rule out carbon capture and storage as a basis for these standards, and in the longer term, by setting a precedent, limit EPA’s ability to promote technological innovation. Second, the carbon standard for new power plants is the first of many anticipated standards EPA expects to set, sector-by-sector, for categories of stationary sources that produce the largest share of the nation’s GHGs.¹²⁸ Reversal by the D.C. Circuit would delay implementation of these regulations for new and modified sources, at a minimum. Third, losing a legal challenge to the new source standard under section 111(b) would delay EPA’s plan to set standards for existing power plants under section 111(d), which, as discussed below, are a much more important regulatory target than new facilities.

4. Greenhouse Gas Standards for Existing Power Plants

While carbon standards for *new* power plants may be necessary as a backstop measure to prevent a new generation of coal-fired plants from being built should natural gas prices once again rise and make coal-fired generation more competitive, these standards arguably are *most* important as a legal predicate to regulating emissions from the existing fleet—the nation’s oldest and dirtiest power plants, which produce nearly forty percent of the nation’s carbon dioxide emissions.¹²⁹ Congress largely immunized the existing fleet from many of the CAA’s regulatory requirements¹³⁰ as a political

Part 25: *EPA’s Proposed Greenhouse Gas New Source Performance Standards for Utilities and the Impact this Regulation Will Have on Jobs: Hearing Before the Subcomm. on Energy & Power of the H. Comm. on Energy and Commerce*, 111th Cong. 16 (2012) (statement of Thomas F. Farrell II, Chairman, President, and CEO, Dominion Resources, Inc.) (contending that “performance standards will not succeed at forcing the adoption of [carbon capture and storage] technologies” because the standard “will create an insurmountable hurdle to obtaining financing and securing public utility commission approval for new coal stations”).

¹²⁸ A number of consent decrees now require the agency to promulgate additional standards for GHG pollution from other new sources, such as oil and gas refineries. *See, e.g.*, Settlement Agreement Between New York et al., and EPA (2010), available at <http://www2.epa.gov/sites/production/files/2013-09/documents/refineryghgsettlement.pdf> (announcing that EPA has agreed to set GHG New Source Performance Standards for refineries).

¹²⁹ Electricity generation accounts for 38.6% of U.S. carbon dioxide emissions from energy. *See* EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2012 tbl.3-1 (2014), available at <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Chapter-3-Energy.pdf>.

¹³⁰ For example, section 111 New Source Performance Standards generally apply only to categories of new and “modified” sources. *See* Clean Air Act § 111, 42 U.S.C. §§ 7411(a)–(b) (2012). The CAA’s New Source Review program similarly applies only to new and modified

compromise, on the theory that older sources were expensive to retrofit and would in any event retire within a reasonable period of time.¹³¹ Yet these sources have defied congressional expectations and lived much longer than anticipated, notwithstanding efforts to modernize the fleet.¹³² If EPA were to succeed in imposing significant carbon limits on these electricity sector sources in addition to the emission standards it already set for the transportation sector in 2010 and 2011, it will have brought nearly two-thirds of U.S. carbon dioxide emissions under a program of control.¹³³ Yet EPA's effort to reach these plants under 111(d) is the greatest test to date of its strategy to adapt the CAA to climate change.

Once EPA sets a standard for new sources of pollution under section 111(b), the states are obligated to set standards for existing sources as well, if certain conditions are met.¹³⁴ To avoid duplicative regulation, Congress required such standards only for pollution other than the six "criteria" pollutants (for which states already submit implementation plans) and for pollution not emitted from a source category already regulated as a hazardous air pollutant.¹³⁵ Because GHGs are neither criteria pollutants nor hazardous pollutants, they appear to qualify for regulation under section 111(d).

It is worth noting that the NSPS program is a viable means of addressing carbon dioxide emissions from existing power plants only because of another crucial legal judgment EPA has made: electing not to treat carbon dioxide as a "criteria pollutant" and establish a national concentration

sources in attainment zones. See Clean Air Act §§ 165, 169, 42 U.S.C. §§ 7475, 7479 (2012); see also 42 U.S.C. §§ 7502(c)(5), 7503(a) (2012).

¹³¹ That is, unless they modify their equipment in ways that significantly increase emissions, in which case they trigger "new source review." See Richard L. Revesz, Op-Ed., *Old Power Plants Need New Rules*, N.Y. TIMES (Mar. 29, 2012), <http://www.nytimes.com/2012/03/29/opinion/old-power-plants-need-new-rules.html>, archived at <http://perma.cc/ZCH2-6DLU>; see also Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1667, 1688 (2007) (describing EPA's policies requiring a New Source Review when a modification would cause a large net increase in emissions).

¹³² The average age of U.S. coal-fired generation plants is forty-three years. See Steven Mufson, *Coal's Burnout*, WASH. POST, Jan. 2, 2011, at G1.

¹³³ See *id.*; see also EPA, *Overview of Greenhouse Gases: Carbon Dioxide Emissions*, <http://www.epa.gov/climatechange/ghgemissions/gases/co2.html> (last visited Oct. 3, 2014), archived at <http://perma.cc/8L3B-CUQ7>.

¹³⁴ See 42 U.S.C. § 7411(d)(1)(A) (2012) (requiring states to set performance standards for existing sources for any air pollutant "for which air quality criteria have not been issued . . . or emitted from a source category which is regulated under section 7412 of this title but . . . to which a standard of performance under this section would apply if such existing source were a new source").

¹³⁵ *Id.*

limit.¹³⁶ Although some stakeholders have urged EPA to do so, the agency has declined because it views the National Ambient Air Quality Standards (NAAQS) program as inappropriate for addressing global pollutants.¹³⁷

Nevertheless, EPA's regulation of existing power plants, even using its preferred regulatory strategy under the NSPS program, poses substantial legal and political risks. EPA's longstanding practice under section 111(d), which courts have approved,¹³⁸ is to issue "guidelines" under which the states must set "standards of performance" for existing sources under their jurisdiction.¹³⁹ The guidelines serve as minimum goals that state performance standards must meet. EPA's authority to issue the guidelines (and thereby set the floor for the stringency of the state standards) stems from section 111(a). Section 111(a) defines a "standard of performance" as a "standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which . . . the Administrator determines has been adequately demonstrated."¹⁴⁰ On EPA's reading, the statute plainly tasks the agency with establishing what is achievable and requires the states to file plans to meet that goal. State plans under section 111(d) are akin to the implementation plans they submit under section 110 showing how they will comply with the six national ambient air quality standards. And as with the section 110 implementation plans, EPA must approve state plans under section 111(d) or disapprove them and file a federal implementation plan.¹⁴¹

¹³⁶ Indeed, there are plausible arguments that by setting a national standard for GHG pollution and requiring states to submit implementation plans, EPA could achieve deep, nationwide emissions reductions while allowing states to use trading schemes to do so. *See, e.g.*, Steven D. Cook, *Emissions Trading: EPA Can Use Clean Air Act Authority to Establish Carbon Dioxide Program*, 39 *Env't Rep. (BNA)* 304 (Feb. 15, 2008) (describing former EPA general counsel Donald Elliott's proposal that ambient quality standards could be adapted to GHGs if EPA established a percentage reduction target instead of setting a numerical concentration limit).

¹³⁷ EPA has said NAAQS are inappropriate because the concentration of global pollutants in the atmosphere cannot be controlled exclusively by the United States. *See* *Regulating Greenhouse Gas Emissions Under the Clean Air Act*, 73 *Fed. Reg.* 44,354, 44,363-44,364 (proposed July 30, 2008) (to be codified at 40 C.F.R. ch. 1). A petition requesting that EPA set a NAAQS for GHGs is still pending. *See* Petition from Center for Biological Diversity & 350.org, to EPA (Dec. 2, 2009), available at http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf (requesting that EPA establish a NAAQS for carbon dioxide at no greater than 350 ppm).

¹³⁸ *See* *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 *Fed. Reg.* 34,830, 34,879 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60) (describing EPA guidelines and relevant judicial decisions).

¹³⁹ *Id.* at 34,834 (describing requirements for state implementation plans).

¹⁴⁰ 42 U.S.C. § 7411(a)(1) (2012).

¹⁴¹ Section 110 explicitly affords the states considerable flexibility to adopt whatever mix of measures they deem necessary to achieve the federal ambient air quality standards, and courts have

The key legal and policy question is how stringent the standards can be, and the answer turns on the meaning of “performance standard” in this context. This in turn depends on the definition of “best system of emission reduction.”¹⁴² Typically, air pollution standards for stationary sources are set as rate-based standards applicable to the individual source (or a small group of sources treated as if they were under a “bubble”).¹⁴³ Such standards generally require that emissions from that source not exceed, for example, so many pounds of pollution per some measurable unit of output. Traditionally, a source might comply through a variety of strategies, including by installing “scrubbers” or other equipment upgrades, improving operational efficiency through process changes, reducing hours of operation, or co-firing with a cleaner fuel.¹⁴⁴

The challenge is that there may be relatively few cost-effective ways for older electricity-generating units to reduce carbon dioxide emissions *at the source*.¹⁴⁵ There are, however, many cost-effective ways to reduce carbon dioxide emissions from the electricity sector as a whole, by looking for opportunities to do so more broadly, across the system. This is a seemingly sensible thing to do because the electricity system is interconnected. A variety of steps that can be taken outside a particular electricity-generating unit might help to lower demand at that source, thereby reducing its emissions. So, for example, greater use of natural gas-fired units could reduce demand for coal-fired generation, while greater energy efficiency could reduce demand for both, cutting carbon dioxide emissions considerably.

Thus, the difficult legal question facing EPA is whether “best system of emission reduction” in the definition of performance standard in section 111(a) must be limited to considering what individual units at power plants can do on-site (within the so-called “fence line”) or whether it authorizes the agency to take into account the much larger reductions achievable from

said EPA must approve any plan that meets the section 110 criteria. *See* *Union Elec. Co. v. EPA*, 427 U.S. 246, 256-57 (1976) (holding that EPA has no power to reject a State Implementation Plan under section 110 based on economic or technological infeasibility).

¹⁴² *See* Clean Air Act § 111(a).

¹⁴³ *See* Carbon Pollution Emission Guidelines, 79 Fed. Reg. at 34,893-34,894.

¹⁴⁴ *See, e.g., id.* at 34,926.

¹⁴⁵ *See id.* at 34,856 (indicating that adopting best practices at coal-fired steam electric generating units could reduce average carbon dioxide emissions by 1.3 to 6.7%); *id.* at 34,877 (concluding that “while heat rate improvements qualify as a system of emission reduction, they are not in themselves the [best system of emission reduction] as there are additional strategies that can be utilized in combination with [it] that are technically feasible, can be implemented at reasonable cost, and result in greater emission reductions than would be achieved through [heat rate improvement] strategies alone”).

system-wide measures that could shift from higher to lower emitting generation and reduce demand for electricity.¹⁴⁶

In 2014, EPA proposed its section 111(d) rule, in which it embraced the broader interpretation of “best system of emission reduction.”¹⁴⁷ The proposed rule sets individualized emission reduction targets for each state.¹⁴⁸ These targets are expressed as carbon intensity goals (i.e., pounds of carbon dioxide per megawatt-hour), not mass-based emissions caps. If achieved as projected by EPA, these targets would result by 2030 in a thirty percent reduction in electricity sector carbon dioxide emissions compared with 2005 levels. EPA’s methodology for establishing the targets depends on EPA’s assessment of what can be achieved by each state using some combination of four main strategies the agency calls “building blocks”: improving the efficiency of their coal plants by at least six percent; running existing natural gas plants more, up to seventy percent utilization; using more “clean” energy, including by relying on new renewable energy sources and by keeping existing nuclear plants from retiring; and reducing demand through end-use energy efficiency measures adopted outside the power plants by at least 1.5% annually.¹⁴⁹ The stringency of the targets varies considerably across the states (ranging from eleven percent to seventy-two percent),¹⁵⁰ depending on each state’s current energy mix and the extent to which emissions reduction opportunities are projected to be reasonably available using the four strategies. Generally, heavy-coal states are assigned a lower burden than states with a cleaner energy mix. The stringency of the numbers, however, can be misleading: it may be much more difficult for a coal-dependent state with little renewables potential, no existing nuclear, and no history of energy efficiency to meet a low target, than for a renewables-rich

¹⁴⁶ See Press Release, Natural Res. Def. Council, Innovative NRDC Plan Featuring Federal-State Partnership Saves Americans More than \$25 Billion in Climate and Health Costs While Unleashing Billions in Clean Energy Investments (Dec. 4, 2012), available at <http://www.nrdc.org/media/2012/121204.asp>, archived at <http://perma.cc/7U7R-F597> (describing a “groundbreaking proposal to sharply cut carbon pollution from America’s power plants” by “setting system-wide standards, rather than smokestack-by-smokestack ones”).

¹⁴⁷ See Carbon Pollution Emission Guidelines, 79 Fed. Reg. at 34,845.

¹⁴⁸ *Id.* at 34,837.

¹⁴⁹ *Id.* at 34,836, 34,851.

¹⁵⁰ See Brad Plumer, *How the EPA’s New Climate Rule Actually Works—in 8 Steps*, VOX, <http://www.vox.com/2014/6/4/5779052/how-to-figure-out-which-states-get-hit-hardest-by-obamas-climate-rule> (last updated June 4, 2014, 4:25 PM), archived at <http://perma.cc/DUH4-W7HR>; see also EPA, DOCKET ID NO. EPA-HQ-OAR-2013-0602, TECHNICAL SUPPORT DOCUMENT (TSD) FOR THE CAA SECTION 111(D) EMISSION GUIDELINES FOR EXISTING POWER PLANTS 7 (2014), available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-goal-computation.pdf>.

state highly dependent on hydro power and poised to ramp up a successful energy efficiency program to meet a much higher target.

EPA's proposed rule provides considerable compliance flexibility to the states. They may meet the targets through any combination of the four pathways used to establish stringency, or through other strategies: by making equipment upgrades at coal plants or retiring some coal-fired units; by delaying or cancelling planned nuclear power plant retirements; by increasing use of existing natural gas units; by implementing renewable portfolio standards; or by promoting aggressive energy efficiency programs.¹⁵¹ States may also choose to adopt market-based strategies, including cap-and-trade programs.¹⁵² They can file multi-state plans and join regional trading schemes if they wish.¹⁵³ By offering these flexibilities, the rule is designed to build on efforts many states have already made to reduce GHGs and to promote renewable energy and energy efficiency.

There is no question that EPA's interpretation is novel and far-reaching. EPA has set performance standards under section 111(d) several times before, but in very different circumstances,¹⁵⁴ and these precedents offer little guidance on the fundamental interpretive issue, which concerns the breadth of best system of emission reduction.¹⁵⁵ The agency has promulgated standards under section 111(d) for non-NAAQS pollutants emitted by sources such as municipal waste combustors, sulfuric acid plants, and

¹⁵¹ See Carbon Pollution Emission Guidelines, 79 Fed. Reg. at 34,835-34,837.

¹⁵² Although EPA does not use the term "cap-and-trade," it certainly suggests in the rule that mass-based trading systems are an acceptable compliance option: "A state could adopt the rate-based form of the goal established by the EPA or an equivalent mass-based form of the goal." *Id.* at 34,837. "States can tailor their regulatory mechanisms to recognize differences, for example by creating budgets on a company-wide basis or using market-based mechanisms such as mass-based trading systems, to ensure that requirements are achievable." *Id.* at 34,887. The proposal also mentions the Regional Greenhouse Gas Initiative, a cap-and-trade regime, roughly thirty times.

¹⁵³ *Id.* at 34,897 ("The EPA expects this flexibility [to enter into multi-state plans or programs] to reduce the cost of achieving the state goals and therefore expects it to be attractive to states.").

¹⁵⁴ See KATE KONSCHNIK & ARI PESKOE, HARVARD LAW SCH. ENVTL. LAW PROGRAM, EFFICIENCY RULES: THE CASE FOR END-USE ENERGY EFFICIENCY PROGRAMS IN THE SECTION 111(D) RULE FOR EXISTING POWER PLANTS 4-5 (2014), available at <http://blogs.law.harvard.edu/environmentallawprogram/files/2013/03/The-Role-of-Energy-Efficiency-in-the-111d-Rule.pdf> (discussing previous section 111(d) regulations).

¹⁵⁵ The only two section 111(d) performance standards that have explicitly authorized states to adopt emissions trading plans for facilities are the Clean Air Mercury Rule, Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28,606 (May 18, 2005) (to be codified at 40 C.F.R. pts. 60, 72, and 75) [hereinafter CAMR], which was struck down, and the emissions guidelines for large municipal waste combustors, Emission Guidelines for Municipal Waste Combustor Metals, Acid Gases, Organics, and Nitrogen Oxides, 40 C.F.R. § 60.33b(d) (2012). See Jonas Monast et al., *Regulating Greenhouse Gas Emissions From Existing Sources: Section 111(d) and State Equivalency*, 42 *Envtl. L. Rep. (Envtl. Law Inst.)* 10,206, 10,208-09 (2012).

phosphate fertilizer plants.¹⁵⁶ Yet the schemes for these pollutants do not approach the scope and complexity of EPA's proposal for existing sources of GHGs.¹⁵⁷ Moreover, there is sparse precedent on the limits of section 111(d). During the George W. Bush administration, EPA promulgated the Clean Air Mercury Rule, using section 111(d) to create a cap-and-trade regime for mercury and other pollutants.¹⁵⁸ The D.C. Circuit struck down the rule, however, finding that because Congress listed mercury as a hazardous air pollutant under section 112, it must be regulated under that provision.¹⁵⁹ The court did not reach the question of whether a cap-and-trade approach would be lawful under section 111(d).¹⁶⁰

The Supreme Court, for its part, has offered little guidance on how it would interpret the word "standard" in this context.¹⁶¹ It thus remains an open question whether EPA has the discretion to define "standard" under the NSPS program to include what can be achieved beyond the boundaries of a regulated unit or discrete source.¹⁶²

In addition, because of the peculiarities of how section 111(d) was adopted, EPA faces an even more fundamental, and unusual, problem over its

¹⁵⁶ See Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units 9-10 (2014), available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf>.

¹⁵⁷ Monast et al., *supra* note 155, at 10,215.

¹⁵⁸ See CAMR, *supra* note 155.

¹⁵⁹ See *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008), *cert. dismissed*, 555 U.S. 1162 (2009), and *cert. denied*, 555 U.S. 1169 (2009).

¹⁶⁰ See *id.* at 584.

¹⁶¹ The Court has defined the term "standard" to include more than simply numerical emission levels for specific units like engines, extending it in one case to cover state imposed fleet purchase requirements based on emission characteristics of the engines. But this was in the context of interpreting the reach of a CAA provision preempting state "standards" for motor vehicle engine emissions. See *Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 255 (2004) ("A command, accompanied by sanctions, that certain purchasers may buy only vehicles with particular emission characteristics is as much an 'attempt to enforce' a 'standard' as a command, accompanied by sanctions, that a certain percentage of a manufacturer's sales volume must consist of such vehicles."). Writing for the Court in an 8-1 decision, Justice Scalia began by looking at the dictionary, defining "standard" as "that which 'is established by authority, custom, or general consent, as a model or example; criterion; test.'" *Id.* at 252-53 (quoting WEBSTER'S SECOND NEW INTERNATIONAL DICTIONARY 2455 (1945)).

¹⁶² Depending on the content of the final rule, there are other matters that could invite legal challenge, such as EPA's approach to enforcement. EPA has asked for comment on how to hold third parties (such as end use energy providers) accountable for fulfilling their obligations under state plans. See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830, 34,902-34,903 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60).

authority to regulate existing sources under this program.¹⁶³ Recall that the text of section 111(d) requires states to set standards for existing sources of pollutants only if the pollutants are not from *sources* already subject to regulation under the air toxics program in section 112. Existing power plants, however, are now regulated under EPA's air toxics standard.¹⁶⁴ Read literally, then, the statute appears to foreclose regulating GHG emissions from these sources.

Yet EPA interprets section 111(d) to preclude it from regulating only *pollutants* already listed as hazardous under the air toxics program regardless of whether the *sources* of those pollutants are subject to regulation under that program for emitting other pollutants.¹⁶⁵ The legislative history reveals, in a truly bizarre turn of events, that in the 1990 amendments to the CAA, the House and Senate each enacted a different amendment to section 111(d)—one that precludes regulation of *pollutants* subject to section 112 and another that precludes regulation of *sources*. In an astonishing glitch that illustrates the vagaries of the legislative process, the Conference Committee never resolved the differences between the two amendments and both were enacted in Public Law 101-549 as parenthetical options.¹⁶⁶ The U.S. Code,

¹⁶³ See generally Adam M. Kushner & Judith E. Coleman, Lessons from Mercury: Ensuring Legal Certainty for New GHG Performance Standards for Existing Fossil Fuel Plants (Oct. 24, 2013) (unpublished manuscript) (on file with author).

¹⁶⁴ In *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011), which held that federal common law nuisance claims for harms caused by GHG pollution are precluded by the CAA, the Court described EPA's authority to set standards for existing power plants under section 111(d) and then specifically described the exception for *pollutants* regulated under section 112: "There is an exception: EPA may not employ § 7411(d) if existing stationary sources of the pollutant in question are regulated under the national ambient air quality standard program, §§ 7408–7410, or the 'hazardous air pollutants' program, § 7412." 131 S. Ct. at 2537 & n.7. Yet this was in a footnote, and the question of how to interpret the exception was not before the Court. In addition, the case was decided before EPA issued its section 112(d) rule setting toxics standards for power plants. See National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012).

¹⁶⁵ See *supra* note 156. Indeed, this was the posture adopted by EPA under George W. Bush when it sought to regulate mercury from existing utility units under section 111(d). See Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from the Section 112(c) List, 70 Fed. Reg. 15,994 (Mar. 29, 2005) (to be codified at 40 C.F.R. pt. 63).

¹⁶⁶ See *id.* at 16,030 ("The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) (or emitted from a source category which is regulated under section 112) [House amendment,] (or 112(b)) [Senate Amendment,] but (ii) to which a standard of

however, mysteriously omits the parenthetical reference to the Senate amendment.¹⁶⁷ EPA has concluded that the United States Code does not control and that the Statutes at Large “constitute the legal evidence of the laws.”¹⁶⁸ The agency has reasoned that the best reconciliation of the two amendments, in light of the legislative history from both the 1977 and 1990 amendments, is to read the provision as precluding *duplicative* regulation, meaning that EPA may not under section 111(d) set standards for pollutants already regulated under section 112.¹⁶⁹

Thus, to succeed in this adaptive effort, EPA must first convince the D.C. Circuit, and perhaps ultimately the Supreme Court, that the U.S. Code does not mean what it appears to say on its face about the agency’s threshold authority.¹⁷⁰ It must then prevail in its view that the stringency of performance standards based on the “best system of emission reduction” for “any existing source” may be based on emissions reductions that result not only from equipment upgrades or efficiency improvements at the electric

performance under this section would apply if such existing source were a new source.”) (quoting Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 108(g), § 302(a), 104 Stat. 2399, 2467, 2574). “These changes were not discussed in committee hearings, in floor debates, or in conference. Ultimately, both amendments to Section 111(d) were contained in the legislation signed by the first President Bush. The House Amendment is located in Section 108 of the Statutes at Large (under ‘Miscellaneous Guidance’); the Senate Amendment is found 107 pages later (under ‘Conforming Amendments’).” Kate Konschnik, *EPA’s 111(d) Authority—Follow Homer and Avoid the Sirens*, LEGAL PLANET (May 28, 2014), <http://legal-planet.org/2014/05/28/guest-blogger-kate-konschnik-epas-111d-authority-follow-homer-and-avoid-the-sirens/>, archived at <http://perma.cc/5W4Y-BLJF>.

¹⁶⁷ As Konschnik explains, “The conflict presented itself to an obscure shop in Congress charged with incorporating the Statutes at Large—the law as passed by Congress—into the topically organized U.S. Code. A scribe encountered the House amendment first, struck “Section 112(b)(1)(A)” and added the House replacement language. The scribe then found it impossible to incorporate the Senate text. The U.S. Code notes this explicit and irreconcilable conflict.” *Id.*

¹⁶⁸ Revision of December 2000 Regulatory Finding, 70 Fed. Reg. at 16,030 (“The codifier’s notes to this section of the Official Committee Print of the executed law state that the Senate amendment ‘could not be executed’ because of the other amendment to section 111(d) contained in the same Act. The United States Code does not control here, however. The Statutes at Large constitute the legal evidence of the laws, where, as here, Title 42 of the United States Code, which contains the CAA, has not been enacted into positive law.”).

¹⁶⁹ *Id.* at 16,031-16,032 (reconciling the two provisions and reasoning that the purpose of the House amendment in 1990 was to prevent duplicative regulation).

¹⁷⁰ On August 1, 2014, West Virginia and eleven other states filed a suit challenging EPA’s authority to promulgate carbon rules under section 111(d) of the CAA. See Petition for Review at 1-2, *West Virginia v. EPA*, No. 14-1146 (D.C. Cir. filed Aug. 1, 2014); see also Petition for Extraordinary Writ at 5, 29, *In re Murray Energy Corp.*, No. 14-1112 (D.C. Cir. filed June 18, 2014) (asking the court to prohibit EPA from continuing with its rulemaking, still in the proposal stage, for lack of authority to regulate existing sources). While such suits usually do not proceed until rules are finalized, the D.C. Circuit on September 18, 2014, ordered EPA to file a response within thirty days and will permit Murray Energy to respond within fourteen days, if it so chooses. Order, *In re Murray Energy Corp.*, No. 14-1112 (D.C. Cir. Sept. 18, 2014).

generating units or plants themselves but also from actions taken at other locations by other entities, including end-use efficiency that lowers demand for electricity.

It is certainly possible that EPA will succeed on both counts.¹⁷¹ Based on the relevant legislative history and on rules of interpretation the Supreme Court has traditionally used to resolve such conflicts, EPA appears to have the stronger argument on the threshold question about whether it possesses the necessary legal authority.¹⁷² EPA's view that "best system of emission reduction" allows it to consider reductions beyond the "fence line" of the unit is also entirely plausible based on the plain meaning of the text, and is a sensible interpretation in light of the interconnected nature of the electricity system and the unique characteristics of carbon dioxide emissions. Under a *Chevron* analysis, one can imagine this view being upheld as at least "reasonable."¹⁷³

Still, the sheer scope of the rule may give even favorably disposed judges pause and inevitably will invite questions about whether the agency has exceeded its traditional authority to regulate air pollution and is now improperly making energy policy by interfering with the states' energy mix.¹⁷⁴ A reviewing court might also ask whether there is a limiting principle to its "system-wide" approach, which in theory could count any measures that would reduce energy demand (including limits on per capita energy consumption) toward stringency¹⁷⁵ and why EPA's four pathways (including energy efficiency) are not also relevant to setting new source standards for other pollutants.¹⁷⁶ In addition, it remains unclear how EPA will enforce the new rule: whether it will hold the states legally responsible for the commitments in their plans or enforce plan requirements directly against the owners of

¹⁷¹ See *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837, 866 (1984).

¹⁷² See Konschnik, *supra* note 166, for an explanation of why the industry arguments in this regard are "weak."

¹⁷³ See *Chevron*, 467 U.S. at 866.

¹⁷⁴ See Michael B. Gerrard, *Legal Challenges to Obama Administration's Clean Power Plan*, N.Y. L.J., Sept. 11, 2014, at 3 (identifying this and other key legal issues).

¹⁷⁵ See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830, 34,885-34,886 (June 18, 2014) (to be codified at 40 C.F.R. pt. 60) (noting that the CAA does not define "system" but suggesting the Oxford dictionary definition as "[a] set of things working together as parts of a mechanism or interconnecting network" and then claiming that "anything that reduces the emissions of affected sources may be considered a 'system of emission reduction' for those sources").

¹⁷⁶ The authors thank Richard Lazarus for raising the question about the applicability of this version of BSER to other pollutants. See E-mail from Richard Lazarus, Howard & Katherine Aibel Professor of Law, Harvard Law Sch., to Jody Freeman, Archibald Cox Professor of Law, Harvard Law Sch., and Kate Konschnik, Policy Director, Envtl. Law Program, Harvard Law Sch. (June 2, 2014) (on file with author).

electricity generating units or third parties for their share of the promised emissions reductions.¹⁷⁷ The government may have good answers to all of these questions,¹⁷⁸ but there is a significant possibility that in the wake of the Supreme Court's *UARG* decision, it will face considerable skepticism.¹⁷⁹

5. Bad Fit, EPA, and the Courts

The recent history of EPA's response to the problem of climate change illustrates the thesis with which we began: during periods of congressional dysfunction, agencies must adapt aging statutory authority to new problems, shifting the locus of policymaking first to agencies and then to the courts. The endangerment finding and the Tailpipe Rule represented EPA's initial response to the problem, triggering additional regulation that may ultimately lead to GHG limits for the transportation, electricity, industrial, and manufacturing sectors—an economy-wide climate change program that one might have expected to come more directly from Congress. In executing this strategy, EPA has behaved strategically, consistent with its mission; it has carefully calibrated and moderated its approach in light of prevailing legal, policy, and political considerations. On the one hand, EPA has adopted an expansive view of its mission by fully embracing GHG regulation. It has acted boldly in adopting standards for both new and existing power plants (in the former case, treating carbon capture and storage as “demonstrated” and “achievable,” and in the latter, by relying on an expansive

¹⁷⁷ Cf. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830, 34,901 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60) (discussing enforcement options).

¹⁷⁸ For example, on the question whether EPA is inappropriately regulating the energy supply, the government may argue that because air pollution standards necessarily affect the cost of supply, they have always influenced choices about the energy mix, including whether to retire or retrofit units, or switch fuel sources. Thus the distinction between environmental and energy policy is somewhat artificial. See Jody Freeman, *Why I Worry About UARG*, 39 HARV. ENVTL. L. REV. (forthcoming 2014). EPA might also defend its reliance on energy efficiency in this context but not others as justified by the absence of readily available, cost-effective technological options for controlling GHGs at existing plants. And there are no doubt sensible limiting principles that could constrain the agency's application of “best system” to an interconnected physical network like the electricity system.

¹⁷⁹ The government will likely rely for support on the Supreme Court's decision in *EPA v. EME Homer City Generation, L.P.*, No. 12-1182, slip op. at 29, 32 (U.S. Apr. 29, 2014), in which the Court upheld EPA's cross-state air pollution rule in a 6–2 decision. The Court deferred to the agency's methodology for allocating emissions reductions among states based largely on cost as reasonable, noting that the agency “must have leeway in fulfilling its statutory mandate.” *Id.* at 31. Yet industry will likely draw heavily on the Court's decision in *Utility Air Regulatory Group v. EPA*, No. 12-1146, slip op. at 29 (U.S. June 23, 2014), discussed *supra*, at notes 96-108 and in accompanying text, in which the Court rejected EPA's interpretation of the CAA's “prevention of significant deterioration” program as triggered by GHG emissions.

interpretation of “best system of emission reduction”). On the other hand, the agency has in some instances opted for self-restraint and curtailed its own jurisdiction (targeting only the largest emitters in the PSD program), declined to use statutory programs it has deemed too risky (the NAAQS program), set standards on a sliding scale, phased in certain requirements over time, and allowed for considerable compliance flexibility.

Applying an old statute to this new problem has forced EPA to interpret statutory terms in ways the enacting Congress may not have anticipated and perhaps could not have foreseen. In the process, the agency has revisited interpretations that appeared settled (does the term “any pollutant” mean all pollutants, or just a subset?), considered some questions for the first time (can “performance standards” be based on system-wide changes that reduce demand for fossil fuel-fired generation?), and grappled with how to define the targets of regulation (can coal-fired plants and natural gas-fired units be grouped together in the NSPS program?). Of course EPA is doing these things simultaneously. Because of their novelty, EPA’s answers to these questions, and others, will continue to flood the courts. And judges, in turn, will review agency decisions knowing that the chances of congressional intervention are low. All of the players in this scenario are well aware that the outcome of litigation—not new legislation—will probably determine the scope of U.S. climate policy for the foreseeable future.

B. Managing Changing Electricity Markets Under the Federal Power Act

As with EPA, the CAA, and climate change, FERC faces the task of fitting an old statute (the FPA) to new problems. Electricity markets have experienced drastic changes over the last twenty years, including a sea of change in economic thinking about the regulation of network industries, significant technological advancement, and the need to integrate renewable generation (wind and solar) and “smart” information technology into the grid. These developments have spurred a transformation of the industry from one characterized by vertically integrated investor-owned utilities (IOUs) providing bundled, monopoly service at regulated prices, to one characterized by inter-firm bulk power transactions at market prices and competitive wholesale (and some retail) power markets. In a relatively short period of time, historically speaking, the business of delivering electricity has been “unbundled” from the business of selling it, and robust, competitive, and geographically broad wholesale markets have replaced what were once mostly local, intra-firm transactions. The rapid growth in the development of renewable sources of electricity, first wind farms, and, more recently, solar power, over the last several decades has added another layer of

complexity for managers of the electric grid, further complicating the process of developing well-functioning, competitive electricity markets. While this process began as a cooperative, iterative effort involving both FERC and Congress, Congress went mostly silent after 1992.¹⁸⁰ The Energy Policy Act of 2005 was Congress's lone significant intervention in electricity markets over that time period,¹⁸¹ leaving FERC to manage this transformation mostly on its own, using statutory guidance that dates to 1935.

1. Congressional Participation in the Early Stages of Restructuring

The Federal Power Act of 1935¹⁸² charged FERC with (i) regulating the transmission of electricity in interstate commerce and the sale of electricity at wholesale in interstate commerce, and (ii) ensuring that the rates charged for these services were “just and reasonable” and “nondiscriminatory.”¹⁸³ For approximately sixty years following the passage of the Federal Power Act, FERC discharged this responsibility by establishing rates for the provision of bundled wholesale electric service¹⁸⁴ by electric utilities—meaning that the buyer paid one price for electric service, rather than paying separately for the electricity and the service of delivering it.

In the late 1970s, municipal utilities and industrial customers began to challenge IOUs' monopoly control of the electric grid,¹⁸⁵ while economists began to challenge the traditional model of electric power service that treated bundled electricity service as a natural monopoly.¹⁸⁶ Congress

¹⁸⁰ Perhaps not coincidentally, it was about this time that the widening of the ideological divide in Congress began to accelerate. See Appendix, fig.A-8 (depicting the trend using the Poole and Rosenthal data through the increasing slope of the “Republicans” line and the decreasing slope of the “Democrats” line around 1992).

¹⁸¹ Not coincidentally, the 2005 Act was passed during a rare episode of single party control of the legislative and executive branches, enacted by a Republican-controlled House and Senate, and signed into law by a Republican president.

¹⁸² Federal Power Act, ch. 687, 49 Stat. 1676 (codified as amended at 16 U.S.C. §§ 791–828c (2012)).

¹⁸³ See 16 U.S.C. § 824d(a)–(b).

¹⁸⁴ Following well-established ratemaking principles that predated the Federal Power Act, FERC set rates at a level that would enable utilities to earn a reasonable return on prudent investments and recover reasonable costs. The seminal case describing the application of the “just and reasonable” standard is *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 605-06 (1944), in which the Court declined to overturn a ratemaking decision on the grounds that the commission had underestimated elements of the utility's costs.

¹⁸⁵ These entities wanted to be able to purchase power from other suppliers and to use the IOUs' transmission lines. FERC, however, had been loath to order IOUs to “wheel” power for third parties. See *Otter Tail Power Co. v. United States*, 410 U.S. 366, 378-79 (1973) (holding that the regulated industries exemption does not insulate IOUs from all antitrust liability).

¹⁸⁶ Economists began to argue that while the management of a network (in the case of electricity, the transmission and distribution “wires” business) was a natural monopoly, the sale of

nudged unbundling and competition forward by passing the Public Utility Regulatory Policies Act of 1978 (PURPA),¹⁸⁷ which encouraged independent “merchant” generators to enter electricity markets previously unconnected to electric utilities and granted FERC limited authority to order IOUs to make their transmission lines available to third parties.¹⁸⁸ PURPA stoked demand among the IOUs’ captive industrial customers for the right to purchase wholesale power directly from these new, non-utility generators, but did not change the fact that the IOUs still controlled the transmission system.¹⁸⁹ In the fifteen years following PURPA’s passage, FERC led the way toward more competitive markets by using the regulatory levers it had, arguably going beyond what Congress had anticipated. For example, FERC moved incrementally to promote competition by authorizing individual firms to charge market-based rates¹⁹⁰ and by requiring individual firms to provide open access to transmission lines as a “voluntary” concession in a series of adjudicative cases in which utilities sought merger approval or approval of market-based rates.¹⁹¹

It was not until the passage of the Energy Policy Act of 1992 that Congress provided FERC with clear authority to order competitive wheeling

energy was not. To the contrary, there could be efficiency gains by unbundling the wires business from the sale of electricity and introducing competition to the latter part of the business. *See, e.g.,* Stephen Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 HARV. L. REV. 547, 597-603 (1979) (“To decide that a firm is a natural monopolist with respect to one of its products and that it should be regulated does not decide the extent to which classical regulation should apply to other, related products of the firm.”).

¹⁸⁷ Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 7 U.S.C., 15 U.S.C., 16 U.S.C., 30 U.S.C., 42 U.S.C., and 43 U.S.C. (2012)).

¹⁸⁸ PURPA authorized FERC to order wheeling, but only if no “uncompensated economic loss” or “undue burden” on the transmission owner would result. If ordering wheeling would jeopardize existing relationships (including, presumably, the loss by the IOU of a valuable customer), then FERC could not order wheeling. *See* Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117, 3138-39, *repealed by* Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776, 2916.

¹⁸⁹ Indeed, the federal courts had interpreted PURPA to prohibit FERC from ordering open access to transmission lines solely to enhance competition. *See, e.g.,* Fla. Power & Light Co. v. FERC, 660 F.2d 668, 676 (5th Cir. Unit B Nov. 1981) (holding that FERC “lacks the authority to require electric utilities to provide wheeling even on a reasonable request”); N.Y. Elec. & Gas Corp. v. FERC, 638 F.2d 388, 402 (2d Cir. 1980) (holding that the public interest and enhancement of competition cannot alone compel wheeling).

¹⁹⁰ *See, e.g.,* Dartmouth Power Assocs. Ltd. P’ship, 53 F.E.R.C. ¶ 61,117 (1990) (authorizing a nonutility generator to charge market-based rates based upon a determination that the generator did not possess market power in the relevant market).

¹⁹¹ *See* Jim Rossi, *Redeeming Judicial Review: The Hard Look Doctrine and Federal Regulatory Efforts to Restructure the Electric Utility Industry*, 1994 WIS. L. REV. 763, 794-95 (explaining that FERC imposed open-access terms as a condition of approval for market-based rates and used its merger authority to impose these terms on a case-by-case basis).

(transmission of power over IOU lines for third parties),¹⁹² essentially ratifying FERC's experiments with limited wheeling orders.¹⁹³ The 1992 law added considerable momentum to the restructuring process and paved the way four years later for FERC Order No. 888,¹⁹⁴ which ordered functional unbundling of wholesale electricity sales from transmission services, required owners of transmission lines to provide open-access transmission services on nondiscriminatory terms¹⁹⁵ and opened wholesale electricity markets to competition.¹⁹⁶ Although it was not evident at the time, the 1992 law marked the end of Congress's meaningful participation in the restructuring process. Congress did pass the Energy Policy Act of 2005, which concerned mostly distributive policy issues,¹⁹⁷ such as grants and subsidies designed to promote various types of energy development.¹⁹⁸ But on the

¹⁹² See Energy Policy Act of 1992, Pub. L. No. 102-486, § 711, 106 Stat. 2776, 2905-10.

¹⁹³ In the Energy Policy Act of 1992, Congress also helped to facilitate competition by removing some restrictions on the growth of the independent power industry imposed by the Public Utility Holding Act of 1935. See ADAM VANN, CONG. RESEARCH SERV., RL 33739, THE REPEAL OF THE PUBLIC UTILITY HOLDING COMPANY ACT OF 1935 (PUHCA) AND ITS IMPACT ON ELECTRIC AND GAS UTILITIES 4 (2006) (explaining that the Energy Policy Act of 1992 created an exemption from PUHCA for wholesale electricity generators).

¹⁹⁴ Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540 (May 10, 1996) (to be codified at 18 C.F.R. pts. 35, 385). Order 888 required transmission line owners to separate the firm's transmission functions from its electricity sales functions. It did not require full legal separation of business units. See *id.* at 21,552.

¹⁹⁵ A companion order to Order No. 888, Order No. 889, specifies the specific terms according to which transmission line owners must make transmission services available on an open-access, nondiscriminatory basis. See Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct, 61 Fed. Reg. 21,737, 21,740-41 (May 10, 1996) (to be codified at 18 C.F.R. pt. 37).

¹⁹⁶ While buyers on wholesale markets were always free to purchase power from third-party buyers, Order 888's requirement that transmission line owners treat transmission as a common carrier service, open to all on equal terms, led some integrated IOUs to spin off their generation assets and to acquire more power on wholesale markets from third parties. See, e.g., Paul L. Joskow, *Transmission Policy in the United States*, 13 UTIL. POL'Y 95, 103 (2005) (describing Orders 888 and 889 as the "primary federal foundation for the obligations imposed on transmission owners to provide to third parties unbundled transmission service, ancillary network support services, and information about the availability of these services to support both wholesale and retail competition").

¹⁹⁷ Theodore Lowi has posited that it is easier for Congress to legislate distributive policies, because they promote logrolling and other forms of coalition building, while regulatory policies, which involve winners and losers, are inherently more divisive. Theodore J. Lowi, *Four Systems of Policy, Politics, and Choice*, 32 PUB. ADMIN. REV. 298, 299-300 (1972).

¹⁹⁸ Indeed, both the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 offered incentives to invest in specific generation technologies and grid innovations. The Energy Policy Act of 2005 provided incentives for hydroelectric production incentives in section 242, natural gas production from deep wells in shallow waters of the Gulf of Mexico in section 344, diesel emissions reductions in section 795, and cellulosic biofuels production in section 942. See Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 5

difficult regulatory questions of the day, Congress remained mostly quiet. FERC has thus managed the transition to robust, competitive wholesale power markets since 1992—a monumental shift in policy—in the absence of congressional guidance.

2. Adapting the “Just and Reasonable” Standard to Market Rates

After Order No. 888, FERC accelerated the process of authorizing wholesale sellers to sell power at market rates, rather than setting the rates itself in a traditional ratemaking proceeding. To accomplish this, FERC interpreted its traditional duty to set “just and reasonable rates” as encompassing the authority to approve market-based rates. There was some precedent for the notion that market-based rates could be “just and reasonable” under the FPA. Under the long-standing *Mobile–Sierra* doctrine, FERC routinely authorized rates negotiated in long-term bilateral agreements between sophisticated parties, concluding that such rates satisfied the just and reasonable standard;¹⁹⁹ *Mobile–Sierra*, however, had never been applied to sales in the new, fast-moving spot markets for electricity. Thus, authorizing the broad use of market rates represented a rather momentous shift away from historical understandings of cost of service regulation, which the agency undertook without the benefit of congressional amendment to the FPA.²⁰⁰

FERC executed this strategy as part of a difficult transition from regulated, localized electricity markets to geographically broader, more robust markets. The California electricity crisis of 2000 and 2001 illustrates the

U.S.C., 7 U.S.C., 15 U.S.C., 16 U.S.C., 25 U.S.C., 30 U.S.C., and 42 U.S.C. (2012)). Title XIII of the Energy Policy Act of 2005 provided tax incentives relating to electricity infrastructure, domestic fossil fuel security, conservation and energy efficiency, and alternative motor vehicles and fuels. *See id.* The Energy Independence and Security Act of 2007 provided incentives for research and development of biofuels and geothermal energy. *See* Pub. L. No. 110-140, 121 Stat. 1492 (codified as amended at 42 U.S.C. §§ 17001–17386 (2012)).

¹⁹⁹ The *Mobile–Sierra* doctrine stands for the proposition that freely negotiated rates are presumed to be just and reasonable under both the FPA and NGA. *See* Fed. Power Comm’n v. Sierra Pac. Power Co., 350 U.S. 348, 355 (1956); United Gas Pipe Line Co. v. Mobile Gas Serv. Corp., 350 U.S. 332, 344–45 (1956).

²⁰⁰ Although the 1992 Energy Policy Act ratified FERC’s Open Access Order, it did not go so far as to authorize market rates explicitly. *See* Energy Policy Act of 1992, Pub. L. No. 102-486, §§ 721–722, 106 Stat. 2776, 2915-19 (codified as amended at 16 U.S.C. §§ 824j–824k (2012)). FERC’s previous jurisprudence interpreting the “just and reasonable” standard stressed that rates must reflect “a balancing of the investor and the consumer interests,” but emphasizing the fairness of the end result rather than any particular formula for the determination of rates. *See, e.g.*, Fed. Power Comm’n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944) (reinforcing a focus on the outcome rather than “various permissible ways in which any rate base on which the return is computed might be arrived at”).

challenges FERC has faced trying to ensure that prices for power and transmission services remain “just and reasonable,” while seeking to promote efficiency in organized markets. During the crisis, wholesale energy prices in California skyrocketed to more than fifty times historical norms, driving one utility into bankruptcy.²⁰¹ As a result, wholesale buyers flooded FERC with claims that prices charged by sellers violated the FPA’s just and reasonable standard, entitling them to refunds.²⁰² In sorting out these claims, FERC learned that in the dysfunctional California market, sellers were able to charge exorbitant prices not only because their product was scarce, but also because sellers took steps to increase its scarcity, such as withholding generation from the market on high demand days²⁰³ or colluding with affiliate companies.²⁰⁴

FERC struggled with how to apply the statutory “just and reasonable” standard to these transactions. One cannot capture the efficiency of markets without letting prices fluctuate to signal the relative scarcity of the good, and high prices in the California market ought to have invited increases in supply and decreases in demand—at least in the long run. The California market, however, did not react in these ways because it was broken, a victim of manipulation made particularly easy by the market’s poor design.²⁰⁵ The FPA is silent on the question of what “just and reasonable” means in this context, and Congress has not spoken on the matter. Thus, it was left to the

²⁰¹ See Michael W. Lynch & Adrian Moore, *Power Tripped*, REASON, June 2001, at 32.

²⁰² In petitions to FERC after the crisis, buyers on California’s wholesale market claimed to have been overcharged by more than \$9 billion. FERC ultimately decided that the figure was about half that. FED. ENERGY REGULATORY COMM’N, THE COMMISSION’S RESPONSE TO THE CALIFORNIA ELECTRICITY CRISIS AND TIMELINE FOR DISTRIBUTION OF REFUNDS 14 (2005), available at <http://www.ferc.gov/legal/staff-reports/comm-response.pdf>.

²⁰³ FERC has made a distinction between “economic withholding” and “physical withholding” of power on spot markets. Economic withholding refers to a seller’s practice of charging an exorbitantly high price for a product simply because the seller knows that the product is scarce and that buyers have no choice but to take it at the offered price; physical withholding refers to a seller’s practice of withholding from the market generation from one of the seller’s generating plants to create sufficient scarcity that the seller could demand exorbitant rates for power from its other plants. See Order Establishing Refund Effective Date and Proposing to Revise Market-Based Rate Tariffs and Authorizations, 97 F.E.R.C. ¶ 61,220 (2010).

²⁰⁴ For examples, see generally FED. ENERGY REGULATORY COMM’N, FINAL REPORT ON MANIPULATION IN WESTERN MARKETS (2003), available at <http://www.ferc.gov/industries/electric/indus-act/wec.asp>, which describes how some California market participants manipulated the market by scheduling phony spot market transactions designed to create congestion in the system so that they could be compensated for relieving congestion by forgoing those transactions.

²⁰⁵ Of course, retail price caps in California prevented, or at least dampened, the reductions in demand one would expect to see from high prices. Indeed, during the crisis, retail customers in most of the state did not experience price increases.

courts to decide whether broadly applied market-based rates are “just and reasonable” under the FPA.

In *California ex rel. Lockyer v. FERC*,²⁰⁶ the Ninth Circuit determined that market-based rates are consistent with the just and reasonable standard, reasoning that FERC’s regulation of electricity rates under the FPA had long contemplated (and authorized, in the context of bilateral negotiations) market-based rates.²⁰⁷ The Supreme Court denied certiorari in the *Lockyer* case²⁰⁸ but took up another challenge arising out of the California crisis in the case of *Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County*.²⁰⁹ *Morgan Stanley* involved a challenge not to rates charged in the California spot market, but rather to rates paid by buyers who entered into long-term wholesale power purchase contracts at the tail end of the California crisis.²¹⁰ The buyers argued that (i) manipulation in the California market artificially increased the negotiated contract rates, rendering them unjust and unreasonable, and (ii) the *Mobile–Sierra* doctrine’s presumption that such rates are just and reasonable is inapplicable to these contracts because FERC did not have an opportunity to approve the contract rates, and the contract rates were so high as to violate the public interest.²¹¹ The Supreme Court rejected these contentions, but remanded the case to FERC on procedural grounds.²¹² Justice Scalia’s majority opinion went out of its way to stress that the Court was not resolving “the lawfulness of the market-based-tariff system” under the FPA.²¹³

Thus, the courts have left FERC’s broad authorization of market-based rates intact. As for the question of how to control abuse of market power in electricity markets, eventually, the agency determined that sellers ought to be able to charge scarcity rents, but not to create scarcity where none exists.²¹⁴

²⁰⁶ 383 F.3d 1006 (9th Cir. 2004).

²⁰⁷ *Id.* at 1013.

²⁰⁸ 551 U.S. 1140 (2007).

²⁰⁹ 554 U.S. 527 (2008).

²¹⁰ *Id.* at 540.

²¹¹ *Id.* at 541.

²¹² *Id.* at 530, 553-55.

²¹³ *Id.* at 538; *see also id.* at 548 (“We reiterate that we do not address the lawfulness of FERC’s market-based-rates scheme . . . [A]ny needed revision in that scheme is properly addressed in a challenge to the scheme itself, not through a disfigurement of the venerable *Mobile–Sierra* doctrine.”).

²¹⁴ FERC reasoned that sellers need to be able to charge scarcity rents and that abuse of market power is best addressed through close monitoring of seller behavior and the revocation of the authority to charge market rates where market power arises. For a detailed description of how FERC’s thinking on this issue evolved after the California crisis, see David B. Spence & Robert Prentice, *The Transformation of American Energy Markets and the Problem of Market Power*, 53 B.C. L. REV. 131, 159-64 (2012).

The process by which FERC came to this conclusion reflects the same kind of strategic behavior EPA used when adapting the CAA to address the problem of GHG emissions—proposals of bold action followed by more measured action in the final analysis. FERC tried several approaches, only to withdraw them in response to public reaction. The agency initially suggested aggressive “market behavior rules” limiting the ability of sellers to engage in economic withholding²¹⁵ and a “standard market design” for all transmission and wholesale power sales markets,²¹⁶ but abandoned those proposals after they met widespread opposition.²¹⁷ In the end, while Congress did not address the question of whether broad use of market pricing is consistent with the FPA, it did eventually address the question of how FERC ought to manage abuses of market power in wholesale electricity markets. In the only case in our sample in which Congress intervened to resolve a regulatory dilemma facing the agency, the Energy Policy Act of 2005 directed FERC to adopt an approach to market manipulation borrowed from the securities laws—one that focuses on the use of fraud or deceit in electricity markets.²¹⁸

3. Adapting the Transmission Grid to New Market Realities

The rapid growth of competitive wholesale electricity markets has presented FERC with another problem that is ill-suited to an FPA regulatory regime from another, bygone era: namely, the problem of helping geographically broader, more active and robust wholesale markets grow and thrive on an aging, balkanized transmission grid. Increasingly, long-distance transmission of power is both economically desirable and technically efficient. Wholesale buyers now have the (at least theoretical) option of purchasing power from a larger universe (both numerically and geographically) of potential sellers;²¹⁹ at the same time, engineers have improved the efficiency of transmitting power over greater distances.²²⁰ Consequently, more generating

²¹⁵ See Order Amending Market-Based Rate Tariffs and Authorizations, 105 F.E.R.C. ¶ 61,218 (2003), *reh'g denied*, 107 F.E.R.C. ¶ 61,175 (2004).

²¹⁶ Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design, Notice of Proposed Rulemaking, 67 Fed. Reg. 55,452 (proposed Aug. 29, 2002) (to be codified at 18 C.F.R. pt. 35).

²¹⁷ Order Terminating Proceeding, 70 Fed. Reg. 43,140 (July 26, 2005).

²¹⁸ Energy Policy Act of 2005, Pub. L. No. 109-58, § 315, 119 Stat. 594, 691 (codified at 15 U.S.C. § 717c-1 (2012)).

²¹⁹ See, e.g., COMPETE, RTO AND ISO MARKETS ARE ESSENTIAL TO MEETING OUR NATION'S ECONOMIC, ENERGY AND ENVIRONMENTAL CHALLENGES 1-2 (2010), available at http://www.competecoalition.com/files/RTO%20White%20Paper_update%2010.6.10.pdf (describing the benefits of competitive energy markets, including lower prices for consumers).

²²⁰ See Matthew L. Wald, *Giving the Grid Some Backbone*, SCI. AM. EARTH 3.0, Mar. 2009, at 52, 56 (describing the possibility for a new system of high-voltage lines controlled by state-of-the-

plants are being built farther and farther from loads. The last two decades have seen new wind and solar farms,²²¹ almost all of which are located far from cities and often far from existing transmission lines.²²² This has been spurred by a combination of technological advances,²²³ public policy incentives like tax credits,²²⁴ and state renewable portfolio standards.²²⁵ Finally, the advent of the “smart grid” makes it possible to integrate information technology into the electricity transmission system,²²⁶ enabling grid operators to identify and avoid congestion problems, price power transfers more efficiently, and allow demand-side resources to participate in energy markets,²²⁷ all of which can enhance the value of long-distance power transmission.

The United States cannot capture this value if it cannot resolve to build interstate transmission lines, but finding that resolve has been difficult.

art transmission centers); *see also* OFFICE OF ELEC. TRANSMISSION & DISTRIBUTION, U.S. DEP’T OF ENERGY, “GRID 2030:” A NATIONAL VISION FOR ELECTRICITY’S SECOND 100 YEARS 11-15 (2003), *available at* <http://www.ferc.gov/eventcalendar/files/20050608125055-grid-2030.pdf> (discussing possible technologies to expand delivery systems).

²²¹ According to the Energy Information Administration, in the decade between 2000 and 2011, renewable generating capacity grew from about sixteen gigawatts to more than sixty-one gigawatts. U.S. ENERGY INFO. ADMIN., *ELECTRIC POWER ANNUAL 2011* tbl.4.2 B (2013), *available at* <http://www.eia.gov/electricity/annual/archive/2011/pdf/epa.pdf>.

²²² The best onshore wind resources are located in the upper Midwest and Great Plains, while the best solar resources are located in the desert Southwest. *See Wind Maps*, NAT’L RENEWABLE ENERGY LAB., <http://www.nrel.gov/gis/wind.html> (last visited Oct. 3, 2014), *archived at* <http://perma.cc/UC3K-VEWU>; *Solar Maps*, NAT’L RENEWABLE ENERGY LAB., <http://www.nrel.gov/gis/solar.html> (last visited Oct. 3, 2014), *archived at* <http://perma.cc/5VCZ-M2T9>.

²²³ For a summary of the improving competitiveness of renewable resources, *see* Benjamin K. Sovacool & Charmaine Watts, *Going Completely Renewable: Is it Possible (Let Alone Desirable)?*, *ELECTRICITY J.*, May 2009, at 95, 98-99.

²²⁴ *See, e.g.*, Diane Cardwell, *Renewed Tax Credit Buys Wind-Power Projects*, *N.Y. TIMES*, Mar. 21, 2013, at B3 (describing an increase in development of wind projects in response to Congress’s renewal of the production tax credit in January 2013).

²²⁵ Generally, renewable portfolio standards (RPSs) require that electricity retailers secure a specified percentage of electricity they sell from renewable sources. State RPSs differ widely, specifying different goals and defining qualified “renewable” sources differently. For a good summary of state standards and their strengths and weaknesses, *see* Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 *CONN. L. REV.* 1339 (2010). *See generally* *DSIRE: Database of State Incentives for Renewables & Efficiency*, N.C. STATE UNIV., <http://www.dsireusa.org/>, *archived at* <http://perma.cc/D44G-QN6Z> (last visited Oct. 3, 2014) (providing an unofficial review of state standards and incentives).

²²⁶ The smart grid holds promise for almost every part of the electricity market, including generation, distribution, and consumption, as well as transmission. For a full description of the potential benefits of a smarter electric grid, *see* PETER FOX-PENNER, *SMART POWER: CLIMATE CHANGE, THE SMART GRID, AND THE FUTURE OF ELECTRIC UTILITIES* (2010).

²²⁷ *See generally* NAT’L ENERGY TECH. LAB., U.S. DEP’T OF ENERGY, DOE/NETL-2010/1413, *UNDERSTANDING THE BENEFITS OF THE SMART GRID 3* (2010), *available at* http://www.netl.doe.gov/File%20Library/research/energy%20efficiency/smart%20grid/whitepapers/06-18-2010_Understanding-Smart-Grid-Benefits.pdf (outlining the benefits of the smart grid).

Most experts estimate that modernizing the grid to meet new electricity market needs will require investment in tens of thousands of miles of new transmission lines at costs in the tens of billions of dollars.²²⁸ Because the 1935 Congress never conceived of national or regional power markets, the FPA of 1935 did not grant FERC the power to site interstate transmission lines in the way that its companion statute, the Natural Gas Act, granted the agency the power to site interstate natural gas pipelines.²²⁹ For these historical reasons, siting approval for transmission lines has traditionally rested with the states, and even sometimes with local governments. This is an artifact of the original configuration of the grid, built by vertically integrated, state-chartered IOUs to provide monopoly service within their individual service areas. Consequently, FERC has used its power to set wholesale power and transmission rates and to authorize the charging of market-based rates, as leverage to promote the development of an efficient, reliable transmission grid that serves larger and more robust wholesale markets. FERC has used that leverage strategically, alternating between bold action and caution.

As a first step, in 1996, FERC's Order No. 888 encouraged owners of transmission lines (mostly IOUs) to create and join regional nonprofit entities known as Independent System Operators (ISOs)²³⁰ (later, Regional

²²⁸ See Wald, *supra* note 220, at 55-57 (explaining several proposed grid investment plans, involving tens of thousands of miles of new transmission lines costing tens of billions of dollars); see also RICHARD W. CAPERTON & MATT KASPER, CTR. FOR AM. PROGRESS, RE-ENERGIZE REGIONAL ECONOMIES WITH NEW ELECTRIC TRANSMISSION LINES 4 (2011), available at http://cdn.americanprogress.org/wp-content/uploads/issues/2011/12/pdf/transmission_lines.pdf (suggesting that the United States needs to invest at least \$298 billion dollars to upgrade the grid by 2030); FOX-PENNER, *supra* note 226, at 89-92 (describing plans for a transmission "superhighway"); Jeff St. John, *Tres Amigas Raises Money for US Grid Super-Hub*, GREENTECH MEDIA (Nov. 9, 2011), <http://www.greentechmedia.com/articles/read/tres-amigas-raises-money-for-u.s.-grid-super-hub/>, archived at <http://perma.cc/LY4Y-AHJX>.

²²⁹ Section 7 of the Natural Gas Act authorizes FERC to grant certificates of public convenience and necessity to builders and operators of interstate natural gas pipelines. See 15 U.S.C. § 717f (2012). With the certificate comes the power of eminent domain. *Id.* at § 717f(h). The Supreme Court has determined that the power granted to FERC under the NGA preempts state and local regulation of pipelines. See *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 300 (1988) ("[W]e conclude that [the state statute] regulates in a field the NGA has occupied to the exclusion of state law, and that it therefore is pre-empted.").

²³⁰ Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540, 21,591-21,597 (May 10, 1996) (to be codified at 18 C.F.R. pts. 35 and 385). Transmission owners retain ownership of their lines when they join the ISO, but relinquish control over their use (including pricing and scheduling of transmission services) to the ISO. *Id.*

Transmission Organizations or RTOs²³¹) to manage the grid, ensure system reliability, and guard against discrimination and the exercise of market power in the provision of transmission services.²³² The new grid managers would be independent of any individual utility and would have operational control of multi-utility transmission networks; they would answer to FERC.²³³ Because FERC lacked the explicit authority under the FPA to mandate participation in such bodies, however, it used the levers it had to encourage their formation. FERC issued orders establishing “principles” for ISOs and RTOs and made clear it would strongly prefer all utilities to join them.²³⁴ FERC also conditioned other benefits, such as merger approval and approval of market-based rates, on utilities’ willingness to participate in ISOs/RTOs.²³⁵ In the end, however, the agency lacked the authority to force utilities to form or join ISOs/RTOs, and Congress declined to grant it. Nevertheless, in the Northeast, most of the mid-Atlantic, Midwest, Texas, and California, wholesale power markets and utilities’ grid assets are

²³¹ FERC’s Order No. 2000 established the parameters for creating RTOs. Regional Transmission Organizations, 65 Fed. Reg. 810 (Jan. 6, 2000) (to be codified at 18 C.F.R. pt. 35). RTOs operate similarly to ISOs. FERC originally hoped that RTOs would be much broader geographically. We now, however, use the terms RTO and ISO interchangeably.

²³² The transition to competition has meant that more energy producers are feeding power into the grid through an ever multiplying number of transactions, creating larger loop-flow problems than the networks had experienced before.

²³³ It is FERC’s responsibility to ensure that transmission in power markets operates in ways that are consistent with the Federal Power Act. In the organized markets managed by RTOs, however, FERC oversees the RTOs, and the RTOs bear front-line responsibility for ensuring that wholesale electric markets function properly and provide reliable service. That is, RTOs ensure that the grid remains in balance and manage investment in the upkeep and expansion of the grid to meet changing market conditions. RTOs also monitor purchases and sales on the spot market to ensure that pricing is efficient and that neither buyers nor sellers are exercising market power. In most (but not all) places where there is not an RTO to manage wholesale markets, IOUs remain vertically integrated and traditionally regulated such that the volume and geographic reach of third-party wholesale transactions are smaller; in these settings, IOUs manage reliability collectively through informal power pools. During the 1990s, a sizable minority of states also opted to restructure their retail electricity markets, mandating the unbundling of electricity sales from distribution services, opening up retail sales to competition and authorizing market pricing. As a consequence of these changes, RTOs now manage organized and robust regional wholesale electricity markets in the northeastern and midwestern United States, as well as Texas and California, with FERC oversight.

²³⁴ See Promoting Wholesale Competition, 61 Fed. Reg. at 21,595 (encouraging utilities to form “properly structured” ISOs voluntarily and establishing principles to guide their formation); see also Regional Transmission Organizations, 65 Fed. Reg. at 811 (encouraging the formation of regional bodies and stating that FERC’s “objective is for all transmission-owning entities in the Nation, including non-public utility entities, to place their transmission facilities under the control of appropriate RTOs in a timely manner”).

²³⁵ See Joel B. Eisen, *Regulatory Linearity, Commerce Clause Brinkmanship, and Retrenchment in Electric Utility Deregulation*, 40 WAKE FOREST L. REV. 545, 573-82 (2005).

now managed by ISOs/RTOs.²³⁶ This represents a monumental change in the industry in these regions, one affected primarily by FERC's creativity and persistence with very little assistance from Congress.

FERC faced another obstacle in its efforts to usher the transmission system into the twenty-first century. ISOs/RTOs can encourage members to pursue transmission and generation investments that suit modern power markets, but they cannot force those investments. States and local governments often have little or no incentive to approve the construction of transmission lines that cross through their jurisdiction, but provide no benefits (for example, electricity service or jobs at the generating plant) within that jurisdiction. Indeed, many state permitting regimes deny the state public utility commission the authority to approve transmission lines that do not provide in-state benefits or are not constructed by utilities providing power service within the state.²³⁷

Congress has not been oblivious to this problem, but its lone attempt to address it was timid and unsuccessful. The Energy Policy Act of 2005 tried to encourage states to form compacts to manage the process of transmission planning.²³⁸ More directly, section 216 of the Energy Policy Act of 2005 attempted to provide FERC with limited "backstop authority" over siting transmission lines in regions suffering from severe transmission congestion problems and designated by the Department of Energy (DOE) as "national interest electric transmission corridor[s]."²³⁹ Specifically, section 216 authorizes FERC to approve a transmission project in such a corridor—preempting local law—if it concludes that the state (i) lacks the authority to approve the line or to consider the interstate benefits in rendering its decision²⁴⁰ or (ii) has "withheld approval for more than [one] year" or

²³⁶ See *Regional Transmission Organizations (RTO)/Independent System Operators (ISO)*, FERC, <http://ferc.gov/industries/electric/indus-act/rto.asp> (last updated Aug. 26, 2014), archived at <http://perma.cc/7U93-TRJ3> (showing current ISOs/RTOs).

²³⁷ See Ashley C. Brown & Jim Rossi, *Siting Transmission Lines in a Changed Milieu: Evolving Notions of the "Public Interest" in Balancing State and Regional Considerations*, 81 U. COLO. L. REV. 705, 748-70 (2010) (discussing how recent developments have challenged the definition of "public interest"); Richard J. Pierce, *Environmental Regulation, Energy and Market Entry*, 15 DUKE ENVTL. L. & POL'Y F. 167 (2005) (discussing three specific contexts—gasoline production, liquefied natural gas importation, and electricity transmission—where environmental regulation methods conflict with energy policy goals); Cassandra Burke Robertson, *Bringing the Camel into the Tent: State and Federal Power over Electricity Transmission*, 49 CLEV. ST. L. REV. 71, 100-02 (2001) (making recommendations about federal transmission legislation).

²³⁸ See 16 U.S.C. § 824p(i) (2012) (authorizing three or more contiguous states to enter into an interstate compact that establishes regional siting agencies to carry out those states' siting responsibilities).

²³⁹ *Id.* § 824p(a)(2).

²⁴⁰ *Id.* § 824p(b)(1)(A).

conditioned its approval so as to reduce substantially the congestion relief benefits of the line or render the line economically unfeasible.²⁴¹ While DOE did designate a few national interest corridors,²⁴² two circuit courts have overturned the rules FERC promulgated to guide its use of this authority,²⁴³ and FERC has been unable to deploy it. Significantly, the Fourth Circuit's reading of the statute permitted any state to avoid the application of section 216 simply by denying approval to a new transmission line proposal.²⁴⁴ FERC has interpreted these judicial setbacks as "a significant constraint on the Commission's already-limited ability to approve appropriate projects to transmit energy in interstate commerce,"²⁴⁵ and many observers now consider the statutory provision ineffectual.²⁴⁶ Although the FERC chairman has repeatedly asked Congress to provide more robust backstop transmission siting authority, Congress has failed to do so.²⁴⁷ Thus, in this instance, FERC has been unable to find a creative solution to the problem of state law impediments to transmission line siting. Unable to use federal siting as a stick to force more investment in transmission, however, FERC has instead tried to induce investment using a carrot of transmission rate pricing incentives.

²⁴¹ *Id.* § 824p(b)(1)(C).

²⁴² See National Electric Transmission Congestion Report, 72 Fed. Reg. 56,992 (Oct. 5, 2007) (designating two national interest electric transmission corridors).

²⁴³ See *Cal. Wilderness Coal. v. U.S. Dep't of Energy*, 631 F.3d 1072, 1107 (9th Cir. 2011) (overturning the rules for failure to comply with the National Environmental Policy Act); *Piedmont Env'tl. Council v. FERC*, 558 F.3d 304, 319-20 (4th Cir. 2009) (finding multiple problems with the rules).

²⁴⁴ See *Piedmont*, 558 F.3d at 310 ("The phrase [withheld approval of a permit application for more than one year] does not include, as FERC held, the denial of an application.").

²⁴⁵ *Transmission Infrastructure: Hearing Before the S. Comm. on Energy & Natural Res.*, 111th Cong. 11 (2009) (statement of Jon Wellinghoff, Acting Chairman, FERC). The Supreme Court denied certiorari in the *Piedmont* case. *Edison Elec. Inst. v. Piedmont Env'tl. Council*, 130 S.Ct. 1138 (2010).

²⁴⁶ See, e.g., Jim Rossi, *The Trojan Horse of Electric Power Transmission Line Siting Authority*, 39 ENVTL. L. 1015, 1037 (2009) ("[S]ome interpret the decision as seriously hobbling FERC's ability to implement its backstop authority."). The Waxman-Markey Bill contained a provision that would have strengthened FERC's backstop siting authority, but only in portions of the western United States. See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 151(b) (2009) (stating that the powers only apply to the Western Interconnection). The Obama administration briefly considered, then abandoned, a plan to continue to try and use section 216 authority. See Lynn Garner, *Energy Department Drops Plan to Cede Power to FERC for Siting Transmission Lines*, 42 Env't Rep. (BNA) 2297 (2011).

²⁴⁷ Specifically, Congress failed to pass three bills that would have increased FERC's backstop authority. See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 151 (2009); American Clean Energy Leadership Act, S. 1462, 111th Cong. § 121 (2009); Clean Renewable Energy and Economic Development Act, S. 539, 111th Cong. § 3 (2009).

Even if new transmission line projects are able to navigate state approval processes successfully, they face yet another hurdle stemming from the original provisions of the FPA. In order to finance new transmission investment, line owners must be able to recover their investment. The FPA requires that transmission rates be “just and reasonable” and not “unduly discriminatory or preferential,”²⁴⁸ and courts have interpreted this language to require that only ratepayers who benefit from a new transmission line bear the capital costs of constructing it. This raises the question of who benefits from new transmission investment: is it only the direct customers of the new line or also the indirect beneficiaries of the enhanced reliability and cleaner energy mix provided by the new line? The answer to this question can determine whether there are enough beneficiaries to justify the investment in the first place.

FERC has faced the question of how to encourage new transmission investment in the shadow of this “beneficiary pays” rule, which seems to have had a chilling effect on investment in new transmission lines, particularly those designed to bring remote renewable power to the grid.²⁴⁹ Interestingly, transmission lines are being approved and built in Texas with relative speed and ease,²⁵⁰ where much of the grid lies beyond the jurisdiction of the FPA and FERC.²⁵¹ The Commission has tried to help ISOs/RTOs and other

²⁴⁸ See 16 U.S.C. § 824e(a) (2012).

²⁴⁹ The Seventh Circuit struck down a recent transmission rate proposal, which would have spread transmission costs widely, for failing to adhere to this principle. See *Ill. Commerce Comm’n v. FERC*, 576 F.3d 470, 476 (7th Cir. 2009) (“FERC is not authorized to approve a pricing scheme that requires a group of utilities to pay for facilities from which its members derive no benefits . . .”). The court, however, offered a qualification to the “beneficiary pays” principle: “We do not suggest that the Commission has to calculate benefits to the last penny, or for that matter to the last million or ten million or perhaps hundred million dollars.” *Id.* at 477; see also *K N Energy, Inc. v. FERC*, 968 F.2d 1295, 1301 (D.C. Cir. 1992) (upholding FERC cost-spreading order when “all segments of the industry . . . will nonetheless ultimately benefit from their resolution”).

²⁵⁰ Investors have poured \$6.8 billion into new transmission lines in Texas, which will deliver double the wind capacity to consumers as new wind farms develop. *Texas to Double Wind Capacity, Deliver to Major Cities*, SUSTAINABLEBUSINESS.COM (Apr. 1, 2013, 1:31 PM), <http://www.sustainablebusiness.com/index.cfm/go/news.display/id/24725>, archived at <http://perma.cc/LX63-PTS5>. In 2005, Texas created “competitive renewable energy zones” (“CREZ zones”), areas suitable for development of wind resources. The state offered financial incentives for investment in renewable power within the CREZ zones, and decided to “socialize” the costs of building transmission generators in the CREZ zones eastward to those in San Antonio, Houston, and the remainder of central and east Texas. The presence of this new transmission, in turn, has sparked the development of more renewable generation in Texas than in any other state. See Matthew L. Wald, *Wired for Wind*, N.Y. TIMES, July 24, 2014, at B1.

²⁵¹ The Electric Reliability Council of Texas (“ERCOT”) is an RTO that manages a grid that is functionally separate from the remainder of the American power grid, and comprises most of the grid within the State of Texas. See Jared M. Fleisher, *ERCOT’s Jurisdictional Status: A Legal*

transmission owners navigate this “beneficiary pays” rule by promulgating Order No. 1000,²⁵² which establishes cost allocation guidelines for new transmission investments.²⁵³ Order No. 1000 incorporates language from a recent court decision applying the beneficiary pays principle,²⁵⁴ which reflects FERC’s awareness of the need to remain within judicial views of FPA boundaries. At the same time, FERC gently pushes those boundaries by authorizing ISOs/RTOs and other transmission owners to consider “public policy benefits” among the benefits to which transmission costs can be allocated.²⁵⁵ Presumably, this means that, when reviewing transmission cost allocation schemes, FERC will look relatively favorably on the allocation of costs to ratepayers who may not receive electricity over the new line, but rather receive only environmental and reliability benefits, so long as those benefits are not trivial.²⁵⁶ Indeed, FERC has already approved a proposal by the Midwest ISO to allocate the costs associated with a portfolio of new transmission lines designated as “multi-value projects”—lines that would, collectively, offer reliability and environmental and other benefits to the entire RTO system—to ratepayers across the entire RTO region.²⁵⁷ The Seventh Circuit recently affirmed FERC’s decision to approve Midwest ISO’s multi-value project portfolio,²⁵⁸ seemingly vindicating FERC’s approach to the problem. Indeed, during oral argument of the case before the Seventh Circuit, Judge Wood endorsed a broad view of the “beneficiary

History and Contemporary Appraisal, 3 TEX. J. OIL, GAS & ENERGY L. 4, 4 (2008) (explaining that ERCOT is “the network of interconnected utilities that together cover approximately 75 percent of the land area in the state of Texas”). The reasons for this separation traced back to the desire of the Texas utilities to remain free from FERC jurisdiction. *See id.* at 10 (explaining that in response to the passage of the Federal Power Act in 1935, Texas utilities sought to cut themselves off from interstate commerce to evade federal jurisdiction).

²⁵² Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 76 Fed. Reg. 49,842 (Aug. 11, 2011) (to be codified at 18 C.F.R. pt. 35).

²⁵³ *Id.* at 49,918-49,930.

²⁵⁴ Specifically, FERC borrows from the Seventh Circuit’s decision in *Illinois Commerce Commission v. FERC*, 576 F.3d 470, 477 (7th Cir. 2009), by requiring that each of the costs assigned to utility ratepayers be “roughly commensurate” with the benefits the line will bring to those ratepayers. *See* Transmission Planning and Cost Allocation, 76 Fed. Reg. at 49,922.

²⁵⁵ *See* Transmission Planning and Cost Allocation, 76 Fed. Reg. at 49,876 (“The Commission requires public utility transmission providers to amend their OATTs to describe procedures that provide for the consideration of transmission needs driven by Public Policy Requirements in the local and regional transmission planning processes.”).

²⁵⁶ For an interesting analysis of the federalism issues posed by the transmission lines siting problem, see generally Alexandra B. Klass & Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801 (2012).

²⁵⁷ For additional information, see *id.* at 1851-55. FERC ultimately upheld the multi-value project. *See FERC Upholds MISO’s MVP Transmission Cost Allocation Methodology*, RESTRUCTURING TODAY, Oct. 21, 2011, at 1.

²⁵⁸ *See* Ill. Commerce Comm’n v. FERC, 721 F.3d 764, 777 (7th Cir. 2013).

pays” principle in language that highlights the poor fit between the statute and modern bulk power markets:

[E]nergy is a much more tradable commodity than people thought in the 1950s or the 1930s or what have you. There are enormous areas over which energy can be efficiently transmitted, so to say that [one part of the Midwest ISO] needs to be carved off as its own area just doesn’t make sense to me.²⁵⁹

On the other hand, this same court recently overturned FERC’s approval of a cost allocation scheme for another RTO’s new transmission line on the grounds that FERC did not adequately support its conclusion that benefits of the line flow beyond the line’s immediate customer base.²⁶⁰

Presumably, the question of how to implement the “beneficiary pays” principle will continue to hamper FERC’s and the ISOs’/RTOs’ attempts to implement Order No. 1000. The Supreme Court has not yet addressed the issue, and Congress has not spoken to it. The D.C. Circuit, however, recently upheld Order No. 1000,²⁶¹ endorsing FERC’s use of the FPA’s just, reasonable, and nondiscriminatory rate mandate to compel transmission owners to consider public policy benefits²⁶² in allocating the costs of new transmission lines.²⁶³

Given its recent victory in the D.C. Circuit, FERC is likely to continue to try to adapt Depression-era statutory language to twenty-first century electricity markets—that is, to use its authority over transmission rates to push transmission owners to plan new investments and to facilitate financing by authorizing cost-spreading over as wide a ratepayer base as possible, consistent with the FPA.

4. Adapting the Federal Power Act to Clean Energy Goals

The proliferation of state and federal public policies promoting the use of clean energy and conservation has presented FERC with yet another

²⁵⁹ Oral Argument at 16:19, *Ill. Commerce Comm’n v. FERC*, 721 F.3d 764 (7th Cir. 2013) (Nos. 11-3421, 11-3430, 11-3584, 11-3585, 11-3586, 11-3620, 11-3787, 11-3795, 11-3806, 12-1027), available at http://media.ca7.uscourts.gov/sound/2013/sk.11-3421.11-3421_04_10_2013.mp3.

²⁶⁰ *See Ill. Commerce Comm’n v. FERC*, Nos. 13-1674, 13-1676, 13-2052, 13-2262, slip op. at 5 (7th Cir. June 24, 2014) (rejecting FERC’s approval of a plan to allocate some of the costs of a new line in the eastern part of the PJM RTO territory to utilities in the western part because FERC failed to make sufficient attempts to quantify the reliability and other benefits of the line to western utilities).

²⁶¹ *See S.C. Pub. Serv. Auth. v. FERC*, No. 12-1232, 2014 WL 3973116, at *17-20 (D.C. Cir. Aug. 15, 2014).

²⁶² *See id.* at 17-24 (holding that FERC is entitled to deference given its “expertise and experience” in finding that “planning and cost allocation practices were unjust or unreasonable”).

²⁶³ *See id.* at 39 (rejecting the challenge to FERC’s authority to adopt cost allocation reforms).

challenge to which the FPA does not speak clearly. Specifically, the rapid growth of wind and solar generation, and the development of smart grid technology enabling electricity consumers to reduce demand or shift it to off-peak periods, pose their own challenges to operators of newly robust regional wholesale markets. Since the 1980s, more than half of American states have adopted some form of renewable energy standard; some have gone further. California's AB 32 established a statewide program of GHG emission regulation, and other states have been active promoters of clean energy as well.²⁶⁴ Aside from the problem of building transmission lines to connect these new, often remotely located facilities to the grid, the penetration of wind and other renewable sources in the market presents FERC with new questions of how these new sources of generation should be compensated and otherwise accommodated by wholesale electricity markets. As with other electricity market issues, beyond generalized expressions of support for clean energy and demand response,²⁶⁵ Congress has declined to offer guidance on the kind of zero-sum questions at the heart of integrating renewables into wholesale electricity markets, leaving those divisive questions for FERC and the courts.

FERC has promoted clean energy by requiring changes to standard interconnection agreements to facilitate grid interconnection of renewable energy resources.²⁶⁶ It has also declined to use its enforcement authority against states setting favorable power purchase rates for renewable energy.²⁶⁷

²⁶⁴ See 2006 Cal. Stat. 3419-3431; see also Memorandum of Understanding Between Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont (Dec. 20, 2005), available at http://rggi.org/docs/mou_final_12_20_05.pdf (forming the Regional Greenhouse Gas Initiative (RGGI), a cooperative effort between states in the northeast to regulate GHGs within their borders using a marketable permit system). In addition, in 2014, New York published for public comment a "draft energy plan" that would more aggressively promote clean energy and efficiency in the state's power sector. N.Y. STATE ENERGY PLANNING BD., SHAPING THE FUTURE OF ENERGY: 2014 DRAFT NEW YORK STATE ENERGY PLAN (2014), available at <http://energyplan.ny.gov/-media/nysenergyplan/2014stateenergyplan-documents/2014-draft-nysep-vol1.pdf>.

²⁶⁵ The Energy Policy Act of 2005 authorized FERC to promote the use of demand response, stating that "[i]t is the policy of the United States that time-based pricing and other forms of demand response . . . shall be encouraged . . . and unnecessary barriers to demand response participation . . . shall be eliminated." Pub. L. No. 109-58, § 1252(f), 119 Stat. 594, 966 (codified at 16 U.S.C. § 2642 (2012)). The Energy Independence and Security Act of 2007 requested that FERC conduct a "[n]ational [a]ssessment" of demand response potential. Pub. L. No. 110-140, § 529, 121 Stat. 1492, 1664 (codified at 42 U.S.C. § 8279 (2012)).

²⁶⁶ See Standardization of Generator Interconnection Agreements and Procedures, 68 Fed. Reg. 49,846 (Aug. 19, 2003) (to be codified at 18 C.F.R. pt. 35) (requiring changes to pro forma large generator interconnection agreements to accommodate variable energy resources).

²⁶⁷ See Notice of Intent Not to Act, 134 F.E.R.C. ¶ 61,271 (Mar. 31, 2011) (declining to enforce PURPA requirements against the California Public Utilities Commission); Petition for Enforcement at 10-14 (FERC Jan. 31, 2010) (No. EL11-19). FERC's regulations implementing PURPA require

Of course, most new utility-scale renewable electricity comes from wind energy, and wind power is intermittent. This poses a problem for grid operators, who must continuously balance loads. Wind power is dispatched to the grid whenever it is available because, in the usual case, generation sources are dispatched to the grid in ascending order of marginal cost.²⁶⁸ Because grid operators cannot count on wind capacity, however, they may deny wind generation capacity credits available to more reliable sources of electricity, penalize wind generators financially for failing to provide forecasted amounts of energy, and charge wind generators for the additional “ancillary services” (which are compensated changes in supply or demand necessary to balance loads) necessary to back up wind.²⁶⁹ Wind generators claim that these practices are unfair and that wind forecasting has improved greatly, reducing the amount of regulation and reserves needed to supplement wind power.

In response, FERC issued Order No. 764 on the integration of “variable energy resources” (VERs) in June 2012.²⁷⁰ Order No. 764 requires transmission utilities (including RTOs and ISOs) to schedule transmission in smaller increments of time (fifteen minutes rather than sixty minutes), thereby increasing the likelihood that wind power will hit its projected generation target within the specified increment.²⁷¹ To promote centralized wind forecasting, the rule also requires wind generators to provide wind forecasting data to transmission utilities and transmission utilities to provide regulation service necessary to support wind.²⁷²

FERC has also promoted a cleaner energy mix by pursuing policies that support the widespread use of demand response,²⁷³ reasoning that the

that rates paid for power from PURPA qualifying generators not exceed the cost of alternative generation. *Cf.* 18 C.F.R. § 292.101(b)(6) (2014).

²⁶⁸ The marginal cost of wind generation is effectively zero, so it is dispatched even before cheap coal power.

²⁶⁹ Joshua Z. Rokach, *Bending to the Wind*, *ELECTRICITY J.*, Mar. 2011, at 86, 88.

²⁷⁰ Integration of Variable Energy Resources, 77 Fed. Reg. 41,482 (July 13, 2012) (to be codified at 18 C.F.R. pt. 35).

²⁷¹ *See id.* at 41,491.

²⁷² *See id.* at 41,508.

²⁷³ Some FERC commissioners may see such policies as an extension of their traditional authority to ensure open access to the grid on fair terms, rather than because they believe FERC’s mandate includes promoting clean energy. Others, however, may embrace a clean energy agenda more explicitly. Either way, integrating cleaner energy into the grid can have salutary effects on both reliability and prices. FERC Chairman Jon Wellinghoff, named to the commission by President George W. Bush in 2006 and elevated to chairman by President Barack Obama in 2009, made no secret of his aims to take more concrete action in this regard:

I have a vision of our energy future Where energy efficiency, demand response, micro-generation, combined heat and power and other distributed resources

participation of demand-response resources in electricity markets can help to mitigate electricity prices by lowering demand at peak times by displacing other more expensive (and sometimes higher polluting) generation sources in those markets. Yet these policies have proven controversial. In Order No. 719,²⁷⁴ FERC required ISOs/RTOs to accept bids from demand response resources for certain “ancillary services” on a basis comparable to other resources.²⁷⁵ FERC also required ISOs/RTOs to permit an aggregator of retail customers to bid demand response on behalf of a group of retail customers directly into the organized wholesale energy market.²⁷⁶ In 2011, FERC went further, issuing Order No. 745.²⁷⁷ Order No. 745 seeks to remove barriers to fuller participation of demand response in wholesale markets by requiring ISOs and RTOs to compensate such resources at the market price for energy (known as the locational marginal price or “LMP”) under certain conditions. The D.C. Circuit, however, struck down Order No. 745, concluding that it tramples on state jurisdiction over retail sales of electricity by luring retail buyers into wholesale power markets (as providers

are the first source of energy services for most consumers. And those distributed resources are fully supplemented with competitive procurement of large-scale wind, solar, hydro, geothermal and other renewable resources rounding out a significant share of our total energy resource mix for North America.

Jon Wellinghoff, Chairman, FERC, Statement at NARUC Summer Meetings: International Presentation on a Shared Energy Vision for North America: Regulations, Markets, and the Environment (July 20, 2009), available at <https://www.ferc.gov/media/statements-speeches/wellinghoff/2009/07-20-09-wellinghoff.pdf>.

²⁷⁴ Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64,100 (Oct. 28, 2008) (to be codified at 18 C.F.R. pt. 35), *order on reh'g*, Wholesale Competition in Regions with Organized Electric Markets, 74 Fed. Reg. 37,776 (July 29, 2009) (to be codified at 18 C.F.R. pt. 35).

²⁷⁵ See *id.* at 64,103-64,104.

²⁷⁶ The Commission explained:

We find that allowing an [aggregator] to act as an intermediary for many small retail loads that cannot individually participate in the organized market would reduce a barrier to demand response. Aggregating small retail customers into larger pools of resources expands the amount of resources available to the market, increases competition, helps reduce prices to consumers and enhances reliability.

Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64,100, 64,119 (Oct. 28, 2008) (to be codified at 18 C.F.R. pt. 35).

²⁷⁷ Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (to be codified at 18 C.F.R. pt. 35) (seeking to balance the strain on the electric system by giving customers incentives to reduce energy consumption when wholesale energy prices are high). For an analysis of Order No. 745, see Richard J. Pierce, Jr., *A Primer on Demand Response and a Critique of Order 745*, 3 GEO. WASH. J. ENERGY & ENVTL. L. 102 (2012).

of demand response resources)²⁷⁸ and would overcompensate demand response providers, resulting in unjust and unreasonable rates.²⁷⁹

For these two policy choices—integrating renewables and demand response into wholesale markets—FERC has taken an aggressive approach that leverages its power over wholesale rates to push clean energy goals. Given the proliferation of renewable generation and demand response aggregators in electricity markets, FERC did not have the option of ignoring the issue. The treatment of these resources in wholesale electricity markets is essentially an economic issue—one that implicates the FPA mandate that wholesale rates be just, reasonable, and nondiscriminatory. Absent congressional guidance, FERC has been left to manage these twenty-first century issues using the regulatory levers it was granted in a 1935 law.

5. Bad Fit, FERC, and the Courts

Over the last two decades FERC faced a new competitive electricity market, demand for more bulk power transfers and insufficient investment in new transmission, challenges caused by the integration of more and more renewable resources, and opportunities posed by smart grid technology. Realistically, the agency had no choice but to respond to these challenges. Like EPA, FERC has approached problems of bad fit with a combination of gusto and caution but always with a strategic sense. And like EPA, FERC has not “gone for broke.” True, FERC rather boldly embraced the widespread use of market-based rates for wholesale power (before, during, and after the California energy crisis) despite lacking clear congressional authorization to do so. Yet to promote competition, FERC forced the unbundling of electric power generation and transmission in interstate

²⁷⁸ *Elec. Power Supply Ass'n v. FERC*, No. 11-1486, slip op. at 16 (D.C. Cir. May 23, 2014).

²⁷⁹ The court concluded that paying LMP for demand-response services improperly allows demand-response providers to “retain the savings associated with [the provider’s] avoided retail generation cost,” resulting in unjust and unreasonable rates. *Id.* at 15 (quoting Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658, 16,680 (Mar. 24, 2011) (to be codified at 18 C.F.R. pt. 35) (Moeller, Comm’r, dissenting)). Petitioners claimed that LMP overcompensates demand-response providers because they incur no real costs in providing their “resource” to the market, while providers of power earn the LMP minus their costs of generation. See Brief of Robert L. Borlick, Joseph Bowring, James Bushnell, and 18 Other Leading Economists as Amici Curiae in Support of Petitioners at 18-20, *Elec. Power Supply Ass'n*, No. 11-1486 (D.C. Cir. Oct. 25, 2012). In a vigorous dissent, Judge Edwards accepted FERC’s claim of jurisdiction based on the power to correct “practices affecting” wholesale rates. Indeed, he characterized that interpretation of the FPA as “straightforward and sensible” and consistent with precedent, and urged deference to the agency’s “well-reasoned and permissible interpretation of . . . the statute.” *Elec. Power Supply Assoc.*, No. 11-1486, slip op. at 13-14, 22 (Edwards, J., dissenting).

markets only, stopping short of exerting similar authority over retail markets traditionally governed by the states. To create incentives for additional transmission capacity, FERC has bootstrapped its authority over rates in numerous creative ways yet has eschewed more aggressive mandates over market design. Under the auspices of its rate-setting authority, FERC midwived the birth of new regional institutions capable of managing the increasingly complex electricity grid, but never required the states to join them. Finally, FERC has sought to force wholesale markets to be more welcoming to renewable resources and demand response, taking risks that it believes will survive judicial scrutiny.

All of these efforts have involved interpretations of eighty-year-old statutory language written by a Congress that could not have imagined most of the problems FERC now faces. Yet that Congress did give FERC broad authority to ensure that electricity rates are just and reasonable and nondiscriminatory. Most of the issues FERC must now confront involve the scope of that authority in light of new challenges in electricity markets. Thus the agency must ask: is the general use of market-based rates consistent with this statutory mandate? May the agency specify cost allocation methods for new transmission investment to ensure that transmission rates are nondiscriminatory? Does requiring the payment of locational marginal prices to providers of demand resources yield prices that are just and reasonable? These are significant policy choices, which one might expect Congress to make—or at least to shape substantially through periodic interventions. Instead, at least for the foreseeable future, these judgments will be made not by Congress but by FERC, under the supervision of the federal courts.

III. IMPLICATIONS OF CONGRESSIONAL DYSFUNCTION FOR REGULATORY POLICYMAKING

As our examples show, when agencies adopt innovative methods to adapt an old statutory scheme to new problems, their strategic choices invite judicial scrutiny. Indeed, given the extent of congressional dysfunction noted by political scientists, and the aging regulatory statutes in the U.S. Code, courts are likely to face an increasing number of cases in which they must decide the legality of agency policy decisions on issues not foreseen by Congress when it enacted the agency's enabling legislation. Surely, as courts encounter these increasingly high-stakes questions of statutory fit, they do so knowing that Congress will be unable, in all likelihood, to muster a legislative resolution. This prospect raises the question of how agencies and

courts can be expected to behave, and how they should behave, in such a strategic environment.

A. *The New Strategic Environment for Agencies*

Public choice scholars have conceived of agency policymaking as a principal-agent problem in which agency independence implies a democratic deficit: the elected branches, Congress and the President (the principals), struggle to control an agency (the agent), whose actions may reflect shirking and moral hazard.²⁸⁰ According to this view, the principals use the statute (a form of ex ante control) to steer agencies toward favored outcomes, in part by empowering interest groups to use litigation and the courts toward those favored ends;²⁸¹ politicians also use monitoring and oversight (ex post controls) to keep the agency pointed in the right direction.²⁸² Alternatively, the Wilsonian view conceives of agency policymaking from the agency's point of view, as a kind of constrained optimization problem in which the expert agency pursues its statutory mission subject to both the boundaries of the statute (as defined by the courts) and political oversight by Congress and the President.²⁸³ Under both views, agencies are charged with statutory missions and must make policy decisions subject to (imperfect or limited) political controls and to statutory boundaries determined ultimately by the courts. Each of the four governmental participants in this ongoing dynamic is strategic: that is, each acts with an understanding of the others' powers and in anticipation of what the others might do. Thus, the de facto removal of Congress from this game changes the strategic environment for the other actors and thus changes their decisions.

The most obvious consequence of congressional dysfunction is that Congress cannot use legislation to determine or steer agency reactions to new policy challenges within its jurisdiction. It is also axiomatic that if

²⁸⁰ For a summary of this literature, see George A. Krause, *Legislative Delegation of Authority to Bureaucratic Agencies*, in *THE OXFORD HANDBOOK OF AMERICAN BUREAUCRACY* 521-544 (Robert F. Durant ed., 2010).

²⁸¹ This articulation of the political control hypothesis within the public choice literature is most associated with Mathew D. McCubbins, Roger G. Noll, and Barry R. Weingast. See generally Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 *J.L. ECON. & ORG.* 243 (1987); Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 *VA. L. REV.* 431 (1989).

²⁸² See Mathew D. McCubbins & Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols Versus Fire Alarms*, 28 *AM. J. POL. SCI.* 165 (1984) (describing two models of ex post controls).

²⁸³ See Woodrow Wilson, *The Study of Administration*, 2 *POL. SCI. Q.* 197, 201 (1887) (advocating for a "scientific" approach to public administration unfettered by political interference).

Congress is absent from the contest to influence agency decisions, this will, all else equal, inure to the benefit of the President in that contest.²⁸⁴ In addition to directing the executive agencies, whose heads he fires at will, the President can also influence the policy agenda of independent agencies, mostly through the power of appointment. While mobilizing agencies can be costly and time consuming for the President, when the political benefits of doing so are substantial enough and the legal means are readily available, it can be done by a motivated White House.²⁸⁵ Our two examples are illustrative; President Obama has invested significant political capital in EPA's implementation of GHG regulation, and his appointments to FERC have spearheaded that agency's effort to adapt electricity policy to the rise of renewable energy, smart grid technology, and geographically broader, more robust, and more competitive wholesale power markets.

The President clearly chose to take ownership of executive branch policy on climate change—announcing important rulemakings from the Rose Garden,²⁸⁶ riding herd on potential inter-agency conflicts,²⁸⁷ and proclaiming a “climate action plan” instructing EPA to issue certain rules by specific deadlines.²⁸⁸ Although the President's sway over FERC's policy agenda seems less direct, it may be nearly as effective. During his first term, the President chose a commission chair with very sympathetic views about clean energy deployment, and the President supported him both publicly and privately.²⁸⁹ He raised the profile of a number of issues in FERC's domain,

²⁸⁴ See Terry M. Moe & Scott A. Wilson, *Presidents and the Politics of Structure*, LAW & CONTEMP. PROBS., Spring 1994, at 1, 15-28 (describing the president's tools of political influence over agencies).

²⁸⁵ See Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2282-2303 (2001) (describing administrative policy initiatives led by the White House and claimed by President Bill Clinton as political victories).

²⁸⁶ See *Remarks by the President on National Fuel Efficiency Standards*, WHITE HOUSE (May 19, 2009), <http://www.whitehouse.gov/video/President-Obama-A-New-Consensus-on-Auto-Emissions>, archived at <http://perma.cc/7YTC-KK5G>.

²⁸⁷ See Memorandum of May 21, 2010: Improving Energy Security, American Competitiveness and Job Creation, and Environmental Protection Through a Transformation of Our Nation's Fleet of Cars and Trucks, 75 Fed. Reg. 29,399 (May 26, 2010) (directing EPA and NHTSA to work together on post-2017 fuel efficiency rules).

²⁸⁸ See Memorandum of June 25, 2013: Power Sector Carbon Pollution Standards, 78 Fed. Reg. 39,535 (July 1, 2013).

²⁸⁹ Chairman Jon B. Wellinghoff had a long history of supporting such policies prior to his service as a FERC commissioner, and was chosen by the president as chairman in part because of them. Shortly before his nomination to FERC, Wellinghoff was focused on renewable energy policy, proposing Nevada's renewable portfolio standards (RPS) legislation and consulting on RPS proposals in six other states. See *Moeller and Wellinghoff Nominations: Hearing Before the S. Comm. on Energy & Natural Res.*, 109th Cong. 10-13 (2006) (statement of Jon Wellinghoff, nominee, FERC comm'r).

giving prominent speeches about topics like renewable energy, the Smart Grid, and energy efficiency.²⁹⁰ The White House also coordinated a number of inter-agency initiatives, and included FERC, bringing the agency somewhat “into the fold.”²⁹¹ This is not to say that the President’s power over an executive agency like EPA versus an independent agency like FERC is identical, but it may turn out to be sufficient to allow him to pursue his goals effectively.

Our two policy examples also highlight the importance of consistency between the President’s agenda and the agency’s mission in an era of congressional dysfunction. Where the President’s objectives and the agency’s mission are in conflict, as in the case of the George W. Bush administration’s resistance to GHG regulation, the result can be turmoil and struggle.²⁹² Where the two align, the President can be expected to support the kind of creativity and initiative exhibited by the agencies we have examined here. Thus, while the Bush administration opposed GHG regulation and justified inaction in ways that the courts ultimately claimed conflicted with the CAA,²⁹³ the Obama administration’s desire to address climate change was consistent with EPA’s environmental protection mandate and with *Massachusetts v. EPA*. Neither the Bush nor the Obama administrations have seemed at odds with FERC’s mission to promote competition; both appear to have accepted the transformation of wholesale electricity markets (although the Obama administration may have been relatively more eager to promote the integration of renewable sources of electricity into those markets). In any event, we see no fundamental misalignment between

²⁹⁰ *E.g.*, Barack Obama, President, Remarks on Recovery Act Funding for Smart Grid Technology (Oct. 27, 2009), available at <http://www.whitehouse.gov/the-press-office/remarks-president-recovery-act-funding-smart-grid-technology>.

²⁹¹ See generally Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131 (2012) (exploring coordination between agencies given overlapping and fragmented delegations of authority).

²⁹² Career staff can resist the direction of political appointees, and appointees may come to align themselves with the perspective of the agency rather than that of the President. By some accounts, both of these dynamics were at work during the tenure of Bush EPA Administrator Christine Todd Whitman and may have hastened her resignation. See, e.g., *Christine Todd Whitman: The End of the Road*, ECONOMIST, May 24, 2003, at 48 (discussing Administrator Whitman’s relationship with President Bush).

²⁹³ *Massachusetts v. EPA*, 549 U.S. 497, 534 (2007) (rejecting EPA’s refusal to make a cause-or-contribute finding for GHGs). The tension between the Bush White House and EPA produced several interpretations of the CAA that were overturned by the courts, but are beyond the scope of this Article. See, e.g., *Env’tl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 565-66 (2007) (rejecting EPA’s decision that certain repair and maintenance activities are not “modifications” that trigger emissions limits under the statute); *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008) (finding EPA’s decision to regulate mercury emissions from power plants as a non-toxic pollutant inconsistent with the statute).

FERC and the White House on these issues. When agency leadership, agency staff, the White House, and powerful interest groups are all aligned, the agency will be in a position to act boldly.

At the same time, there are both internal and external checks on reckless action. Our examples show that even in the absence of a credible threat that Congress will override their decisions, agencies still tread carefully. Perhaps this is because even when Congress is unlikely to legislate, congressional committees—and even powerful lone members—can conduct oversight hearings, order investigations, threaten to cut appropriations, and introduce disapproval resolutions, all of which can distract and drain both the agency and the White House. Rather than acting with impunity, both EPA and FERC in our examples looked for opportunities to engage in strategic moderation, paring back their proposals in anticipation of, or in response to, strong interest group and congressional reactions. EPA amassed a voluminous scientific record to support its endangerment finding; sought the auto industry's buy-in for its Tailpipe Rule; made a *de*-regulatory move with the Tailoring Rule; and reconsidered its initial standard for new power plants to mitigate at least some risk. In designing its rule for existing power plants—its boldest move yet—EPA did go out on a limb, but took pains to set standards on a sliding scale in response to state differences. It also tried to diffuse what could be an explosive fight over federalism by affording states maximum compliance flexibility. Likewise, FERC's efforts to manage the transition to modern electricity markets have stopped short of pushing the outer boundaries of its authority—abandoning its standard market design and market behavior rules for electricity markets, declining to require unbundling of transmission and generation rates in retail markets, and encouraging but not requiring states to join RTOs.

Nor have these regulatory efforts been stealthy. The agencies have not sought to avoid detection by Congress, the public, or the courts. To the contrary, in both policy domains the President or the agency head, or both, has telegraphed the larger enterprise well in advance, practically begging Congress to act. And every step of the implementation process has been highly visible and broadly participatory. EPA and FERC have both proceeded to make policy through notice-and-comment rulemaking and in some instances have taken extreme efforts to secure input from interest groups, policy experts, and the public.²⁹⁴

²⁹⁴ For a description of this process, see *Carbon Pollution Standards*, EPA, <http://www2.epa.gov/carbon-pollution-standards/>, archived at <http://perma.cc/5CQ6-S3CD>, which explains EPA's proposals to reduce carbon pollution and inviting members of the public to participate in the regulatory process.

Furthermore, despite moving into new regulatory ground, both agencies also appear to have been meaningfully constrained by their own readings of the enabling statutes and by anticipation of judicial review. Agency political appointees do not operate in a vacuum but are guided by their general counsel and by career attorneys with long-term institutional perspective. Especially for controversial rules, agencies take pains to develop their legal strategies to ensure they are as robust as possible and likely to withstand attack. It is not hard to imagine then that agencies sometimes pare back or abandon initial proposals deemed too risky and that some tempting but problematic strategies never get off the ground.²⁹⁵ Also, because they are repeat players, appearing before a limited number of judges over time, agencies have an incentive to assess their prospects of success carefully and not to take needless risks that could prove embarrassing, in order to protect their institutional reputation in the courts.²⁹⁶ Even if an agency chooses to ignore all of those incentives in a particular case, there is an additional check on agency zealotry, which has proved remarkably effective and stable across administrations: mandatory regulatory review by the White House Office of Information and Regulatory Affairs (OIRA). As scholars have noted, when overseeing agency cost-benefit analyses required by Executive Order 12,291, OIRA has tended to press agencies to weaken, rather than strengthen, regulations out of concern about high regulatory costs.²⁹⁷ Thus, even when political staff in the White House and officials in an administrative agency agree on the *direction* of policy, specific proposals must still be

²⁹⁵ For example, in contrast to the approach taken by EPA and FERC, the U.S. Fish and Wildlife Service (FWS) has been reluctant to deploy the Endangered Species Act (ESA) to address GHG pollution under section 7, which prohibits federal agencies from engaging in actions that will “jeopardize” listed species. FWS could have taken the position that this “jeopardy” prohibition requires federal agencies to grant permits for carbon-intensive projects, such as oil and gas exploration, only on the condition that applicants mitigate their GHG emissions. Yet the legal difficulty in adapting the ESA for this purpose was apparently too great. The burden of linking GHG emissions from, say, a particular oil and gas well to the melting polar ice caps that imperil the polar bear’s survival—not to mention the need for appropriate mitigation measures—would be daunting. *See, e.g.*, Michael B. Gerrard, *What the Law and Lawyers Can and Cannot Do About Global Warming*, 16 SOUTHEASTERN ENVTL. L.J. 33, 42 (2007) (observing that GHG lawsuits brought under common law theories “involve massive causation problems”).

²⁹⁶ *See* David S. Tatel, Remarks, *The Administrative Process and the Rule of Environmental Law*, 34 HARV. ENVTL. L. REV. 1, 2-3 (2010) (providing a judicial perspective on agency rulemaking). Even if temporary political appointees wish to take significant legal risks, career lawyers in the government should be expected to push back.

²⁹⁷ *See, e.g.*, Nicholas Bagley & Richard L. Revesz, *Centralized Oversight of the Regulatory State*, 106 COLUM. L. REV. 1260, 1269-70 (2006) (describing the asymmetrical OIRA review that prefers underregulation to overregulation).

cost-justified, which at least traditionally has served as a meaningful constraint on agency regulatory action.²⁹⁸

In our examples, FERC and EPA seem to have behaved in ways that reflect an appreciation for the new strategic policymaking environment—one in which Congress *as a body* is largely absent and in which there is a premium on alignment with the President. They have pursued their versions of the “best possible” policy response not recklessly, but keenly aware of the “gridlock interval” and mindful of the constraints of their enabling statutes. Yet there is no question that the agencies have at times acted boldly and have taken significant risks. The courts will be the ultimate arbiters of these adaptive efforts, which means that judges will determine the policy course for all intents and purposes during periods of congressional dysfunction. This raises the question of whether courts should approach judicial review of agency action differently in this new strategic environment.

B. *Judicial Review in an Era of Congressional Dysfunction*

It is hard to know what courts think about statutory “obsolescence” and congressional dysfunction because judges do not typically reflect on it explicitly in their opinions. Their views on such matters tend to be subsumed in their approaches to statutory interpretation and their tendencies when applying the *Chevron* doctrine.²⁹⁹ Some judges might feel a heightened burden to scrutinize agency interpretations of outdated laws carefully, on the assumption that these are precisely the conditions under which agencies

²⁹⁸ See generally Lisa Heinzerling, *Inside EPA: A Former Insider's Reflections on the Relationship Between the Obama EPA and the Obama White House*, 34 PACE ENVTL. L. REV. 325 (2014) (commenting on the de-regulatory force exerted by OIRA, even during a Democratic administration that has publicly stated its support for environmental protection and public health). Cost-benefit analysis may not serve as a constraint on agency action where the social cost of carbon (SCC) is included in the calculation, though, as in case of regulations targeting GHG emissions. The SCC, which OIRA requires all federal agencies to use, counts the *global* benefits of avoided emissions, not simply domestic benefits. Accordingly, the SCC will systematically overstate the benefits of a regulation to the U.S. population, skewing decisions in favor of more stringent regulation. See Ted Gayer & W. Kip Viscusi, *Determining the Proper Scope of Climate Change Benefits* 8-16, 18 (Vanderbilt Univ. Law Sch. Law & Econ. Working Paper No. 14-20, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2446522.

²⁹⁹ Of course, the *Chevron* doctrine specifies that when reviewing agency interpretations of enabling legislation, courts should engage in a two-step analysis: at step one, determine whether the enabling statute speaks plainly to the question at issue; if not, at step two, determine whether the agency's interpretation of the statute is reasonable. *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837, 842-43 (1984). All of the agency decisions described in this paper involve EPA interpretations of the CAA or FERC interpretations of the FPA. Therefore, judicial review of those decisions will invoke the *Chevron* doctrine.

will be tempted to scour mouseholes for elephants.³⁰⁰ Other judges might be inclined to defer to agencies struggling in good faith to adapt obsolete laws to new conditions, giving them the benefit of the doubt at least where the statutory language is plausibly ambiguous. In a few recent cases, both conservative and liberal judges have openly acknowledged problems of bad fit and appeared to sympathize with the agencies' plight.³⁰¹ Still, it is unclear whether such sentiments affect votes in particular cases.

How *should* the courts respond to this new strategic environment in which Congress plays a diminishing role in the process of updating legal regimes to address new regulatory problems? Should they interpret the agencies' authority narrowly to spur a dormant Congress into action? Or should they acknowledge the limits of Congress's ability to act—and a gridlock interval that is wider than at any time in the modern regulatory era—and grant agencies wide latitude to fashion policy remedies to new problems from old statutory language? What are the implications of both approaches for democratic accountability in policymaking? And how do the applicable standards of judicial review of agency decisions influence the courts' choices?

C. Democratic Accountability Concerns

Whether democratic accountability is served by granting agencies more latitude is a more complicated question than it appears at first blush. One

³⁰⁰ See *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 468 (2001) (noting that Congress does not “hide elephants in mouseholes”); see also *United States v. Home Concrete & Supply*, 132 S. Ct. 1836, 1842 (2012) (commenting that relying on sparse statutory language to support the agency's position was like “hoping that a new batboy will change the outcome of the World Series”).

³⁰¹ See, e.g., Oral Argument at 16:19, *Ill. Commerce Comm'n v. FERC*, Nos. 13-1674, 13-1676, 13-2052, 13-2262 (7th Cir. Apr. 22, 2014), available at http://media.ca7.uscourts.gov/sound/2013/sk.11-3421.11-3421_04_10_2013.mp3 (acknowledging the bad fit between the statute and contemporary energy markets); see also *Ill. Commerce Comm'n v. FERC*, Nos. 13-1674, 13-1676, 13-2052, 13-2262, slip op. at 22, 28 (7th Cir. June 25, 2014) (Cudahy, J., dissenting) (commenting that because of the challenge FERC faces in approving regional cost allocation schemes to site new transmission lines, FERC “has my sympathy as well as my respect” and arguing that FERC should be allowed to “be creative in addressing these unprecedented problems”); Transcript of Oral Argument at 12-13, 39, 43, *EPA v. EME Homer City Generation, L.P.*, No. 12-1182 (U.S. Dec. 10, 2013) (showing that Justices Breyer, Kagan, and Kennedy acknowledge the challenge for EPA in addressing interstate pollution within the terms of the statute and suggesting why deference may be appropriate); Transcript of Oral Argument at 14, *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (No. 09-1322) (recording Judge Sentelle's response to counsel's claim that Congress would respond if the court ruled in petitioners' favor, “[w]ith respect, Counsel, any sentence that begins . . . by saying that [‘]Congress will surely,[’] whatever the sentence says after that, it's not a very convincing sentence”).

might argue that by cabining an agency's freedom to devise new policy solutions from old statutes, a reviewing court engages in laudable "democracy-forcing." In this view, a vote against agency "overreach" allocates more policy decisions to the elected branches and fewer to unelected bureaucrats. One might support this position on formal constitutional grounds (because Congress alone possesses Article I lawmaking power), on standard democratic legitimacy grounds (because members of Congress are elected and agency officials are not),³⁰² or out of simple pragmatism (because one believes that even well-intended "adaptation" is likely to create a costly, ineffective regulatory mess and undermine the agency's legitimacy in the process).³⁰³

Certainly, agency policymaking does change the policy status quo facing Congress and, in the long term, can alter expectations, create new entitlements, reallocate burdens and benefits, and shift incentives.³⁰⁴ In this way, the agency "adaptations" we examined above may prove quite durable, altering conditions in ways that are hard for Congress to disrupt later. EPA's regulatory initiatives to adapt the CAA to climate change are intended, in part, to support natural gas substitution for coal in the electricity sector, spurring long-lived investments in new generation that will likely remain operational for decades. American electric utilities are poised to make two trillion dollars in infrastructure investments in the near term,³⁰⁵ and these investments will be influenced by the perception that new coal-fired electric power generation is increasingly uneconomic, not just for market but also for regulatory reasons. Similarly, FERC's attempts to incentivize transmission investment, if successful, will yield changes to the electric grid that will last for decades, if not centuries. Furthermore, agencies may create new institutional structures that could prove "sticky" once established. Indeed, RTOs—nurtured by FERC in its effort to centralize control over transmission planning and to supervise the efficient operation of competitive wholesale energy markets—represent an important new governance structure in electricity markets, one ushered into existence by FERC rather than legislation. One might argue that only Congress ought to possess the

³⁰² See, e.g., Lisa Schultz Bressman, *Deference and Democracy*, 75 GEO. WASH. L. REV. 761, 764 (2007) (arguing that judicial intervention is needed to ensure accountability when agencies ignore the wishes of Congress and the public).

³⁰³ Cass R. Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187, 229-30 (2006) (highlighting unnecessary complexity).

³⁰⁴ Indeed, this is the essence of the notion of policy drift. See *supra* note 33 and accompanying text.

³⁰⁵ See Cavanagh, *supra* note 118, at 3.

capacity to produce such durable change and that courts ought to be skeptical when reviewing agency attempts to fit old statutes to new problems.

That view, however, treats Congress as a permanent but static construct. In fact, when courts review the consistency of agency policy choices with the underlying enabling legislation, they must consider two congresses—the Congress that passed the enabling legislation in question and the current Congress, which may or may not be moved to pass legislation. It is not self-evident that shifting more decisions about how to implement old statutes to the current Congress is more “democratic” than leaving those decisions with the agency until Congress affirmatively chooses to speak through bicameralism and presentment.³⁰⁶ To the contrary, as explained in Part II and the Appendix, the problem of bad fit arises in the first place because polarization has caused the gridlock interval to grow so wide that changes to the policy status quo—including changes that would *move policy toward the ideological center*—become impossible.³⁰⁷ In any event, the current Congress has no greater claim to decide how existing statutory language applies to new problems (indeed, how would it do so?), unless and until it passes legislation, than does the agency that has been entrusted with the statute by an earlier Congress. Indeed, because the agency has been designated the statute’s custodian, the agency’s claim is arguably the democratically superior one. That is, broad delegations of authority to agencies (and broad constructions of that authority by the agency subsequently) are consistent with democratic accountability because they represent a collective decision by the elected branch to leave certain policy choices to expert agencies.

The question is whether the agency’s best judgment or the status quo should be the default policy during periods of congressional dysfunction. Those who favor the latter course sometimes contend that the American policymaking process is designed for gridlock; indeed, Justice Scalia is credited with holding this view.³⁰⁸ This is a fairly common refrain,³⁰⁹ perhaps

³⁰⁶ *But see* EINER ELHAUGE, STATUTORY DEFAULT RULES 41-42, 151-55 (2008) (arguing that default rules of statutory construction should favor the preferences of the current Congress—or at least elicit the preferences of the current Congress).

³⁰⁷ Indeed, assuming the public continues to support the agency’s mission, agencies may be more likely than Congress to produce outcomes that are consistent with the wishes of the median voter generally. For an explanation of this logic, see David B. Spence, *A Public Choice Progressivism, Continued*, 87 CORNELL L. REV. 397, 420 (2002) (pointing out that “information advantages” and partial political insulation make agencies more effective agents for the median voter).

³⁰⁸ Bob Cohn, *Scalia: Our Political System Is ‘Designed for’ Gridlock*, ATLANTIC (Oct. 6, 2011, 10:25 AM), <http://www.theatlantic.com/national/archive/2011/10/scalia-our-political-system-is-designed-for-gridlock/246257>, archived at <http://perma.cc/822N-V6RD>; *Justice Scalia Rejects Dysfunctional Government Talk*, REUTERS, Oct. 5, 2011, available at <http://www.reuters.com/article/2011/10/05/us-usa-court-scalia-idUSTRE7946LB20111005>.

because Federalist No. 10 holds such a lofty position in American civics education. As many scholars have noted, however, this view oversimplifies the Framers' intent.³¹⁰ Yes, the Framers feared the mischiefs of faction, but they also sought to replace a dysfunctional government under the Articles of Confederation with a more efficient government. Reflecting this goal, in Federalist No. 58, James Madison rejects the requirement of a supermajority to enact legislation (the current *de facto* rule in the Senate), arguing that "the fundamental principle of free [g]overnment would be reversed" under such a system because such a system would empower the minority to "take advantage of it to screen themselves from equitable sacrifices to the general weal."³¹¹ Similarly, in Federalist No. 22, Hamilton denounces supermajority requirements as likely to "embarrass the administration [and] to destroy the energy of [g]overnment."³¹² Hamilton notes that

[w]hen the concurrence of a large number is required by the Constitution to the doing of any [n]ational act, we are apt to rest satisfied that all is safe, because nothing improper will be likely *to be done*; but we forget how much good may be prevented, and how much ill may be produced, by the power of hindering the doing what may be necessary and of *keeping affairs in the same unfavorable posture* in which they may happen to stand at particular periods.³¹³

This does not sound like a celebration of the virtues of legislative gridlock or a sanctification of the status quo in the face of gridlock.³¹⁴

Consider, for example, the Supreme Court's decision in *FDA v. Brown & Williamson*,³¹⁵ which held that the FDA lacked the authority to regulate

³⁰⁹ See, e.g., JAMES MACGREGOR BURNS, *THE DEADLOCK OF DEMOCRACY: FOUR-PARTY POLITICS IN AMERICA* 6 (1963) ("[O]ur system was designed for deadlock and inaction."); ROBERT SHOGAN, *THE FATE OF THE UNION: AMERICA'S ROCKY ROAD TO POLITICAL STALEMATE* 5-8 (1998) (discussing the Framers' efforts to create a government that was both robust and constrained).

³¹⁰ See, e.g., SARAH A. BINDER, *STALEMATE: CAUSES AND CONSEQUENCES OF LEGISLATIVE GRIDLOCK* 7-11 (2003) (arguing that the Framers did not favor gridlock); Michael J. Gerhardt, *Why Gridlock Matters*, 88 NOTRE DAME L. REV. 2107, 2110-18 (2013) (describing the value of gridlock and of overcoming gridlock).

³¹¹ THE FEDERALIST NO. 58, at 409 (James Madison) (Henry B. Dawson ed., 1864).

³¹² THE FEDERALIST NO. 22, at 144 (Alexander Hamilton) (Henry B. Dawson ed., 1864).

³¹³ *Id.* at 144-45 (second emphasis added); see also Charles O. Jones, *A Way of Life and Law*, AM. POL. SCI. REV., Mar. 1995, at 1, 3 ("[T]he point was not solely to stop the bad from happening; it was to permit the good, or even the middling, to occur as well").

³¹⁴ John Rohr has made a careful and persuasive argument that administrative agencies now serve the deliberative function that the Framers envisioned for the Senate. JOHN A. ROHR, *TO RUN A CONSTITUTION: THE LEGITIMACY OF THE ADMINISTRATIVE STATE* 32-39 (1986). That is, agencies may do a better job than a polarized Congress of producing policy decisions that correspond to the preferences of a fully informed median voter.

tobacco under the Food, Drug, and Cosmetic Act (FDCA).³¹⁶ The agency's view—that the definition of “drug” in the FDCA encompasses nicotine and that the phrase “drug delivery device” encompasses tobacco—was struck down by the Court as precluded by the statute, notwithstanding the literal breadth of the definitional terms.³¹⁷ The Court inferred an intent on the part of the enacting Congress and subsequent congresses to exclude nicotine and tobacco from the statutory definitions because those congresses were aware of tobacco and its unhealthy properties and addressed those issues in a series of other statutory enactments over time.³¹⁸ The Court inferred from Congress's behavior a statutory meaning that contradicted the FDA's reading of the statute. By contrast, the *Massachusetts v. EPA* court distinguished *Brown & Williamson*, noting that no comparable legislative record precluded GHG regulation by EPA.³¹⁹

The Court's decision in *Brown & Williamson* has been described as “democracy-forcing” because it embraces the view that Congress should speak clearly if it wishes to grant regulatory authority to agencies over matters of great social and economic importance.³²⁰ Indeed, one might argue that this presumption was vindicated by events: democracy was in fact forced. Nine years after the Court's decision, Congress passed a law expressly granting the agency authority to regulate nicotine³²¹ and authorizing a

³¹⁵ *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

³¹⁶ *Id.* at 131-33 (finding that the scope of the FDCA is not ambiguous and that the FDA had exceeded clear limits on its statutory authority).

³¹⁷ *Id.* at 127, 160-61.

³¹⁸ *Id.* at 143-56 (arguing that Congress “effectively ratified the FDA's previous position that it lacks jurisdiction to regulate tobacco” by passing numerous pieces of tobacco legislation that did not grant the FDA explicit authority to regulate tobacco products).

³¹⁹ 549 U.S. 497, 530-31 (2007).

³²⁰ In other cases, the Court has opined similarly that Congress does not “hide elephants in mouseholes,” requiring much clearer statements from Congress. *See Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 468 (2001); *see also, e.g., INS v. St. Cyr*, 533 U.S. 289, 299 (2001) (“Congress must articulate specific and unambiguous statutory directives”); *MCI Telecomm. Corp. v. AT&T Co.*, 512 U.S. 218, 231 (1994) (“It is highly unlikely that Congress would leave the determination . . . to agency discretion . . . through such a subtle device”); *cf. John F. Manning, The Nondelegation Doctrine as a Canon of Avoidance*, 2000 SUP. CT. REV. 223, 227 (2001) (arguing that the *Brown & Williamson* court read the statute narrowly to avoid a nondelegation problem); Sunstein, *supra* note 303, at 245 (arguing that “those who are enthusiastic about the nondelegation doctrine” will favor the decision “because it requires Congress, rather than agencies, to decide critical questions of policy”).

³²¹ *See Family Smoking Prevention and Tobacco Control Act*, Pub. L. No. 111-31, 123 Stat. 1776 (2009) (codified in scattered sections of 15 U.S.C. and 21 U.S.C. (2012)). Moreover, it would be misleading to assume from the tobacco example that Congress would have acted eventually had the agency exhibited more patience. The FDA's concerted effort to respond to changed conditions profoundly altered the terms of the public debate. Had the FDA not conducted an investigation of the industry, exposing its manipulation of nicotine levels; had it not supported its jurisdictional

regulatory program similar to the one the FDA originally proposed. Yet that congressional response is the exception that proves the rule in the era of ever widening gridlock intervals. If in the usual case there is little prospect of congressional action as a result of extreme polarization, there is no democracy to force in the *Brown & Williamson* sense, and either the agency's preferred view, or the courts', sets policy in the interim.³²² In other words, the normative commitment to democracy-forcing is based on a flawed empirical assumption about the probability of congressional action. The logic of gridlock intervals simply belies the idea that by rejecting an agency's interpretation, a court will "force" Congress to act. At the same time, the logic of gridlock intervals suggests that agencies will not stray too far from the ideological center, for if they do, Congress *is* more likely respond.³²³

Returning to our examples, the Supreme Court may ultimately deem unlawful steps EPA has taken to implement the CAA to address climate change or invalidate important measures FERC has adopted to modernize electricity policy under the FPA, on the theory that doing so will force democracy. But the data on polarization suggest there is little prospect of congressional action in the reasonably foreseeable term (and of course the agencies have already been waiting for Congress to speak on these matters for, in some cases, decades). Meanwhile, the forgone social and economic benefits of waiting for Congress—what might be called the temporal costs of democracy-forcing—could be substantial. This is just to say that invalidating an agency's adaptive plan and leaving matters to Congress is not neutral; it restores a status quo that over time might prove very costly to society. Moreover, our examples suggest that the agencies in question are anything but "out of control." Perhaps because the stakes are so high, agencies in

argument with compelling new science showing nicotine is addictive; and had the agency not forced the issue by promulgating regulations itself, Congress might never have been moved to act. The same may be true of EPA's implementation of the CAA to address climate change, and FERC's commitment to modernizing electricity policy; even if important aspects of these programs are ultimately struck down, they may lay the necessary foundation for future congressional action.

³²² Moreover, because the Supreme Court grants review in so few cases, it also means that the circuit courts, and in particular the D.C. Circuit, have the final say on federal policy across a number of domains. See Adam Liptak, *Justices Opt for Fewer Cases, and Professors and Lawyers Ponder Why*, N.Y. TIMES, Sept. 29, 2009, at A18 (explaining that the Supreme Court hears around eighty cases each term).

³²³ Polarized parties cannot come together to support changes to the status quo that move policy away from the preferences of everyone in one party and toward those of everyone in the other party: if the majority party is opposed, it will use agenda control to prevent consideration of such changes; if the minority is opposed, it will filibuster. But if the agency produces a policy status quo that is outside the gridlock interval (so far from the middle that critical masses of both parties would prefer to see it changed), then Congress will be moved to action.

these situations do not necessarily seek to maximize their regulatory reach. Instead, they demonstrate acute sensitivity to countervailing pressures and heightened responsiveness to legal and political risk. They do subtle and nimble things to maintain credibility and preserve their institutional reputations.³²⁴ Wary of the courts, mindful of the White House, and conscious of the damage even a dysfunctional Congress can do, agencies calibrate, accommodate, and moderate their policies. All of which suggests that perhaps courts should resist the temptation to equate consequential policy choices with choices that ought to be thrust back at Congress, even when Congress shows little appetite for policymaking. Indeed, it may be more “democratic” to defer during fallow legislative periods to the agencies, rather than revert to a judicially imposed and indefinite extension of the status quo.

More concretely, the decision facing reviewing courts is whether, under *Chevron*, an agency’s increasingly innovative interpretations of the relevant statutory terms are consistent with the statute’s plain meaning or are reasonable. *Chevron* is grounded at least in part in the Wilsonian view of agency policymaking, which recognizes that agencies have the best information about how enabling statutes should be interpreted³²⁵ and may even have the best information about the political and policy context in which those statutes were enacted.³²⁶ The *Chevron* decision counsels deference to agency decisions not only when the statute is ambiguous on the question at issue, but also when it is silent on the matter;³²⁷ the Court has noted that delegation “necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress.”³²⁸ The case for deference seems especially strong when agencies seek to address problems unforeseen by the enacting Congress.

This is exactly what EPA and FERC have tried to do with the CAA and FPA, respectively. EPA’s decisions were made pursuant to its authority under the CAA, a relatively detailed enacting statute. The agency had to interpret numerous specific terms from different parts of the statute, such as “pollutant,” “source,” and “standard.”³²⁹ FERC’s authority comes, by contrast, from a relatively simple statute containing a broad grant of authority

³²⁴ See Jacobs, *supra* note 4, at 4.

³²⁵ See, e.g., Sunstein, *supra* note 7; see also Cass R. Sunstein, *Is Tobacco a Drug? Administrative Agencies as Common Law Courts*, 47 DUKE L.J. 1013, 1060 (1998) (arguing that interpretation of regulatory statutes is properly “an administrative task, not a judicial one”).

³²⁶ See ADRIAN VERMEULE, *JUDGING UNDER UNCERTAINTY: AN INSTITUTIONAL THEORY OF LEGAL INTERPRETATION* 209 (2006).

³²⁷ *Chevron U.S.A. v. NRDC, Inc.*, 467 U.S. 837, 843 (1984).

³²⁸ *Id.* (quoting *Morton v. Ruiz*, 415 U.S. 199, 231 (1974)).

³²⁹ See *supra* Section II.A.

to ensure that the price and terms at which electricity is transmitted and sold at wholesale are “just and reasonable” and “nondiscriminatory.”³³⁰ Yet both regulatory regimes offer the agency room to adapt the statutory provisions to new circumstances, and both sets of agency decisions seem to represent sincere attempts to fashion a solution to new problems from aging statutory authority. And as we have shown, both EPA and FERC interpreted their enabling statutes strategically but transparently—conducting broad outreach, crafting initial proposals with significant industry and interest group input, and adjusting their proposals in light of comments. The Court has recognized that when agencies make interpretive decisions using formal, transparent processes, as EPA and FERC have done in our examples, the decisions are entitled to greater deference.³³¹

Thus far, courts have tended to be fairly deferential to these two agencies as they adapt their statutes to the problems we described, with a few important exceptions.³³² With respect to all of the remaining pending reviews, the agencies can easily make straight-faced arguments that their policy choices fall within the boundaries of enabling legislation, despite the fit problems that arise when applying old statutes to new problems. That is, EPA’s and FERC’s policy choices seem to have been sincere attempts to use existing legislation to fashion solutions to problems within the agencies’ jurisdiction.

³³⁰ See *supra* Section II.B.

³³¹ See *United States v. Mead Corp.*, 533 U.S. 218, 230 (2001) (“It is fair to assume generally that Congress contemplates administrative action with the effect of law when it provides for a relatively formal administrative procedure tending to foster the fairness and deliberation that should underlie a pronouncement of such force.”); see also Matthew C. Stephenson, *The Strategic Substitution Effect: Textual Plausibility, Procedural Formality, and Judicial Review of Agency Statutory Interpretations*, 120 HARV. L. REV. 528, 555 (2006) (supporting this distinction between levels of deference for formal and informal actions on the grounds that agencies devote more resources to reaching the correct decision when using formal, transparent decision processes).

³³² The major exception was the Supreme Court’s decision overturning the Tailoring Rule, although, as we explained, the loss was limited and the Court did at least defer to EPA on the most important issue for the agency, which was whether sources triggered into the program anyway because of conventional pollution had to control their GHGs as well. See *supra* note 97 and accompanying text. Significant setbacks for FERC include the Fourth Circuit’s decision in *Piedmont*, overturning FERC’s interpretation of its backstop transmission line siting authority under FPA section 216, see *Piedmont Environmental Council v. FERC*, 558 F.3d 304, 319-20 (4th Cir. 2009), and the D.C. Circuit’s decision in *Electric Power Supply Ass’n*, overturning FERC’s demand response rule, see *Elec. Power Supply Ass’n v. FERC*, No. 11-1486, slip op. at 16 (D.C. Cir. May 23, 2014).

Nonetheless, as others have noted,³³³ *Chevron* offers reviewing courts ample opportunity to use both of *Chevron*'s steps instrumentally to achieve preferred policy outcomes or to vindicate a judge's notion of the proper role of the bureaucracy in the constitutional order. One might imagine a left-leaning judge reacting skeptically to the notion that the FPA's just and reasonable standard implies the broad use of market-based wholesale power rates and basing his or her decision on the inferred intent of the 1935 Congress. Alternatively, one might imagine a conservative judge reacting skeptically to the notion that EPA can compel the use of carbon capture at coal-fired power plants as an "adequately demonstrated" technology, or that it can set emission standards for existing sources based on what other actors, not just the sources themselves, could do. To a conservative jurist, both might seem unreasonable interpretations of ambiguous statutory language. Indeed, the Supreme Court in *UARG* split along such ideological lines, between the conservative majority, which rejected EPA's Tailoring Rule, and a liberal minority that would have upheld it.³³⁴

These ideological differences in the way judges apply *Chevron* deference now have higher stakes than ever, because courts cannot count on Congress to sort out the effects of overturning agency policy decisions. Moreover, if polarization trends continue, courts can expect to see more and more cases reviewing agency adaptations of old statutes to new problems. For some of the pending issues in our sample, reversal of the agency decision would invite more litigation because of the ways in which the statute links different parts of the regulatory regime.³³⁵ This is particularly true of EPA's interrelated efforts to address climate change; any loss, even a narrow one, is likely to invite litigation challenging other aspects of EPA's climate change program.³³⁶

³³³ See, e.g., Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy? An Empirical Investigation of Chevron*, 73 U. CHI. L. REV. 823, 842-51 (2006) (suggesting a correlation between judges' ideology and their applications of *Chevron* to agency decisions).

³³⁴ See *Util. Air Regulatory Grp. v. EPA*, No. 12-1146 (U.S. June 24, 2014). The Chief Justice, Justice Alito, Justice Kennedy, and Justice Thomas joined in Justice Scalia's opinion that GHGs were not "any air pollutant" for purposes of triggering the program. Justice Breyer, writing for himself, Justice Ginsburg, Justice Kagan, and Justice Sotomayor, would have deferred to the agency's view by reading an implicit exception into the phrase "any source with the potential to emit 250 tons per year," excluding smaller sources for which regulation at that threshold would be absurd. See *id.* at slip op. 7 (Breyer J., concurring in part and dissenting in part).

³³⁵ For a discussion of these links, see *supra* Section III.A.

³³⁶ Losing even on a single narrow issue is still losing: a rebuke from the Court would surely be seen as a political setback as the agency prepares to roll out the rest of its GHG program. In recent years, EPA has suffered some notable losses in the High Court, including the rejection of its use of unreviewable compliance orders under the Clean Water Act in *Sackett v. EPA*, 132 S. Ct. 1367, 1374 (2012), which allowed an Administrative Procedure Act challenge to an EPA compliance order.

It is hard to predict the trajectory of cases that might fall within the “bad fit” category. Although we have focused here on examples from the energy and environmental law domains, as we noted at the outset, many regulatory agencies are similarly struggling to keep pace with new trends and must find a way to respond to the demands of modern policymaking in spite of aging statutes. In the wake of *Brown & Williamson*,³³⁷ recent years have brought us *MCI v. AT&T*, in which the Supreme Court invalidated the FCC’s effort to promote competition in the increasingly fragmented telecommunication industry because the FCC’s interpretation of the word “modify” went too far.³³⁸ Similarly, in *Verizon v. FCC*, the D.C. Circuit struck down the FCC’s “net neutrality” rules (compelling broadband providers to adhere to open network management practices) because although the FCC has general authority to regulate in the area, it lacks the specific authority to adopt its chosen strategy.³³⁹ At the same time, the Supreme Court in *City of Arlington v. FCC* clarified that agency interpretations of their own jurisdiction are subject to *Chevron* review, reaffirming the notion that agencies (not courts) are best-suited to decide what their enabling legislation means in the face of gaps and ambiguities.³⁴⁰ All of these cases appear to have been decided ad hoc, with little concern for the challenges agencies confront in the strategic environment we have described. Yet in this new environment, the case for deferring to the agencies as they struggle to adapt statutes is stronger than ever. As courts are well aware, their decisions are likely to determine policy outcomes for the foreseeable future, with Congress absent from the policymaking process.

CONCLUSION

It is axiomatic that Congress cannot anticipate all of the ways in which an agency must apply its statutory mandate,³⁴¹ and Congress sometimes chooses not to address particular applications of the mandate in the enabling legislation.³⁴² Consequently, the agency’s implementation of the mandate may eventually deviate from either the enacting Congress’s wishes or from

³³⁷ *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000); *see also supra* note 315 and accompanying text.

³³⁸ *MCI Telecomm. Corp. v. AT&T Co.*, 512 U.S. 218, 231 (1994).

³³⁹ 740 F.3d 623, 628 (D.C. Cir. 2014).

³⁴⁰ 133 S. Ct. 1863, 1874-75 (2013).

³⁴¹ This is inherent in the task of writing a rule. Even the wisest legislator cannot anticipate every situation to which legislation will eventually apply.

³⁴² That is, it may be possible to maintain a legislative majority in support of the legislation only if the legislation omits provisions addressing particular policy issues. Consequently, the only way to secure passage of legislation is by delegating those decisions to agencies.

the wishes of subsequent congresses. We are concerned here with both forms of divergence. The first poses problems of statutory interpretation; the second implicates the politics of the policy process and the question of whether the current Congress will overturn the agency.

As to the second form of divergence, for most of the modern regulatory era, as conditions diverged more and more from those anticipated by the drafters of the legislation, Congress could be moved to update the law, as Congress did when it amended the CAA several times between 1970 and 1990, or when it revised the FPA in 1978 and 1992. This is no longer true, for reasons we have explained. Today, we face environmental and energy problems that are at least as pressing as those of the 1970s. Pressure to address at least some of these problems may be building.³⁴³ But the starkest difference between the 1970s and now is that the partisan political environment is far less conducive to legislation. The problem is not simply one of unified or divided partisan control of the branches of government, but rather one of ideological polarization between the parties. The unprecedentedly wide and widening gridlock interval makes bipartisan action to address important problems ever more difficult.

Still, change continues apace in the environmental and energy fields, and while Congress absents itself from policymaking, the need to make policy choices continues. Since the mid-1990s, evidence about how our energy use produces carbon pollution that contributes to climate change has coalesced into a scientific consensus. At the same time, electricity markets have seen the rise of competitive, robust wholesale power markets, technological advances, and the penetration of renewable technologies. As the agencies charged with primary responsibility for managing these challenges, EPA and FERC have tried to discharge their statutory responsibilities with very little help from Congress.³⁴⁴

Their efforts have yielded a suite of new policies, all fashioned from old statutory provisions that were not drafted with these new problems in mind. The policies reflect an appreciation for the new strategic environment of

³⁴³ See Frederick Mayer et al., *Americans Think the Climate Is Changing and Support Some Actions* fig.2 (Nicholas Inst. for Envtl. Policy Solutions, Duke Univ., Policy Brief 13-01, 2013), available at http://nicholasinstitute.duke.edu/sites/default/files/publications/ni_pb_13-01_o.pdf (presenting poll data showing that sixty-four percent of Americans strongly or somewhat favor regulating GHGs); see also *Tracking Public Attitudes—Latest Polls*, U.S. CLIMATE ACTION NETWORK, <http://www.usclimatenetwork.org/hot-topics/climate-polling> (last visited Oct. 3, 2014), archived at <http://perma.cc/NWD2-BCR8> (collecting climate change polls).

³⁴⁴ Indeed, there are good reasons to believe that over the last twenty years, Congress has been losing the *ability* to react legislatively to these changed circumstances or the policy choices EPA and FERC are making, riven by growing ideological and partisan polarization.

agency policymaking; they belie the public choice conception of agency policymaking as anti-democratic and of agencies as shirkers to be reined in by the courts. Unlike Judge Calabresi, we are not nearly as dismissive of the capacity of administrative agencies to adapt obsolete statutes responsibly to new circumstances. Indeed, we think they are in a far better position than courts to do so. There are many positives to agency statutory adaptation over time. Although the regulatory process may at times be glacial, agencies can move more quickly than Congress, and they face fewer obstacles or veto-gates to action. Moreover, agencies are subject-matter specialists organized around a specified mission, and they are equipped with relevant expertise, enabling them to adjust to changed circumstances more nimbly than Congress. At least in our examples, the agencies have applied scientific, economic, and technical expertise to emerging problems, and they are experimenting with different regulatory approaches. Entrusting statutes to agencies for certain periods of time could produce valuable learning about which policies tend to succeed, which tend to fail, and why.

In terms of accountability, agencies are anything but out of control. Courts check them more than adequately (the threat of judicial review alone performs a disciplinary function) and presidents direct them in response to demands from a national constituency. In addition, agencies can still be expected to be at least somewhat responsive to congressional oversight even when it is well-known that Congress is unlikely to pass legislation. Our examples bear this out. Even if courts do not relish reviewing increasing numbers of agency decisions that fit enabling legislation awkwardly or poorly, judicial review of those decisions ought to be deferential not only in recognition of *Chevron* but also in light of the new strategic environment in which agencies operate.

APPENDIX: GRIDLOCK AND POLARIZATION

In this appendix we explain in more detail: (1) the logic behind the claims that ideological polarization in Congress increases the probability of gridlock and decreases the capacity of Congress to take legislative action in response to changing circumstances; and (2) the evidence of increasing ideological polarization (and corresponding increasing probability of gridlock) in Congress in recent decades.

Models of Gridlock

Two competing explanations of congressional (in)action offer different explanations for gridlock, though each ties the problem to increasing ideological polarization among members of Congress and the electorate at large. The pivotal politics theory (associated with Keith Krehbiel and others) focuses on the importance of supermajoritarian institutions in Congress (like the Senate requirement of sixty votes to invoke cloture and stop filibusters or the requirement of a two-thirds vote of Congress to override a presidential veto) and the power those institutions give to certain *pivotal* members of Congress.³⁴⁵ By contrast, the party cartel theory³⁴⁶ (associated with Gary Cox and Mathew McCubbins) credits the role of parties, particularly as agenda setters, with driving legislative voting behavior—including gridlock. Each of these theories can be illustrated simply using spatial models, or abstracted visual depictions used to convey the theory's central insights.³⁴⁷

Pivotal Politics

We can use spatial models to illustrate the pivotal politics theory in steps. We begin with Figure A-1, which depicts the preferences, or ideal points, of legislators (in an eleven-member legislative body) over alternatives

³⁴⁵ See generally KEITH KREHBIEL, PIVOTAL POLITICS: A THEORY OF U.S. LAWMAKING 20-48 (1998).

³⁴⁶ See generally GARY W. COX & MATHEW D. MCCUBBINS, SETTING THE AGENDA: RESPONSIBLE PARTY GOVERNMENT IN THE U.S. HOUSE OF REPRESENTATIVES (2005).

³⁴⁷ Some people find these kinds of abstractions useful, as they distill a complex situation to its essence. Others find these models less useful, precisely because they omit the complicating forces and variables at work in the real world. We use spatial models here to depict these two competing explanations of gridlock, in part because the proponents of the two theories use spatial models and in part because they provide a visual illustration of the central concepts in a way some might find helpful.

along a policy dimension.³⁴⁸ In this legislature, simple majority votes determine outcomes, there are no political parties, and each legislator votes for or against policy proposals depending upon whether those proposals would move policy closer to, or farther from, her ideal point. If all decisions in this legislature are made by simple majority vote, the pivotal voter should be the median voter, denoted mv in the figure. In the absence of presidential vetoes or the possibility of a filibuster, the preferences of the median voter ought to drive the policy choices of this legislature.³⁴⁹ If the status quo in any particular policy lies to the left or right of the median voter's ideal point, *any proposal to move policy toward the median voter's preferences ought to garner a majority of the votes in the legislature*, and thereby prevail. In Figure A-1, the legislators' preferences are not particularly polarized, but rather are relatively evenly distributed across the ideological spectrum; under these assumptions, however, the median voter's preferences would control outcomes even if preferences were polarized.

Figure A-1: Single-Issue Majority Voting,
No Supermajoritarian Institutions,
No Parties, and No Gridlock



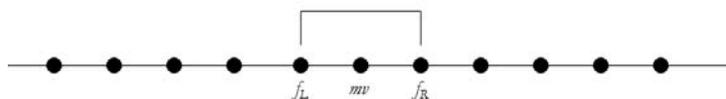
Now assume that this legislature has adopted the filibuster rule and that the filibuster can only be overcome by a vote of sixty percent of the legislature (seven members), akin to the process of invoking cloture in the U.S. Senate. For any status quo policy that lies to the left or the right of the median voter, but no farther away than the ideal point of the immediately adjacent legislator on each side of mv , we can expect a filibuster to successfully

³⁴⁸ This approach assumes that legislators' preferences can be depicted as points distributed along a single dimension—e.g., liberal versus conservative or more stringent versus less stringent regulation of GHG emissions. These spatial models further assume the existence of a utility distribution around each legislator's ideal point that reaches its peak at the ideal point; stated differently, they assume that the legislator's utility over policy options declines as the distance between the ideal point in the policy option grows. In the parlance of spatial modeling, this depiction assumes that individual preferences are "single peaked." In these models, voters seek policy outcomes at, or as close as possible to, their ideal points.

³⁴⁹ This is true assuming single-issue voting. If the legislature were to face a vote on a proposal that implicates several issue dimensions at once, the possibility of vote trading across issues means that any single issue outcome could diverge from the preferences of the median voter on that issue dimension.

block any new proposal to move the policy toward mv . To see why this is, consider Figure A-2. For any status quo policy that lies between mv and f_L , all six of the legislators to the right of the status quo policy will support a proposal to move the policy to the right, and five will oppose it. If one of the opposing legislators filibusters the proposal, the legislature will be unable to muster the seven votes needed to invoke cloture to stop the filibuster. A mirror image phenomenon will arise for status quo policies that lie to the right of mv , such that no proposal to move policy toward the preferences of the median voter can be enacted when the status quo lies between f_L and f_R , the so-called “gridlock interval.”³⁵⁰

Figure A-2: Pivotal Politics
The Gridlock Intervals with Strong Middle, No Parties, But Filibuster



Thus, the legislators at f_L and f_R become the filibuster pivots. The ideological polarization of Congress over the last several decades has been widely documented,³⁵¹ and as depicted in Figure A-3, it is easy to see how the size of the gridlock interval (the set of status quo policies that cannot be changed) grows when preferences within the legislature (the legislators’ ideal points) become more widely dispersed. As members of the legislature become more ideologically polarized, the status quo policy can persist even as the median voter’s preferences stray farther and farther from that status quo. As long as the status quo policy remains within the widening gap between the two pivotal legislators, f_L and f_R , the legislature will remain powerless to change it. In this configuration, the gridlock interval expands not because of political parties or party discipline, but simply because of the increasing ideological heterogeneity in Congress.³⁵²

³⁵⁰ See KREHBIEL, *supra* note 345, at 34-39.

³⁵¹ For a full discussion of this phenomenon and the literature explaining it, see *supra* notes 45-49 and accompanying text.

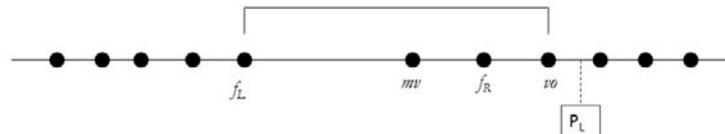
³⁵² Of course, ideology is a key determinant of partisan affiliation. We have already noted the ideological divergence between, and increasing ideological homogeneity within, American political parties. See POOLE & ROSENTHAL, *supra* note 45, at 312-20. Indeed, parties may exacerbate these trends. See Geoffrey C. Layman et al., *Activists and Conflict Extension in American Party Politics*, AM. POL. SCI. REV., May 2010, at 324, 324-27 (describing how party activists play a leading role in moving party rank-and-file away from the ideological middle and toward the poles—a process

Figure A-3: Pivotal Politics
The Gridlock Interval with Dispersed Preferences and No Parties



From this simple insight, it is easy to see how divided government and the possibility of a presidential veto can further increase the size of the gridlock interval. In Figure A-4, assume that for a new policy to become law, it must be signed by the President and that a presidential veto can be overridden only by a two-thirds vote of the legislature (eight legislators). Note that the President's ideal point, P_L , lies farther from mv than the relevant filibuster pivot, in this case f_R . This means that for any status quo policy between mv and vo , any proposal to move policy toward mv will be vetoed by the President, and the legislature will be unable to muster the eight votes necessary to override that veto. Since vo 's ideal point is even farther from mv than that of f_R , the prospect of a veto further widens the gridlock interval. In this case, the gridlock interval expands to the right; of course, if the President's preferences were sufficiently far to the left, it would expand in that direction.

Figure A-4: Pivotal Politics
The Gridlock Interval with Dispersed Preferences, No Parties, and Vetoes



Thus, more generally, with ideological polarization in the legislature, the possibility of a filibuster and a presidential veto insulates a larger set of status quo policies from legislative change, even as the median voter's preferences stray farther and farther from the status quo. If we assume that legislators' ideal points reflect the preferences of their constituents, this

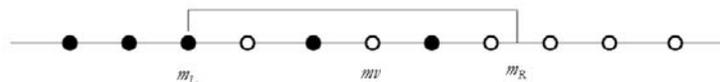
the authors call "conflict extension"). In any case, the following Section depicts the potential influence of parties as causes of gridlock.

implies that policy lags behind voter preferences when the gridlock interval is wide.³⁵³

Party Politics

The introduction of parties into the model shows how party discipline can exacerbate the gridlock problem. Figure A-5 is identical to Figure A-2 in that it depicts a legislature with relatively evenly distributed preferences (a strong middle), but differs from Figure A-2 in that the legislature is now divided into two (relatively) ideologically heterogeneous parties, a majority right party (with six members) and a minority left party (with five members). Let us first assume that the parties can (at least, sometimes) exert discipline over their members' decisions, including decisions about whether to override a filibuster, such that the preferences of the median member of each party (depicted as points m_L and m_R in Figure A-5) will drive the behavior of all of the members of the party. This moves the filibuster pivots farther away from mv , expanding the gridlock interval. Now the gridlock interval covers the area from m_L , the median left party voter, and m_R , the median right party voter (depicted here as the midpoint between the third and fourth member of the right party³⁵⁴), an area significantly larger than the gridlock interval that existed without party discipline. These two points, m_L and m_R , represent the new filibuster pivot points when parties exert discipline over voting by their members.

Figure A-5: Party Politics
Gridlock Interval with Strong Middle, Filibuster, and Party Discipline



We generally do not think of American political parties, however, as disciplined in this way; to the contrary, compared with parties in parliamen-

³⁵³ Of course, this raises a series of normative questions about the proper purpose—or performance—of the legislative policymaking process, questions that go to the Framers' design of that process. One set of questions goes to theories of representation. Should the legislator's ideal points reflect the current preferences of his or her median constituent? Or the median informed and interested constituent? Or should the legislator's ideal point reflect what the median constituent would want if that constituent was fully informed about the issue? For discussion of these issues in the context of spatial modeling, see Spence & Cross, *supra* note 34, at 106-12.

³⁵⁴ This assumes that the members of the right party will negotiate policy preferences that lie between the preferences of the third and fourth members of the six-member party.

tary systems, we think of them as relatively weak, exerting relatively little party discipline over voting behavior.³⁵⁵ Party leaders, however, do exert voting discipline on rare occasions, and according to some commentators, somewhat more frequently in the current era of ideological polarization.³⁵⁶ Nevertheless, perhaps a more common way in which parties exacerbate gridlock is when the leadership of the majority party exerts control over the agenda. Agenda control can also expand the gridlock interval, even in the absence of party voting discipline. Both houses of Congress delegate agenda setting powers to committees; the chambers only consider bills reported to the floor by committee. Moreover, the House of Representatives delegates important agenda setting powers to its Rules Committee, which specifies the rules governing debate and amendment for bills that reach the floor in that chamber. According to the party cartel theory, the leaders and committee members holding these agenda setting powers act as fiduciaries of the party, such that they will “not use their official powers to push legislation that would pass on the floor against the wishes of most in their party.”³⁵⁷ One way to conceptualize this duty is to posit that it makes the median member of the majority party (but not the median minority party member) pivotal. This is because party members controlling the agenda will prevent the chamber from voting on proposals that would move policy away from the preferences of the median majority party member. Figure A-6 depicts this situation.³⁵⁸ This sort of logic produces a gridlock interval that is wider than in the absence of parties (Figure A-2), but not as wide as that depicted in Figure A-5 (where both parties exert voting discipline).³⁵⁹

³⁵⁵ This argument is usually made in comparisons of American parties and European parties, or parties in Westminster systems. See, e.g., COX & MCCUBBINS, *supra* note 346, at 29-31 (ascribing discipline to institutions); Keith Krehbiel, *Where's the Party?*, 23 BRITISH J. POL. SCI. 235, 260 (1993) (ascribing the relatively greater party discipline in parliamentary systems to greater ideological homogeneity of parties).

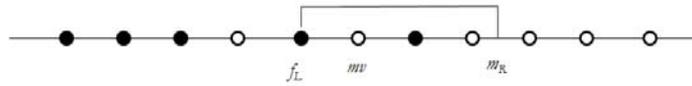
³⁵⁶ The so-called “Hastert Rule,” named after former House Speaker Dennis Hastert, is that the majority should only bring to a vote bills supported by a majority of the majority party. In 2013, Speaker John Boehner pledged to follow the Hastert Rule in managing the House of Representatives’s consideration of immigration reform bills. Molly K. Hooper, *Boehner: I’m Not for a Comprehensive Solution*, HILL, June 19, 2013, at 1.

³⁵⁷ COX & MCCUBBINS, *supra* note 346, at 9.

³⁵⁸ In this instance, the left boundary of the gridlock interval is marked by the left-side filibuster pivot, and the right boundary is marked by the median voter in the (majority) right party.

³⁵⁹ This depiction of the gridlock interval assumes that members continue to vote sincerely in response to motions to invoke cloture, rather than in response to party instructions.

Figure A-6: Party Politics
Gridlock Interval with Strong Middle, Filibuster, and Agenda Control



Naturally, if the parties become more ideologically polarized (and preferences within each party more homogenous), the gridlock interval attributable to party agenda control widens even more, as depicted in Figure A-7. Figure A-7 is identical to Figure A-3 except that party agenda control has moved the right-side pivot even farther to the right. If we assume once again that the majority party controls the agenda, and that it does so in ways that comport with the preferences of the median member of the majority party, the legislature will not be able to enact any proposals to move policy toward the middle as long as the status quo lies anywhere within this larger gridlock interval.

Figure A-7: Party Politics
Gridlock Interval with Dispersed Preferences and Agenda Control



Thus, we can think of gridlock intervals as affecting the particular mix of conditions necessary to enact a law: when the gridlock interval is wider, fewer policy proposals will be able to navigate the process successfully, all else equal. Stated differently, legislation is more likely when the ideological environment within Congress is less polarized, all else equal.

Polarization in Congress

As already noted,³⁶⁰ the political science literature documents the increasing polarization of Congress (and, some argue, the electorate) over time in the late twentieth and early twenty-first centuries, implying that the gridlock interval has grown substantially over that time. Using the so-called DW-NOMINATE data compiled and developed by Keith Poole and

³⁶⁰ See *supra* notes 45-49 and accompanying text.

Howard Rosenthal,³⁶¹ it is possible to show how increased ideological homogeneity within the two major political parties (and a corresponding polarization between parties) has served to widen the gridlock interval.

The Poole and Rosenthal data use congressional voting behavior to position each member of each Congress in American history at a point along an ideological dimension—one which Poole and Rosenthal described as corresponding to the “liberal-conservative” dimension, particularly with respect to issues relating to government regulation of economic activity.³⁶² Each member of each Congress is assigned an ideological score ranging between -1 (most liberal) and 1 (most conservative).³⁶³ Using these ideology “scores,” one can examine over time the relative liberalism or conservatism of each party, the ideological distance between the parties, the percentage of moderates³⁶⁴ within Congress, and the percentage of ideological overlap between Democrats and Republicans.³⁶⁵

Figures A-8 and A-9 illustrate the increasing polarization of Congress since the fertile environmental and energy legislative environment of the 1970s. Figure A-8 shows the ideological positions of the mean Democrat and mean Republican in the House of Representatives over time. The widening ideological gap between the parties is evident.³⁶⁶ As already noted, there are several competing (and complementary) explanations for this trend,³⁶⁷ but it certainly supports the notion of a widening gridlock interval. These figures also illustrate that the lion’s share of that divergence can be ascribed to movement within the Republican Party toward greater conservatism. In any

³⁶¹ See POOLE & ROSENTHAL, *supra* note 45; see also *supra* note 45 and accompanying text. The figures presented here were developed using data from Keith Poole & Howard Rosenthal, VOTEVIEW, <http://www.voteview.com/> (last visited Oct. 3, 2014), *archived at* <http://perma.cc/RFM6-THDL>.

³⁶² Poole and Rosenthal actually position members of Congress along two dimensions, but it is this first dimension, left–right ideology, that they use to measure economic policy.

³⁶³ For a full description of the methods used to develop these ideological positions, see Keith T. Poole & Howard Rosenthal, *A Spatial Model for Legislative Roll Call Analysis*, 29 AM. J. POL. SCI. 357 (1985), and Keith T. Poole, *NOMINATE: A Short Intellectual History*, VOTEVIEW, <http://voteview.com/nominate/nominate.htm>, *archived at* <http://perma.cc/V3YH-SVNC>. For critical analyses of the Poole and Rosenthal typology, see, for example, SEAN M. THERIAULT, PARTY POLARIZATION IN CONGRESS 17 n.8 (2008), which highlights potential problems with cross-Congress comparisons.

³⁶⁴ Poole and Rosenthal define moderates as those with ideological scores lying between -0.25 and 0.25.

³⁶⁵ We can measure “overlap” by looking at the percentage of Democrats whose ideological position falls to the right of at least one Republican, and the percentage of Republicans whose ideological position falls to the left of at least one Democrat.

³⁶⁶ The Senate scores are not depicted here, but see Figure A-9, *infra*, for a measure of ideological divergence in the Senate over time.

³⁶⁷ See *supra* notes 45-49 and accompanying text.

case, the growing ideological gap supports the notion that the pivotal members of each party are likely to be farther apart now than they were in the 1970s. If ideology drives filibuster decisions, veto override decisions, and majority party agenda control decisions in the ways that spatial models suggest, the greater ideological polarization depicted here indicates that recent congresses ought to be less capable of responding to policy problems legislatively.

Figure A-8: Mean Scores (Liberal–Conservative Dimension),
House of Representatives, 1970–2011³⁶⁸

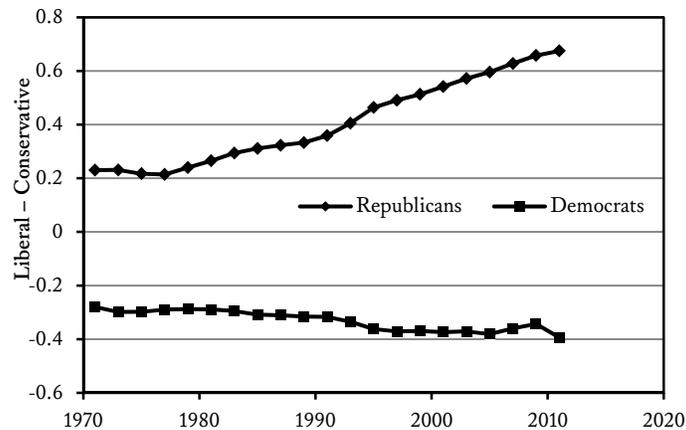


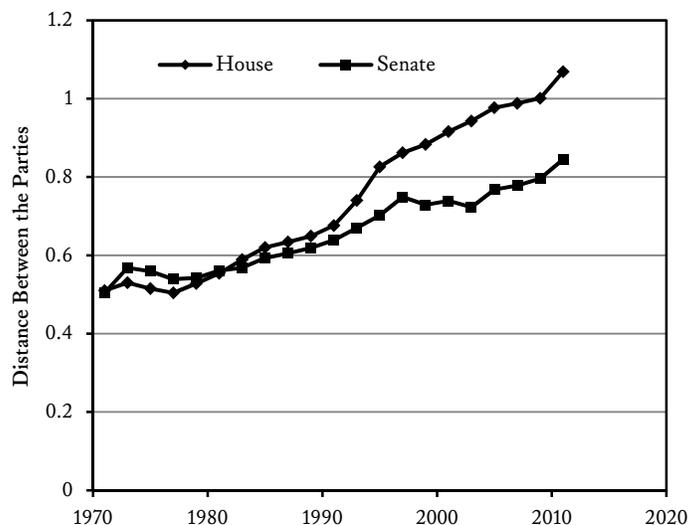
Figure A-9 illustrates this same point a different way, by graphing the ideological distance between the parties (distance between the mean Democrat and the mean Republican) in both chambers over time. On this scale, the maximum possible ideological distance between the parties is two points (representing perfect polarization). In fact, the ideological distance between the party means in Congress has grown from about a half a point in 1970 to more than a point in the House and more than eight-tenths of a point in the Senate four decades later. The rate of divergence begins to increase more sharply in the early 1990s, just after passage of the Clean Air Act Amendments of 1990³⁶⁹ and the Energy Policy Act of 1992.³⁷⁰

³⁶⁸ Once again, the Poole and Rosenthal data position members of Congress on a left–right scale ranging from -1 (most liberal) to 1 (most conservative).

³⁶⁹ *Cf. supra* notes 166–169 and accompanying text.

³⁷⁰ *Cf. supra* notes 193–198 and accompanying text.

Figure A-9: Ideological Distance Between the Parties, 1970–2011



Of course, the diverging ideology scores of the mean Democrat and the mean Republican are only one possible indicator of a widening gridlock interval. We might hypothesize that the presence of centrists can help overcome polarization between the parties because centrists can help bridge ideological divides and build legislative coalitions. Thus, legislation ought to be more likely when there are plenty of moderates in Congress—members of opposing parties who are nevertheless like-minded, willing to “reach across the aisle” to hammer out legislative bargains and “sell” the resulting bargain to members of their own party.³⁷¹ Figures A-10 and A-11, though, document the disappearance of these cross-party potential bridge builders in Congress in recent decades. Figure A-10 depicts the percentage of moderates (those whose ideology scores fall between -0.25 and 0.25) in the Senate over the last four decades, showing a precipitous drop, particularly since the late 1970s.³⁷²

³⁷¹ At course, we might surmise that even when moderates are present, the sale of legislative bargains within the party becomes more difficult as the distance between the mean party members increases.

³⁷² The House of Representatives figures are not depicted here but show a similar phenomenon.

Figure A-10: Percentage of Moderates in the Senate, 1970–2011

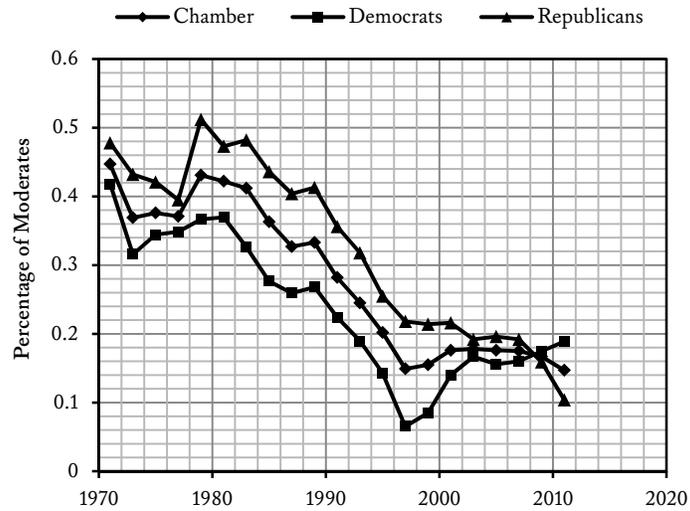
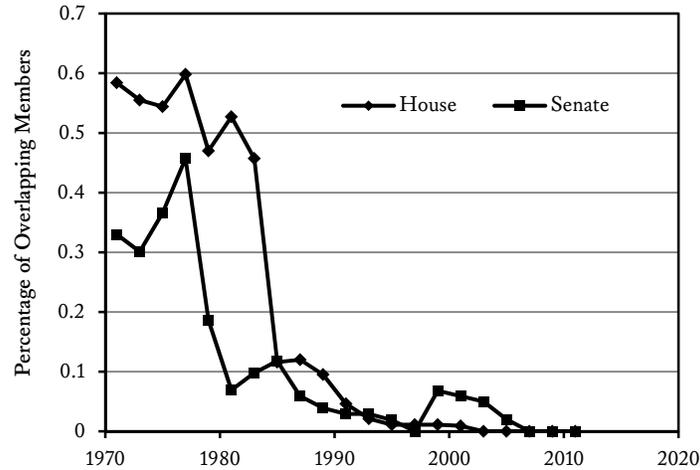


Figure A-11 looks for the presence of centrists in a different way by focusing on members of each party whose ideology overlaps with that of the opposing party. More specifically, Figure A-11 combines data from both chambers of Congress, adds the number of Democrats whose ideology scores lie to the right of at least one Republican to the number of Republicans whose ideology scores lie to the left of at least one Democrat, and expresses that total as a percentage of the total number of members. As is evident from the figure, a majority of the House and a near majority of the Senate fit this definition in the late 1970s. Since then, the percentage of overlapping members has fallen drastically.

Figure A-11: Percentage of Overlapping Members in Congress, 1970–2011³⁷³



Conclusion

Over the last four decades, the parties have grown further apart ideologically in a number of ways. According to these data, the parties have grown more ideologically homogeneous; the average Republican is much more conservative, and the average Democrat slightly more liberal, than four decades ago. There are fewer moderates and overlapping members of Congress, suggesting that there are fewer members willing and able to build legislative coalitions across party lines. In spatial modeling terms, it appears that political polarization has made the gridlock interval much wider than it was in the heyday of environmental and energy legislation of the 1970s. All of this suggests that the political environment *in Congress* is less conducive to the enactment of legislation addressing problems of public concern now than at any time since 1970.

³⁷³ Data drawn from Poole and Rosenthal's *Voteview.com*, *supra* note 361.