

OLD STATUTES, NEW PROBLEMS*Jody Freeman*^{*}*David B. Spence*^ψ*Abstract*

Congress is more ideologically polarized than at any time in the modern regulatory era, which makes legislation ever harder to pass. As a result, Congress is increasingly absent from the policymaking process, and fails to regularly update statutes in the face of social, economic and technological change. This leaves agencies to adapt old statutes to new problems. The challenge of managing statutory obsolescence affects many agencies, and arises in areas as diverse as financial, telecommunications, and food and drug regulation. We examine this dynamic in two fast-moving policy domains, environmental and energy regulation, where Congress has been remarkably absent in recent decades. Contrary to what some might suspect, we find that agencies manage these statutory fit problems carefully, strategically and often with deliberate restraint. Rather than “going for broke,” they tend to choose policies that stop short of open conflict with Congress, yet reflect the agency’s mission, the president’s priorities, and the limits of their statutory authority. We show how, following the Goldilocks principle, agencies seek to get it “just right.” We then explore the implications of this dynamic—in which agencies are the primary statutory updaters—for the institutions in our Separation of Powers scheme: the president, Congress, the courts and the agencies. We argue that the absence of Congress from the policy process can inure to the president’s benefit in the contest to shape agency decisions, especially when the president’s priorities are consistent with the agency’s traditional mission, meaning that the White House and agency are aligned. Finally, we focus on what this new strategic environment of agency policymaking means for judicial review of agency efforts to update the regulatory regime. We argue that, for a variety of reasons, 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 absent from the updating process. Our account also challenges the view that courts should return important regulatory matters to Congress rather than allow agencies to adapt statutes, because to do so is “democracy forcing.” We argue that the normative commitment to democracy forcing is based on a flawed empirical assumption about the probability of congressional action. Indeed, because the agency is the legally designated custodian of the statute (so designated by the enacting Congress), the agency may have the superior claim to interpret the statute’s application to new problems during periods of congressional quiescence.

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I. Introduction

Congress is more ideologically polarized 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 to reduce the probability that Congress will update regulatory legislation in response to significant new economic, scientific or technological developments. This predicament has important implications for the federal agencies charged with implementing statutes over time, and for courts, which adjudicate challenges to agency statutory implementation.³ Agencies coping with new regulatory challenges often encounter problems of “fit” with older statutes. Managing these challenges, we argue, is an exquisitely delicate legal and political exercise. We show how, following the Goldilocks principle, agencies seek to get it *just right*, and why courts must keep congressional dysfunction in mind when reviewing agency attempts to fit their old enabling laws to new problems.

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 regularly update both common law and statute.⁴ This literature has historically focused on the role of the judge in statutory interpretation; the central debate being 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 spawned considerable commentary,⁵ was unambiguously negative about the prospect of agencies filling those gaps, and skeptical that agency officials are adequately trained or sufficiently independent to assess legal principles and make accurate findings of

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

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

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 See, e.g., Roscoe Pound, *Anachronisms in Law*, 3 J. AM. JUD. SOC’Y 142 (1919); Benjamin N. Cardozo, *A Ministry of Justice*, 35 HARV. L. REV. 113 (1921); Henry J. Friendly, *The Gap in Lawmaking—Judges Who Can’t and Legislators Who Won’t*, 63 COLUM. L. REV. 787 (1963); and Guido Calabresi, *A COMMON LAW FOR THE AGE OF STATUTES* (1982).

⁵ See, e.g., Abner Mikva, *The Shifting Sands of Legal Topography*, 96 HARV. L. REV. 534, 540-1 (1982) (proposing an alternative solution to the problem of obsolescence, that lawmakers make specific and limited delegations of updating power to courts); Frank Easterbrook, *Statutes’ Domain*, 50 U. CHI. L. REV. 533 (1983) (arguing against a roving authority to engage in judicial common law revision of statutes); Richard A. Posner, *Formalism, Realism, and Interpretation*, 37 CASE W. RES. L. REV. 179 (1986) (criticizing Calabresi’s proposal on grounds that the concept of “statutory obsolescence” is too vague to constrain judicial behavior, among other reasons); William Eskridge, Jr., *Dynamic Statutory Interpretation*, 135 U. PA. L. REV. 1479 (1987) (advocating that judges 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 less influenced by regulated groups (*Id.* at 1534), and expressing the view that his proposal “stops far short” of Calabresi’s proposal (*Id.* n.7)).

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.⁶ 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 these combined literatures have identified the problem of static statutes, they have not fully explored its implications for agencies and courts in an era of unprecedented congressional paralysis. This issue is profoundly important at a time of rapid change and limited congressional productivity. When agencies charged with a regulatory mission fail to address new policy problems that arguably fall within their core domain, society may 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 in addressing new problems, they realize our worst fears about bureaucracy run amok.⁷ 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 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.

As we will show, agencies 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; but other times, agencies manage problems of fit by intentionally shrinking their jurisdiction, proceeding incrementally and engaging in deliberate restraint.⁸ Our examples show that agencies can be persistent, flexible, bold, cautious, expert, political and above all, strategic. The examples suggest too, that even—and perhaps especially—when adapting old statutes to

⁶ See, e.g., Jeffrey E. Shuren, Essay, *The Modern Regulatory Administrative State: A Response to Changing Circumstances*, 38 HARV. J. ON LEGISL. 291 (2001) (arguing that a primary justification for deferring to administrative agencies is their ability to respond to changing circumstances); Cass R. Sunstein, *Law and Administration After Chevron*, 90 COLUM. L. REV. 2071 (1990) (concluding that agencies “are far better situated than courts to soften statutory rigidities or to adapt their terms to unanticipated conditions” because of their “fact-finding capacities, electoral accountability, and continuing attention to changed circumstances.”) *Id.* At 2102-3.

⁷ See *Arlington v. FCC*, 133 S. Ct. 1863 (U.S. 2013) (Roberts, C.J., dissenting): “The 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 (internal citations omitted).” *But cf.* Judge Roberts’ decision in *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004) (adopting a relatively expansive view of FERC’s authority under the Federal Power Act to spread the costs of new transmission investment).

⁸ For an article describing agency techniques of strategic restraint, inaction and delay as potentially salutary rather than evidence of shirking, see Sharon Jacobs, *The Administrative State’s Passive Virtues*, 66 ADMIN. L. REV. (forthcoming 2014).

new problems, agencies are surprisingly accountable, not just to the president but also to Congress, the courts, and the larger public.

We focus on examples from energy and environmental 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 telecommunications⁹ and food and drug regulation,¹⁰ where agencies have been left for relatively long periods to adapt existing law to new challenges, leading to problems of fit between an older statute and a more contemporary reality.¹¹ 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.¹² Thus, the lessons learned about the consequences of congressional dysfunction in the energy and environment domains may apply more generally to policymaking in other fast-moving fields where Congress fails to “modernize” statutes on a regular basis.

The Article proceeds as follows. In Part II we describe how Congress’ capacity to enact legislation has diminished over time. Drawing on theoretical and empirical work done by political scientists, we illustrate why Congressional gridlock has reached levels unseen in the last 50 years. Briefly stated, Congress’ ability to cobble together

⁹ One might argue that the Communications Act is again out of date, as the FCC continues to strain to adapt it to emerging technologies. *Verizon v. FCC*, 2014 U.S. App. LEXIS 680 (D.C. Cir. Jan. 14, 2014) (rejecting the FCC’s attempt to adopt “net neutrality” rules requiring broadband providers to adhere to open access network requirements because only common carriers are subject to such requirements and the Commission did not classify the providers as such).

¹⁰ The statute has been amended in small ways numerous times over the years, but there have been periods of long gaps during which the FDA has struggled mightily 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 (1988) (recounting the FDA’s struggle to adapt the language of the “Delaney Clause,” which prohibited the sale of food additives that “induce cancer,” when post-enactment advances in science revealed a multitude of popular food additives that pose at least a minimal risk of cancer.) The FDCA’s food safety regime was not significantly updated until 2011. See Food Safety Modernization Act of 2011, Pub. L. 111-353, 124 Stat. 3885 (2011) (codified in scattered sections of the U.S. Code) see discussion *infra* note 000.

¹¹ 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 Federal Communications Commission (FCC) and commentators that it do so. As a result, the FCC struggled to apply its dated statute to modern radio, television, and cable, and in doing so was often overruled by the D.C. Circuit. 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 policy issues raised by emerging 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 AT 282 (1989) (noting that new communications media and private use have outpaced the inflexible statutory provisions in the 1976 Copyright Act).

¹² 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 (1987). Only after the dramatic financial crisis of 2008-9 did Congress adopt a variety 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. 2213 (2010) (codified as amended at 15 U.S.C. § 78m(p) (2012)).

legislative majorities has 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 of the Clean Air Act (CAA)¹³ to address climate change; and the Federal Energy Regulatory Commission's (FERC) implementation of the Federal Power Act (FPA)¹⁴ 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. One consequence is to enhance the role of other players—agencies, the president and the courts—in determining policy outcomes. It stands to reason that if Congress is unable to speak via legislation, agencies face a reduced probability 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 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 may have 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.

¹³ Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended at 42 U.S.C. §§ 7401–77671q (2006)).

¹⁴ 16 U.S.C. §§ 791-828c.

II. Congressional “Dysfunction”

A central premise of our argument is that Congress’ 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 energy and environmental 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 in more than two decades, particularly legislation addressing climate change, but also legislation to update a number of environmental statutes that were last amended in the 1970s and 80s.¹⁵ Congress has produced a few pieces of significant energy legislation over that time period,¹⁶ 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 has in the past.

A. Congressional (Un)Responsiveness

The 20th 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)¹⁷ responded to concerns about state regulation of energy in interstate commerce,¹⁸ the market power of public utilities,¹⁹ and the need for federal coordination of rapidly changing energy technologies, such as natural gas pipelines.²⁰ Likewise, the CAA of 1970, the Clean

¹⁵ See 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.”); Jonathan H. Adler, *Conservative Principles for Environmental Reform* 1-2 (Working Paper March 2013) (claiming that “major environmental policy reform is long overdue,” and lamenting the application of 20 century regulatory measures to 21st-century problems).

¹⁶ See discussion *infra* note 000.

¹⁷ 15 U.S.C. §§ 717.

¹⁸ The Federal Power Act, in particular, was partly a response to the Supreme Court’s decision in *PUC of R.I. v. Attleboro Steam & Elec. Co.*, 273 U.S. 83 (1927) (striking down state regulation of cross-border electricity sales on dormant commerce clause grounds). See also Statement of D.A. DeVane, Solicitor, Federal Power Comm’n., *Hearings on H.R. 11662 Before The Subcom. of the House Comm. On Interstate and Foreign Commerce*, 74th Cong., 2d Sess. 13 (1936).

¹⁹ 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) (citations omitted).

²⁰ 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, necessitating the transmission of natural gas across state lines. 15 U.S.C. § 717f(c). A variety of other new deal era statutes addressed pressing energy needs, including the National Industrial Recovery Act of 1933, Pub. L. No. 73–90, 48 Stat. 195 (1933) (originally codified at 15 U.S.C. § 703) (overturned on non-delegation grounds in *Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935), which sought to relieve boom-bust cycles and price volatility in the domestic oil production industry, and the Rural Electrification Act of 1936, Pub. L. No. 110–246, 49 Stat. 1363, which sought to promote development of the electricity industry in rural areas not served by investor-owned utilities).

Water Act of 1972 (CWA),²¹ and the spate of environmental legislation of the 1970s²² embody Congress's response to newly understood threats to health and the environment posed by pollution.²³ 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,²⁴ and amended the statute again in 1990 in response to a newly understood air pollution problem (acid rain) and dissatisfaction with aspects of EPA's regulation of toxic air emissions under the law.²⁵ Similarly, Congress responded to the energy crises of the late 1970s by passing the Natural Gas Policy Act of 1978 (NGPA)²⁶ and the Public Utility Regulatory Policies Act of 1978 (PURPA)²⁷ 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 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 conclusion that acid rain was a real problem caused by emissions of sulfur

²¹ Clean Water Act, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251–1387 (2006)).

²² The period from 1969 through 1980 is sometimes referred to as “the environmental decade.” See, e.g., LETTIE M. WENNER, *THE ENVIRONMENTAL DECADE IN COURT* (1982).

²³ In addition to the Clean Air and Clean Water Acts, 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 (2006)), 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 (2006)), the Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (codified as amended at 15 U.S.C. §§ 2601–2692 (2006)), and the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. §§ 9601–9675 (2006), better known as “Superfund.”

²⁴ 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 national ambient air quality standards. See 42 U.S.C. §§ 7470-7492.

²⁵ The 1990 amendments responded to growing concern about acid rain and the risks of toxic air pollution, establishing the acid rain program for coal-fired powerplants, 42 U.S.C. §§ 7651-7651o, and strengthening the regulation of toxic emissions by listing 189 specific toxics, and substituting technology-based standards for health-based ones, 42 U.S.C. § 7412.

²⁶ The Natural Gas Policy Act of 1978, Pub. L. No. 95-621 (1978), was a response to 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 (1987).

²⁷ 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., 42 U.S.C., and 43 U.S.C.), established incentives for the construction of non utility-owned electric generating facilities using renewable resources or more efficient technologies.

dioxide and nitrogen oxides,²⁸ or that a variety of common aerosol products were eroding the stratospheric ozone layer,²⁹ a new scientific consensus coalesced in the first few years of the 20th century around the conclusion that greenhouse gas emissions, largely from burning fossil fuels for energy consumption, were driving climate change.³⁰ However, unlike the case of acid rain and ozone depletion, the identification of the problem has not been followed by a congressional policy response.

Over the same period of time, technology and competition have 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.³¹ Congress' 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 always age, raising questions about how well they "fit" the new circumstances.³² Yet we contend that these fit problems are more severe now than at any time in the modern regulatory era. To understand 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 succeeds 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 includes both traditional interest group theory and

²⁸ 42 USCS § 7651.

²⁹ *Montreal Protocol on Substances That Deplete the Ozone Layer*, 16 September 1987, 1522 UNTS 29, 26 ILM 1550 (entered into force 1 January 1989); 42 USCS §§ 7671a–7671f (authorizing EPA to phase out production and import of ozone depleting substances).

³⁰ See Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report* (Fourth Assessment), available at: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf, and *Climate Change 2013: The Physical Science Basis* (Fifth Assessment), available at: http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.

³¹ See *infra*, section III.B.

³² 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, Administrative Arrangements and Political Control of Agencies: Administrative Process and Form as Legislative Responses to Agency Costs*, 75 VA. L. REV. 499, 504-07 (1989); Jonathan R. Macey, *Organizational Design and Political Control of Administrative Agencies*, 8 J.L. ECON. & ORG. 93, 95-99 (1992).

public choice models,³³ emphasizes the advantages that smaller, more tightly-organized groups (like business interests) have in the contest to influence legislative decisions.³⁴ 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.³⁵ 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.³⁶ 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.³⁷ This can happen when an issue becomes particularly salient and important to the general public. Public pressure is necessary but not sufficient to produce legislative action, however. Public concern must actually produce electoral risk for a sufficient number of otherwise reluctant legislators in order produce legislation. Garbage can models describe this same phenomenon as the product of policy cycles.³⁸ 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.³⁹

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

³³ For a summary of the enormous public choice literature on delegation to agencies, see David B. Spence and Frank Cross, *The Public Choice Case for the Administrative State*, 89 GEO. L.J. 97, 102-06 (2000).

³⁴ Mancur Olson's analysis of group formation implied that policy processes would systematically undervalue the preference of large diffuse groups compared with those of small cohesive groups. See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION* (1965). For a good summary of economic analysis of interest groups following Olson, see RUSSELL HARDIN, *COLLECTIVE ACTION* (1982); TODD SANDLER, *COLLECTIVE ACTION: THEORIES AND PROBLEMS* (1992).

³⁵ Michael D. Cohen et al., *A Garbage Can Model of Organizational Choice*, 17 ADMIN. SCI. Q. 1 (1972); Charles E. Lindblom, *The Science of Muddling Through*, 19 PUB. ADMIN. REV. 79 (1959); and Herbert A. Simon, *The Proverbs of Administration*, 6 PUB. ADMIN. REV. 53 (1946); and JOHN W. KINGDON, *AGENDAS, ALTERNATIVES, AND PUBLIC POLICIES* (2003).

³⁶ KINGDON, *supra* note 000, at ___. For a critique of Kingdon's model see, e.g., Gary Mucciaroni, *The Garbage Can Model & the Study of Policy Making: A Critique*, 24 POLITY 459 (1992) (criticizing the “indeterminacy” and questioning the usefulness of the model).

³⁷ 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 (1990). Dan Farber adapted it to environmental politics in Daniel A. Farber, *Politics and Procedure in Environmental Law*, 8 J.L. ECON. & ORG. 59, 60 (1992).

³⁸ KINGDON, *supra* note 000, at ___. Economist Anthony Downs, a rational choice political theorist, also conceived of republican moments as cyclical. Anthony Downs, *Up and Down with Ecology—The “Issue-Attention Cycle,”* 28 PUB. INT. 38, 38 (1972) (noting that only during the times of intense public pressure for action is it possible to overcome the usual legislative inertia and produce major regulatory legislation).

³⁹ *Id.*

more public pressure to produce that change. The energy and environmental legislation of the 1970s is easily explained in this way. 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 legislation.⁴⁰ Likewise, when energy supply and security issues became salient to voters in the 1970s, Congress responded by passing the energy legislation of the Carter Administration.⁴¹ These laws were passed in large part because politicians responded to bottom-up electoral pressure, and cobbled together legislative majorities that crossed party lines.

Today the political environment in Congress is far less conducive to legislation ~~today~~ 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. However, today 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.⁴² To summarize the key insight simply, 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: 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 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

⁴⁰ See Farber *supra* note 000. 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 (1985).

⁴¹ Carter-era energy legislation included major regulatory initiatives like the Natural Gas Policy Act of 1978 (NGPA), Pub. L. No. 95-621, 92 Stat. 3350 (codified as amended in scattered sections of 15 U.S.C.) (deregulating wellhead prices of natural gas), the Powerplant and Industrial Fuel Use Act of 1978, 42 U.S.C. §§ 8301-8484 (restricting uses of natural gas), and the Public Utility Regulatory Policies Act of 1978 (PURPA), 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., 42 U.S.C., and 43 U.S.C.) (establishing incentives for alternative energy projects). Earlier in the decade Congress passed the Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871 (codified as amended in scattered sections of 42 U.S.C.), creating national fuel economy standards for automobiles (“CAFÉ standards”) as well as the Strategic Petroleum Reserve.

⁴² See App.

refer to this domain of policies that cannot be moved toward the center as the "gridlock interval."⁴³

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 that much more difficult. A large and growing academic literature has documented this growing polarization.⁴⁴ Keith Poole and Howard Rosenthal's DW-NOMINATE dataset places members of Congress on an ideological spectrum based upon ~~the~~members' voting behavior.⁴⁵ ~~They~~Poole and Rosenthal conclude from their data that polarization in the U.S. House and Senate are at their highest levels since the end of Reconstruction.⁴⁶

This stands in stark contrast to the Congress of the 1970s, when a Republican (Richard Nixon) created the 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."⁴⁷ Today, not only are the parties' ideological means farther apart, there are also fewer moderates of either party in Congress. Based on the Poole & Rosenthal data, it appears that moderates in the House and Senate have fallen from more than 30 percent in both chambers in 1970, to less than 10 percent in both chambers today.⁴⁸

This is not to say that Congress is utterly incapable of enacting regulatory legislation. Rather, it is to say that the current partisan and ideological makeup of Congress renders such action much less likely than at any time in the modern regulatory

⁴³ For an explanation of the literature from which this notion is derived, and a fuller and more precise explanation of this intuition, see App.

⁴⁴ For a good overview of the various databases and theories of congressional polarization, and an integration of some of those theories and data, see SEAN M. THERIAULT, PARTY POLARIZATION IN CONGRESS (2008); JOHN H. ALDRICH, WHY PARTIES? THE ORIGINS AND TRANSFORMATION OF POLITICAL PARTIES IN AMERICA (1995); KEITH T. POOLE & HOWARD ROSENTHAL, CONGRESS: A POLITICAL ECONOMIC HISTORY OF ROLL CALL VOTING (1997); MORRIS P. FIORINA & SAMUEL J. ABRAMS, *Political Polarization in the American Public*, 11 ANN. REV. POL. SCI. (2008); MORRIS P. FIORINA, *Paper presented at the Midwest Political Science Association Annual Meeting at Chicago, Illinois, Whatever Happened to the Median Voter?* (Apr. 15–17, 1999).

⁴⁵ For a thorough explanation of these data and how they document increasing polarization in American politics, see NOLAN MCCARTHY, KEITH T. POOLE, AND HOWARD ROSENTHAL, POLARIZED AMERICA: THE DANCE OF IDEOLOGY AND UNEQUAL RICHES (2006). For a striking visual illustration of polarization in Congress, see Nolan McCarty, Keith T. Poole, and Howard Rosenthal, Voteview.com, <http://voteview.com/polarizedamerica.asp>.

⁴⁶ See *id.*

⁴⁷ LESLIE DALE FELDMAN & ROSANNA PEROTTI, HONOR AND LOYALTY: INSIDE THE POLITICS OF THE GEORGE H. W. BUSH WHITE HOUSE 8 (2002).

⁴⁸ McCarty et al., *supra*, at note 000. There are a number of competing explanations for why ideological polarization has intensified, including safer and more homogenous legislative districts which reduce the likelihood that bottom-up pressure will induce members of Congress to veer from the ideological views of their constituents, 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. For a good overview of the various databases and theories of congressional polarization, and an integration of some of those theories and data, see SEAN M. THERIAULT, PARTY POLARIZATION IN CONGRESS (2008); AND JOHN H. ALDRICH, WHY PARTIES?: THE ORIGINS AND TRANSFORMATION OF PARTIES IN AMERICA (1995).

era, all else equal. 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 2008-9, seems to have been the result of this dynamic,⁴⁹ and there are other examples as well.⁵⁰ However, many of the agency policy choices we examine in this article arise at the intersection of energy and the environment (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.⁵¹ This suggests that an especially significant and salient crisis would be required to produce congressional action in these policy domains.

III. Policymaking in the Absence of Congress

The obsolescence of numerous federal environmental statutes that were initially passed in the 1970s has already prompted significant academic commentary and spurred a number of reform proposals.⁵² Time, science and experience have revealed many

⁴⁹ See Dodd-Frank Wall Street Reform and Consumer Protection Act, *supra* note 000. The financial crisis of 2008-09 mobilized public support for additional regulation of the financial industry, support that was sufficiently strong to overcome prior partisan divisions on the issue. See Carolyn Bowman and Andrew Rugg, 5 Years After the Crash, What Do Americans Think of Wall Street, Banks and Free Enterprise?, *The American*, September 13, 2013, available at: <http://www.american.com/archive/2013/september/five-years-after-the-crash-what-do-americans-think-of-wall-street-banks-and-free-enterprise> (summarizing opinion toward Wall Street before and after the crash).

⁵⁰ Congress finally updated the FDCA in the Food Modernization Act of 2011, Pub. L. No. 111-353, 124 Stat. 3885 (2011) (codified in scattered sections of the U.S. Code). The 2011 reforms shifted the FDA 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, cost-benefit analysis and the success of new systems other agencies like the USDA had adopted to address hazards.

⁵¹ 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 energy consumption. Ned Resnikoff, *Senate committee again debates existence of climate change*, MSNBC, January 17, 2014, <http://www.msnbc.com/all/senate-republicans-what-climate-change> (in which Senator Jim Inhofe repeated his views that climate change science is a hoax). See, e.g., Nat'l Climate Assessment and Dev. Advisory Comm., *Introduction to Federal Advisory Committee Draft Climate Assessment*, 1 (Jan. 14, 2013), available at <http://ncadac.globalchange.gov/>; Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis – Summary for Policymakers* (2013) at 15, 23. Poole and Rosenthal describe the ideological divide captured by their data as one centered on the role of government intervention in the economy. See, e.g., McCarty et al., *supra*, at *Party Polarization 1879-2013*. Since regulation of the energy industry concentrates costs on firms in order to provide a widely dispersed public benefit, it seems like a quintessential example of a policy domain over which the divide is growing wider.

⁵² See, e.g., David Schoenbrod, Richard B. Stewart & Katrina M. Wyman, *Breaking the Logjam: Environmental Reform for the New Congress and Administration*, Project Report (Feb. 2009), <http://www.breakingthelogjam.org/CMS/files/39611235964787FACDBreakingLogjamReportfinal.pdf>. 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 *The Bipartisan Policy Center*,

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.⁵³ The CAA too, which has produced both the most beneficial and the most costly federal regulations, has not been amended since 1990, and could use an overhaul to fix flawed programs and address new problems.⁵⁴ The Endangered Species Act (ESA), last amended in 1988, seems ripe for reconsideration as well, since some of its core assumptions have been called into serious question.⁵⁵ So too with the National Environmental Policy Act (passed in 1970 and never substantively amended) which governs federal agency environmental impact assessment,⁵⁶ and the Toxics Substances Control Act, which sought to address risks to the public and environment posed by the manufacture and sale of chemicals (the central provisions of which have not been reformed since it was first passed in 1976).⁵⁷ These are just a few examples of statutes widely believed to be in need of a makeover.

While Congress more frequently revisits energy legislation than it does environmental statutes, it has nevertheless let languish a host of energy related policy

America's Energy Resurgence, Sustaining Success, Confronting Challenges (Feb. 27, 2013), <http://bipartisanpolicy.org/sites/default/files/BPC%20SEPI%20Energy%20Report%202013.pdf>.

⁵³ 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 000, at 146. 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. *Id.* at 160–61. The existing law is faulted for failing adequately to protect marine ecosystems (see Robin K. Craig, *Climate Change, Regulatory Fragmentation, and Water Triage*, 79 U. COLO. L. REV. 825, 914 (2008)) and respond to climate change (see H. M. Zamudio, *Predicting the Future and Acting Now: Climate Change, the Clean Water Act, and the Lake Champlain Phosphorus Tmdl*, 35 VT. L. REV. 975 (2011)).

⁵⁴ 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 regime for addressing interstate pollution, both of which have been highly controversial, heavily litigated, and limited in their effectiveness. See *Breaking the Logjam*, *supra* note 000. On the costs and benefits of the Act, see Office of Management and Budget, Office of Information and Regulatory Affairs, *2011 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*, at 3 (concluding among its principal findings that air pollution rules from EPA produced 62 to 84 percent of the total benefits and 46 to 53 percent of the total costs of all federal regulations).

⁵⁵ 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 NYU ENV'T L. J. 490 (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* (criticizing the statute for its inflexibility). For reform proposals, see Kunich, *supra* note 000, at 572 (suggesting a shift from focusing on endangered species to endangered ecosystems).

⁵⁶ National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1969); see also Paul S. Weiland, *Amending the National Environmental Policy Act: Federal Environmental Protection in the Twenty-First Century*, 12 J. LAND USE & ENVT'L. L. 275 (1997).

⁵⁷ Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976); see also Lauren Treviso, Comment, *Human Health and The Environment Can't Wait For Reform: Current Opportunities For The Federal Government and States to Address Chemical Risks Under The Toxic Substances Control Act*, 61 AM. U.L. REV. 385 (2011).

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;⁵⁸ address the economic and reliability implications of natural gas displacement of coal in the electric power sector and promote efficiency and conservation in state-level utility rate setting; and revise the National Waste Policy Act to finally address the festering problem of long-term storage of nuclear waste.⁵⁹

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, however, 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

⁵⁸ Congress has not updated the regulatory and liability schemes governing oil and gas extraction offshore, notwithstanding dramatic technological change that has enabled offshore drilling in environments and at depths previously unimaginable. To offer one illustration of the difference between past Congresses and current ones, following the 1989 Exxon Valdez oil spill in Alaska, when an Exxon-owned tanker ran aground, 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 financing recovery from such spills, and created a national incident response system for coordinating the government's response. Oil Pollution Act of 1990, Pub. L. No. 101-380, 104 Stat. 484. Yet in 2010, in the wake of the Macondo well blow-out in the Gulf of Mexico—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 National Commission created by the President, indicating how inadequate and outdated the system had become. BP Oil Spill Commission, *Deep Water: The Gulf Oil Disaster And The Future Of Offshore Drilling* - Report to the President (2011) (finding that numerous regulatory failures contributed to the spill, and recommending legislation to address them). The current governing regime for offshore drilling is the Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331-56a. Nor has Congress responded to concerns that onshore drilling requires additional oversight in light of technological advances, such as horizontal drilling and hydraulic fracturing, which have introduced new risks at a significant scale. So-called “fracking” is exempt from federal regulation under the Safe Drinking Water Act, Resource Conservation and Recovery Act, 42 U.S.C. §§6901 *et. seq.*, and the Emergency Planning and Community Right to Know Act, 42 U.S.C. §§11001-11050, and is regulated primarily by the states. See David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PENN. L. REV. 431 (2013) (describing the regulatory regime governing fracking); and Jody Freeland and David B. Spence, *Should the Federal Government Regulate Fracking?*, Wall St. J. (April 14, 2013) (debating the merits of federal vs. state regulation).

⁵⁹ 42 U.S.C. §§ 10101-10270. Congress has also failed to deal with the problem of nuclear waste, which remains a major obstacle to the revitalization of the nuclear power industry. The 1982 Nuclear Waste Management Act set a deadline of 1998 for the federal government to take possession of the nation's nuclear waste, and the Nuclear Waste Policy Act (NWPA) in 1987 created a process for establishing a permanent repository for high-level nuclear waste. 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. In *Re Aiken County* (D.C. Cir. 2013), the D.C. Circuit Court of Appeals ruled that the NRC must resume its consideration of DOE's license application to use Yucca Mountain as a repository under the terms of the NWPA (per Kavanaugh, citing Congress's failure to intervene and update the NWPA). Congress has been silent on these questions throughout this decades-long ordeal.

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.

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*, which held that greenhouse gases are “pollutants” subject to regulation under the Act.⁶⁰ The Court also deemed unlawful EPA’s policy reasons for failing to determine whether greenhouse gas emissions from new cars and trucks endanger public health or welfare, and remanded the decision to EPA.⁶¹

Following this decision, it was widely anticipated that Congress would amend the CAA, either to add a specific regulatory program designed to cost-effectively reduce greenhouse gases, or to clarify that EPA lacked the authority to address climate change under the existing law. Such action was felt necessary because, while it is possible to regulate greenhouse gas emissions under several of the CAA’s programs, and while Congress may have intended to provide EPA the flexibility to address such new risks, the statute as written is not especially well designed for controlling GHG pollution.⁶² 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 to do so.⁶³

Yet while the House of Representatives passed *The American Clean Energy and Security Act of 2009*,⁶⁴ which would have established an economy-wide cap and trade system to reduce GHGs, the bill foundered in the Senate.⁶⁵ Numerous other proposals to

⁶⁰ 549 U.S. 497 (2007).

⁶¹ Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

⁶² One might argue that the statute largely 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. These programs these programs may not be suitable for GHG regulation. However, the Act’s other significant programs, which establish performance standards for both mobile and stationary sources of air pollution, may be capable of addressing GHG emissions quite flexibly and fairly effectively. See 42 U.S.C. §§7521 (mobile sources), 7411 (New Source Performance Standards Program) and 7475 et seq. (Prevention of Significant Deterioration Program). Still, as we explain below, they must be adapted to do so.

⁶³ This consensus may overstate the CAA’s inflexibility, however. See Nathan Richardson and Arthur G. Fraas, *Comparing the Clean Air Act and a Carbon Price* (Resources for the Future, 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).

⁶⁴ H.R. 2454, 111th Cong. (2009).

⁶⁵ *Id.* Following passage of the House bill, the Senate Environment and Public Works reported the Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009), which would have reduced GHG emissions 20% 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 Barbara Boxer’s Climate Bill*, POLITICO, Nov. 6, 2009, <http://www.politico.com/news/stories/1109/29223.html>. Senators Kerry (D-MA), Lieberman (I-CT), and Graham (R-SC) began working on a new piece of climate

adopt a modified national cap and trade scheme,⁶⁶ a more limited utility sector-based approach,⁶⁷ a national clean energy standard,⁶⁸ or a carbon tax,⁶⁹ also failed, as did efforts to override *Massachusetts v. EPA* and strip EPA of authority to regulate GHGs.⁷⁰ 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 a certain amount of interpretive jiu-jitsu to wrest a greenhouse gas 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* pollution but which would also deliver important greenhouse gas reduction “co-benefits”⁷¹), but other aspects have required notable legal and technical ingenuity. And EPA has approached this challenge in a considered stepwise fashion.

legislation; they failed to secure a floor vote that Congress. See Darren Samuelsohn, *Democrats Pull Plug on Climate Bill*, POLITICO, July 22, 2010, <http://www.politico.com/news/stories/0710/40109.html>.

⁶⁶ For example, Senators Maria Cantwell (D-WA) and Susan Collins (R-ME) argued for “cap-and-dividend” proposals under which all proceeds from the purchase of carbon credits towards a cap would be returned to U.S. taxpayers in the form of an annual dividend. See Maria Cantwell & Susan Collins, *A Cap-and-Dividend Way to a Cleaner Nation and More Jobs*, WASH. POST, June 18, 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/06/17/AR2010061704564.html>.

⁶⁷ For example, Senator Carper proposed a multi-pollutant trading scheme. Clean Air Act Amendments of 2010, S. 2995, 111th Cong. (2010).

⁶⁸ Senator Graham (R-SC) introduced legislation calling for a Clean Energy Standard of 13% for 2013–2014 to increase incrementally to 50% in 2050. Clean Energy Standard Act of 2010, S. 80, 111th Cong. (2010). An alternative proposal by Senator Bingaman (D-NM), based on carbon intensity, would begin at 24% in 2015, ramping up to 84% by 2035. Clean Energy Standard Act of 2012, S. 2146, § 601(f), 112th Cong. (2012).

⁶⁹ Carbon taxes were introduced in legislation but did not proceed. For example, the Save Our Climate Act of 2009, H.R. 594, 111th Cong. (2009), sponsored by Representative Fortney “Pete” Stark (D-CA-13) and three others, proposed a \$10 per ton fee on carbon dioxide, increasing each year by \$10 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-CT-1) and twelve others proposed a tax of \$15 per ton, increasing by \$10 each year; and the Raise Wages, Cut Carbon Act of 2009, H.R. 2380, 111th Cong. (2009), sponsored by Representatives Bob Inglis (R-SC-4), Jeff Flake (R-AZ-6), and Dan Lipinski (D-IL-3), proposed a \$15 per ton tax, increasing incrementally. None passed.

⁷⁰ See H.R. 3409, Stop the War on Coal Act, which the House of Representatives passed in 2011.

⁷¹ For example, EPA has set national emission standards under Section 112 of the Act which 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. 9,304 (Feb. 16, 2012) (the MATS rule). 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 (Aug. 16, 2012) (limiting emissions of volatile organic compounds, but in the process, requiring capture of methane, a potent greenhouse gas).

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.⁷² This automatically triggered a non-discretionary duty under the CAA to set emission standards for these sources, which EPA promulgated in conjunction with DOT, setting both fuel efficiency and GHG standards in the so-called “tailpipe rule.”⁷³ This first rule regulating GHGs under the Act was quite 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 agency’s initial proposal.⁷⁴ Importantly, the new rule rendered GHGs a “regulated pollutant” under the law 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.⁷⁵

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” program—a program aimed chiefly at ensuring that good quality air does not degrade to bad air quality because of new construction that brings additional air emissions. In areas that already attain NAAQS, new stationary sources that plan to emit 250 tons per year of “any air pollutant” (and as few as 100 tons per year for certain specified sources) must undergo a pre-construction review process, obtain a permit, and apply “best available control technology” to their emissions.⁷⁶ And importantly, they must apply these technology controls not only to emissions of the pollutant that triggered them into the program (the one for which they exceeded the 100/250 threshold), but also to emissions from all pollutants “subject to regulation under the Act.”⁷⁷ Notably, after the tailpipe rule, GHGs would be for the first time a regulated pollutant and thus subject to control.

Given the terms of the PSD provisions, EPA faced a problem. If greenhouse gases were deemed to fall within the category of “any air pollutant” for purposes of this program, facilities emitting GHGs over the 100/250 TPY threshold would trigger the permitting requirements just described. Yet such a threshold is extremely low for GHGs, and could easily be exceeded by tens of thousands of smaller commercial facilities,

⁷² Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

⁷³ CAA § 202(a).

⁷⁴ That proposal reflected the pains the two agencies had taken during development of the rule to ensure that very 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 (2011) (describing the unique rulemaking process and the variety of compliance flexibilities made available by the government).

⁷⁵ For an explanation of the trigger, see Freeman, *Car Deal*, *supra* note 000. The Prevention of Significant Deterioration Program in the CAA requires all new and modified sources to obtain permits and apply Best Available Control Technology for all pollutants “subject to regulation” under the Act. Per the statute and EPA regulation, once a standard for greenhouse gases is set under the mobile source provisions of the statute, the pollutant becomes “subject to regulation.”

⁷⁶ CAA §§ 165 (a) (requiring preconstruction review) and 169 (1) (defining “major source”).

⁷⁷ CAA § 165 (a)(4), 42 U.S.C. 7475(a)(4) (requiring BACT for all pollutants “subject to regulation”).

landfills, and even large residences, which emit relatively small amounts of GHGs and no other pollution.⁷⁸ To say the least, this prospect confronted EPA with both an administrative and a political headache. Imposing permitting burdens on these sources would yield relatively little in the way of meaningful reductions and yet would impose significant costs.

In addition, the tailpipe rule triggered another permitting program for stationary sources. Under Title V of the Act, all major sources, defined as those emitting over 100 tons per year of “any air pollutant,” must obtain a general operating permit, even if the permit does not impose any regulatory requirements on the source.⁷⁹ (Congress adopted Title V in the 1990 amendments—it was thought to be a housekeeping rule that would help clarify the Act’s requirements by assembling them all in one umbrella document.) Obtaining a Title V permit can be time-consuming and expensive for sources even if they face no regulatory burdens as a result. Again, because of the low numerical threshold, literally millions of small sources of greenhouse gas pollution—including large residential complexes, farms of a modest size, 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 the agency.

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 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. At the same time, 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 the agency’s thirty-year old position that pollutants other than the six criteria pollutants could trigger its application—or ignore the specific numerical thresholds Congress had written into the law.

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 sense and ultimately reduces a regulatory burden. But Congress was gridlocked over climate policy. Ultimately, EPA opted to issue a rule “tailoring” the permitting requirements of both the PSD and Title V programs, administratively limiting their applicability to the largest stationary sources—those producing over 100,000 tons per year of GHGs.⁸⁰ The agency justified this

⁷⁸ For a discussion of these implications, see Prevention of Significant Deterioration Program and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) (to be codified at 40 CFR Pt. 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)).

⁷⁹ CAA § 504, 42 U.S.C.7661(c).

⁸⁰ See *supra* notes 000; see also Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) (exempting smaller sources but otherwise allowing the Clean Air Act’s Prevention of Significant Deterioration program to begin to require “best available control

approach by relying on 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. 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 and a number of states challenged the rule, arguing that the agency lacked the authority to unilaterally rewrite the numerical statutory thresholds in the Act to make them 400 times higher. Apparently hoping to provoke a congressional response by forcing the agency to regulate to the statutory maximum, the petitioners made three main arguments.⁸¹ First, the PSD program should not be read to apply to greenhouse gases at all, since the program was intended by Congress to prevent backsliding from attainment of NAAQS (and EPA does not intend to establish a NAAQS for GHGs).⁸² Second, even if GHG emissions can be regulated once a facility is subject to CAA emissions limits because it emits another pollutant, GHG emissions *alone* should not trigger the permit requirements—that is, only NAAQS pollutants could trigger PSD requirements.⁸³ And third, EPA could not unilaterally raise statutorily prescribed thresholds due to an “administrative necessity” that the agency itself created by interpreting the PSD program to apply to GHGs.⁸⁴

The D.C. Circuit upheld EPA’s view that the program applied to GHGs on a plain reading of the statute.⁸⁵ The court noted that the Act mandates pre-construction review and permitting under the PSD program whenever “any pollutant” is emitted over the threshold amount, and that in *Mass. v. EPA*, the Supreme Court had interpreted the word “pollutant” to include GHGs.⁸⁶ 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.⁸⁷ The petition for rehearing *en banc* was denied by the D.C. Circuit over a strong dissent by Judge Kavanaugh.⁸⁸ The Supreme Court subsequently granted review on one issue—EPA’s interpretation of the PSD

technology” to control GHGs at new and modified sources); Env. Prot. Agency, Office of Air Quality Planning & Standards, PSD and Title V Permitting Guidance for Greenhouse Gases (Mar. 2011) (describing to states how to determine “best available control technology” for new and modified sources).

⁸¹ Petitioners apparently believed that if EPA were forced to regulate to the extent of the literal statutory thresholds, Congress would feel compelled to step in and strip the agency of its regulatory authority.

⁸² See petition by American Chemistry Council in *Center for Responsible Regulation, Inc. v. EPA* (D.C. Cir. 2012).

⁸³ *Id.*,

⁸⁴ The litigation challenged four rules promulgated by EPA 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 and Tailoring Rules. *Id.* at 16.

⁸⁵ See *Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012).

⁸⁶ *Id.* at 000

⁸⁷ *Id.* at 000

⁸⁸ See *id.* at 000. Judge Kavanaugh’s dissent honed in on the key interpretive risk EPA had taken in its effort to adapt the statute. His dissent 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. *Id.* at 113-14.

program’s applicability to GHGs—the issue on which EPA had taken the biggest legal gamble.⁸⁹

The litigation over the applicability of the PSD program to GHGs will be the third case related to climate change to reach the Supreme Court since 2007.⁹⁰ Even if EPA prevails in this case, every other aspect of its GHG program will be challenged. This back-and-forth dynamic between EPA and the federal courts shows which institutions are now driving U.S. climate policy—and neither of them is Congress.

3. Greenhouse Gas Standards for New Powerplants

The CAA provides that, at the president’s direction, EPA must set standards for powerplants under the Act’s New Source Performance Standards (NSPS) program, which requires the agency to set baseline pollution standards for all industrial categories that emit pollution found to endanger public health.⁹¹ NSPS standards have two advantages from EPA’s perspective: NSPS standards are set by EPA, not the states; and they apply uniformly to industrial categories rather than individual sources.⁹² The PSD program, by contrast, is implemented by the states, and the application of “best available control technology,” varies across sources and across states. In addition, based on EPA’s past practice, which has been upheld by the courts, the NSPS standards, which are based on “best demonstrated technology,” may be somewhat forward looking and technology forcing.⁹³

⁸⁹ *Utility Air Regulatory Group v. EPA*, 684 F.3d 102 (D.C. Cir. 2013), *cert granted* October 15, 2013 (Question presented: “Whether the EPA correctly determined that permissible regulation of greenhouse gas (GHG) emissions from new motor vehicles allowed permitting requirements under the Clean Air Act for stationary sources that emit GHG.”).

⁹⁰ See *Mass. v. EPA*, *supra* note 000; *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011).

⁹¹ President Obama announced that he would direct EPA to finalize its proposed standard for new powerplants and to set standards for existing powerplants. Michael O’Brien, *Obama Aims to Sidestep Congress with New Initiatives to Reduce Carbon Emissions*, NBC Politics (June 25, 2013), available at: http://nbcpolitics.nbcnews.com/_news/2013/06/25/19119744-obama-aims-to-sidestep-congress-with-new-initiatives-to-reduce-carbon-emissions?lite.

⁹² The PSD program may not be as central to EPA’s plans for controlling GHGs as other CAA programs, which requires a word of explanation. The PSD permit program is somewhat limited. It applies only to attainment areas, and is run mostly by the states, which issue permits to sources on a case-by-case basis, imposing best available control technology limits for each source depending on the circumstances. See CAA §§ 165-169. However, the larger and more important program for purposes of setting baseline GHG standards for *all* new industry is the New Source Performance Standards program under § 111 of the Act. Under this latter program, EPA (not the states) establish performance standards for entire industrial categories (such as powerplants and oil refineries) if those categories emit pollution that EPA finds endangers health or welfare. See § 111(b). EPA must update these performance standards regularly to ensure that all facilities in these categories, nation-wide, continue to install new technology as it evolves. *Ibid.* These standards are forward-looking, comprehensive, potentially technology forcing and federally uniform, unlike the PSD program administered by the states. See § 111(a)(1) (defining “best demonstrated available” technology standards and § 111(b) requiring states to set standards for existing sources based on the “best system of emissions reductions”). Arguably then, EPA’s challenge in managing the PSD program was simply to survive legal challenge in a way that would not impair its ability to implement the more important New Source program.

⁹³ See *Standards for Performance for Greenhouse Gas Emissions for New Power Stationary Sources: Electric Generating Units* (proposed Sept. 13, 2013) (“Second Proposed Power Plant Rule”)(Section VI, citing *Sierra Club v. Costle*, 657 F.2d at 347 (D.C. Cir. 1980), in support of this idea).

EPA's proposed rule for new powerplants—its first step—went through two very controversial and highly visible iterations. Initially, the agency proposed a single standard for both coal and natural gas-fired electricity generating units,⁹⁴ treating them as a single source category for standard-setting purposes (a departure from the agency's past practice in the NSPS program). The proposed standard was set at a level that only the most efficient new gas plants could meet, but that coal units could not meet without the application of carbon capture and sequestration technology.⁹⁵ EPA's stated intent with this proposed standard 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.⁹⁶ But its unstated goal seems to be to help solidify a market-driven dynamic in which low natural gas fired generation for electricity is displacing coal. Low natural gas prices may be driving this substitution now, but EPA can help to perpetuate it even if natural gas prices rise, by ensuring that no new coal fired powerplants will be built without being carbon capture-ready.⁹⁷

Yet EPA ultimately withdrew this proposal and submitted a new one. The revised proposed standard for new powerplants now sets *separate* targets for natural gas-fired and coal-fired units, and has eased stringency somewhat for the latter.⁹⁸ EPA has always enjoyed considerable flexibility to define industrial categories under section the NSPS program,⁹⁹ but may have worried that the initial decision to conflate the categories rendered the original proposal legally vulnerable. Industry objected that the agency's approach essentially dictated which fuels can be used for electricity generation, which is not authorized by the Act.¹⁰⁰ Industry also viewed the original proposal as a weakly

⁹⁴ Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 Fed. Reg. 22,392 (proposed Apr. 13, 2012), *available at* <http://www.gpo.gov/fdsys/pkg/FR-2012-04-13/pdf/2012-7820.pdf>.

⁹⁵ *See id.* at 22,392-11,394. EPA would require all new fossil-fuel-fired EGUs to emit no more than 1,000 pounds of CO₂ / megawatt hour on an average annual basis, which is based on the CO₂ emissions from a highly efficient, natural gas combined cycle facility.

⁹⁶ *See* Second Proposed Power Plant Rule, *supra* note 000, at Section VII.B.1.B

⁹⁷ 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 Hearing Before the H.R. Comm. on Energy and Commerce*, 111th Cong. (2012) (testimony of Thomas F. Farrell II, Chairman, President, and CEO, Dominion), *available at* <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/Hearings/EP/20120716/HHRG-112-IF03-WState-FarrellIT-20120716.pdf> (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”).

⁹⁸ This has narrowed the legal dispute, which will now will focus on the lawfulness of deeming carbon capture and sequestration technology to be adequately “demonstrated” and “available” when the technology has never been used at commercial scale for powerplants, and remains extremely expensive.

⁹⁹ *See* Second Proposed Power Plant Rule, at Part H.

¹⁰⁰ *See, e.g.,* Comments Submitted by the American Public Power Association on Proposed New Source Performance Standards (NSPS) for Electric Generating Units (EGUs), Docket No. EPA-HQ-OAR-2011-0660 (filed June 25, 2012), *available at* <http://www.publicpower.org/files/PDFs/APPA-NSPS-Comments-WithAttachments-Final.pdf>; The National Rural Electric Cooperative Association Comments on Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Docket No. EPA-HQ-OAR-2011-0660 (filed June 25, 2012), *available at* http://www.nreca.coop/press/Filings/Documents/20120625NRECA_GHG_NSPS_Comments_to_EPA.pdf

veiled effort to circumvent the statutory requirement that technology be both demonstrated and available, arguing that the agency could never have required carbon capture as the best demonstrated technology standard for coal units as a separate category, since the technology is not yet commercially available.¹⁰¹ However, the second iteration of the proposed rule relaxes the limits applicable to coal-fired generators only slightly, such that carbon capture will continue to be necessary for new coal-fired powerplants to comply.

The fate of this first powerplant standard is important because it is the first of many anticipated standards EPA expects to set, sector-by-sector, for stationary sources of GHGs.¹⁰² A legal reversal in the D.C. Circuit would delay implementation of these regulations, but more importantly, it would delay the next step in the agency's implementation strategy. This is because setting standards for new powerplants triggers regulation of *existing* powerplants, which produce a disproportionate share of greenhouse gases. In addition, legal reversal surely would be seen as a political set back, and could damage EPA's institutional reputation, especially if it were coupled with a reversal of the agency's interpretation of the PSD program's applicability to GHGs. This very concern may have led EPA retreat to what it sees as a more cautious regulatory position, in reproposing the power plant rule.

4. Greenhouse Gas Standards for Existing Powerplants

In implementing the second and more important aspect of the New Source program, EPA faces an even greater test of its adaptive legal strategy. Regulating GHGs from existing powerplants might fairly be described as the holy grail of U.S. climate policy, especially since Congress largely immunized the oldest and dirtiest powerplants from many of the CAA's regulatory requirements.¹⁰³ Congress protected existing facilities as a political compromise, on the theory that they were expensive to retrofit, and would in any event retire in a reasonable period of time.¹⁰⁴ Yet these sources have defied congressional expectations and lived much longer, and higher-polluting, lives than anticipated.¹⁰⁵ So the fact that the NSPS program provides an avenue to control GHG emissions from precisely these older sources is highly significant.

¹⁰¹ See APPA comments, *supra* note 000, at 2.

¹⁰² A number of consent decrees now require the agency to promulgate additional standards for greenhouse gas pollution from other new sources, such as oil and gas refineries. See, e.g., *Settlement Agreement*, EPA.GOV, <http://epa.gov/carbonpollutionstandard/settlement.html> (last visited Apr. 3, 2013) (describing how to settle a lawsuit and announcing that EPA has agreed to set GHG New Source Performance Standards for Refineries).

¹⁰³ For example, § 111 New Source Performance Standards generally apply only to categories of new and "modified" sources. See §111(a)(2) and (4). The Act's New Source Review program similarly applies only to new and modified sources in attainment zones. See §§165 (a) and 169(2)(c); see also §§172(c)(5) and 173(a).

¹⁰⁴ That is, unless they modify their equipment in ways that significantly increase emissions, which triggers "new source review." See Richard L. Revesz, *Old Powerplants Need New Rules*, N.Y. TIMES, Mar. 29, 2012; 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 (2007).

¹⁰⁵ The average age of U.S. coal fired generation plants is 43 years. See Steven Mufson, *Coal's Burnout*, WASH. POST, Jan. 2, 2011, <http://www.washingtonpost.com/wpdyn/content/article/2010/12/31/AR2010123104110.html>.

This is possible because, under CAA Section 111(d), once EPA sets a standard for *new* sources of GHGs, the states are obligated to set standards for *existing* sources as well. To avoid duplicative regulation, this requirement applies to pollutants other than the six “criteria” pollutants for which states already submit NAAQS compliance plans (called “state implementation plans,” or “SIPs”), and which are not emitted from a source category already regulated as a hazardous air pollutant.¹⁰⁶ Because GHGs are not criteria pollutants, and since they are not hazardous pollutants, they appear to qualify for regulation under 111(d). Notably, this program is a viable means of addressing GHGs from existing powerplants only because of another crucial legal judgment EPA has made: electing not to set a NAAQS for GHGs, as an alternative regulatory strategy.¹⁰⁷ EPA has explained that in its view, the NAAQS program is an inappropriate mechanism for addressing global pollutants like GHGs, and that relying on performance standards under the NSPS program is superior.¹⁰⁸ Consequently, the agency has chosen not to respond to an environmental group’s petition seeking the establishment of a GHG NAAQS.¹⁰⁹ The agency’s decision to use the 111(d) process rather than establish a NAAQS is yet another response to the problem of bad fit, and might be seen as another instance of strategic caution.¹¹⁰

Nevertheless, EPA’s regulation of existing powerplants, even using its preferred regulatory strategy, is legally and politically fraught, and raises an important strategic question. The statute requires EPA to issue “guidelines” under which the states are required to set “standards of performance” for the existing sources under their

¹⁰⁶ 42 USC § 7411(b) and (d).

¹⁰⁷ 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., Donald E. Elliott proposal that NAAQS could be adapted to GHGs if EPA were to establish a percentage reduction target instead of setting a numerical concentration limit, and arguing that under *Chevron v. NRDC*, EPA has the flexibility to do so. Steven D. Cook, *Emissions Trading: EPA Can Use Clean Air Act Authority to Establish Carbon Dioxide Program*, Environment Reporter, 2008.

¹⁰⁸ See Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44354, 44363-4 (2008).

¹⁰⁹ See Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act, Before the Administrator of EPA, 111th Cong. (Dec. 2, 2009) (Petitioners Center for Biological Diversity and 350.org), www.biologicaldiversity.org/programs/climate_law_institute/globalwarming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2.2009.pdf.

¹¹⁰ Whether an agency enjoys the flexibility to choose among regulatory alternatives depends on whether the options are viewed by courts as discretionary rather than mandatory. As *Massachusetts v. EPA* illustrated, an agency may be barred from opting against regulation *entirely* for policy reasons (in that case, EPA could not defer making a scientific threshold decision for policy reasons unrelated to the scientific basis for that decision). What is less clear is the extent to which agencies may decline to use one program in favor of another as long as they are addressing a regulatory problem in good faith. Indeed, EPA’s decision not to set NAAQS may eventually lead to litigation over just this question. See *NRDC v. Train*, 545 F.2d 320, (2nd Cir. 1976) (requiring EPA to set a NAAQS for lead under § 109 notwithstanding EPA’s preference to reduce lead emissions by regulating gasoline under the Act’s mobile source provisions). More recently, the D.C. Circuit invalidated EPA’s effort to address mercury pollution under the New Source Program through a pollution-trading program, because, the court held, the statute requires mercury to be regulated under the program for hazardous pollutants. See *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008) (vacating EPA’s CAMR regulation). All of this is to say that an agency may opt to take a risk in choosing its preferred regulatory instrument, but may ultimately be forced to use a regulatory tool it thinks second best.

jurisdiction.¹¹¹ States must then submit plans for meeting those standards (akin to the implementation plans they submit under section 110 showing how they will comply with the six national ambient air quality standards).¹¹² While EPA has not determined its precise approach to these guidelines, EPA has signaled that it wishes to provide states considerable compliance flexibility, building on steps they may already be making to reduce greenhouse gas emissions.¹¹³

Section 111 defines a “standard of performance” as a “standard for emissions of air pollutants which reflects the degree of emission limitation achievable *through application of the best system of emission reduction*....”¹¹⁴ The hard legal question is whether EPA can approve “systems” that combine different kinds of greenhouse gas reduction strategies in lieu of setting and enforcing rate-based performance standards source-by-source. For example, could states comply by setting a standard that reflects a level of emissions reduction *equivalent* to what would have been achieved by applying source-specific emissions standards to existing powerplants, while achieving the standard through a variety of non-source specific measures? Must the reductions come equally from individual powerplants or might the “best system of emissions reduction” allow trading among sources? Might states go further, counting toward compliance any reductions from the electricity sector more broadly, including reductions achieved through investments in renewable energy, energy efficiency or “demand response”?¹¹⁵ These approaches would require a flexible interpretation of what it means to set an emission standard, which has traditionally consisted of rate-based limits applicable to individual facilities (or a small group of facilities treated as a “bubbled” group) but which in this context might admit of a more elastic interpretation. Indeed, the most ambitious reading of section 111(d) would authorize EPA to implement a national cap-and-trade system for reducing GHG emissions, the very policy that Congress rejected in failing to pass the 2009 Waxman-Markey bill.¹¹⁶

This will be a test case for EPA, and the stakes are high. There is sparse precedent on section 111(d). EPA has used it in only limited circumstances. And these

¹¹¹ See § 111(d).

¹¹² § 110 explicitly affords the states considerable flexibility to adopt whatever mix of measures they deem necessary to achieve the federal ambient standards, and courts have said EPA must approve any plan that meets the 110 criteria. See *Union Elec. Co. v. EPA*, 427 U.S. 246, 256 (1976) (holding that EPA has no power to reject a State Implementation Plan under § 110 based on economic or technological infeasibility).

¹¹³ See, e.g., Timothy J. Mullins & M. Rhead Enion, *(If) Things Fall Apart: Searching for Optimal Regulatory Solutions to Combating Climate Change Under Title I of the Existing CAA if Congressional Action Fails*, 40 ENVTL. L. REPORTER 19,864 (2010), available at <http://nicholasinstitute.duke.edu/sites/default/files/publications/if-things-fall-apart-1-paper.pdf> (proposing approaches EPA could take to create a cap-and-trade program under §§ 111(b) and (d) if Congress fails to pass a national climate change bill).

¹¹⁴ 42 U.S.C. § 7411(g)(4)(B) (emphasis added).

¹¹⁵ Press Release, Natural Resources Defense 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> (describing a “groundbreaking proposal to sharply cut carbon pollution from America’s powerplants”).

¹¹⁶ See Jeremy M. Tarr, Jonas Monast, Tim Profeta, *Regulating Carbon Dioxide under Section 111 of the Clean Air Act, Options, Limits Impacts* Nicholas Institute for Policy Solutions, Jan. 2013; NRDC proposal, *supra* note 000.

experiments offer little guidance on the fundamental interpretive issue.¹¹⁷ During the George W. Bush administration, EPA sought to use 111(d) to create a cap-and-trade regime for mercury and other pollutants—a program known as “Clear Skies.”¹¹⁸ That rule was struck down by the D.C. Circuit, which held that because Congress listed mercury as a hazardous air pollutant under section 112, it must be regulated under that section.¹¹⁹ The Court did not reach the question whether a cap-and-trade approach would be lawful under 111(d).¹²⁰ In addition, the agency has promulgated standards under 111(d) for non-NAAQS pollutants emitted by municipal waste facilities. Yet the scheme approved for these pollutants does not approach the scope envisioned by the most forward-leaning proposals for using 111 (d) to regulate existing sources of greenhouse gases.¹²¹ It is thus an open question whether EPA now can take a flexible approach to defining the word “standard” under the NSPS program, when it has traditionally treated standards as rate-based numerical limits. The Supreme Court, for its part, has offered little insight into the meaning of the word “standard” in the CAA.¹²²

If this were not challenging enough, EPA faces an even more unusual problem because of the peculiarities of how section 111(d) was adopted.¹²³ 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. However, existing powerplants themselves are now regulated under EPA’s air toxics standard.¹²⁴ Read literally, the statute appears to foreclose regulating GHG emissions from these sources.

¹¹⁷ The only two § 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 (July 18, 2005), 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). See Jonas Monast, *et al.*, *Regulating Greenhouse Gas Emissions From Existing Sources: Section 111(d) and State Equivalency*, 42 ENV’T L. REPORTER 10206, 3 (2012).

¹¹⁸ Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units (“CAMR”), 70 Fed. Reg. 28,606 (May 18, 2005).

¹¹⁹ See *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008) (vacating EPA’s CAMR regulation).

¹²⁰ See *id.*

¹²¹ Monast, *supra* note 000.

¹²² 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 quite different context of interpreting the reach of a CAA provision preempting state “standards” for motor vehicle engine emissions. See *Engine Manufacturer’s Ass’n v. South Quality Mgmt. Dist.*, 541 U.S. 246, 255 (2004) (“[A] command, accompanied by sanctions, that certain purchasers buy only vehicles with particular emissions 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 in *Engine Manufacturer’s Ass’n v. South Quality Management District*, Justice Scalia began with 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)).

¹²³ See Adam M. Kushner and Judith E. Coleman, *Lessons from Mercury: Ensuring Legal Certainty for the New GHG Performance Standards for Existing Fossil Fuel Plants*, EENews.net, October 24, 2013.

¹²⁴ In *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011) (holding that federal common law nuisance claims for harms caused by greenhouse gas pollution precluded are by the Clean Air Act), the Court described EPA’s authority to set standards for existing powerplants under § 111(d) and then

However, EPA interprets 111(d) to preclude it from regulating only *pollutants* already listed as hazardous under the air toxic program regardless of whether the *sources* of those pollutants are subject to regulation under that program for emitting other pollutants.¹²⁵ 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.¹²⁶ The United States Code mysteriously omits the parenthetical reference to the Senate amendment. EPA has concluded that the United States Code does not control and that the Statutes at Large “constitute the legal evidence of the laws”.¹²⁷ And 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 111 (d) set standards for pollutants already regulated under section 112.¹²⁸

Thus, to succeed in implementing this most ambitious portion of its climate plan, EPA must first convince the D.C. Circuit that the Code does not mean what it appears to say, and then prevail in its view that what have traditionally been specific numerical “standards” required for certain sources may be met by imposing equivalent reductions

specifically described the exception for *pollutants* regulated under § 112, not sources. *See id.* at 2537 n.7 (“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.”). 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 § 112(d) rule setting toxics standards for powerplants. *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. 9,304 (Feb. 16, 2012).

¹²⁵ Indeed, this was the posture adopted by EPA under George W. Bush when it sought to regulate mercury from existing utility units under § 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).

¹²⁶ *See id.* (“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 performance under this section would apply if such existing source were a new source.”) (quoting Act Amending Clean Air Act, P.L. 101-549, § 108(g) (1990)).

¹²⁷ *Id.* (“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.”).

¹²⁸ *Id.* at 16,031-16,033 (reconciling the two provisions and reasoning that the purpose of the House amendment in 1990 was to prevent duplicative regulation).

on entirely different sources.¹²⁹ This is far from impossible, especially in the age of *Chevron* deference, but all of EPA's strategies carry risks. And considered cumulatively, the risks can seem substantial. Moreover, in recent years, the D.C. Circuit has been notably skeptical of agency "creativity" in statutory interpretation, even for laudable purposes¹³⁰--and, notably, such skepticism has not been limited to the court's more conservative members.¹³¹ Surely, the near certainty of legal challenge at every step of the implementation process leads EPA to approach its interpretive strategy with some caution.

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: that during periods of congressional dysfunction, agencies must adapt aging statutory authority to new problems, shifting the locus of policymaking first to agencies, and ultimately 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 greenhouse gas 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

¹²⁹ According to reports Gina McCarthy, the nominee for EPA Administrator, has "downplayed the agency's role in crafting the 111(d) rules" and stated that EPA would follow states in establishing standards under section 111(d). See *White House Raises Doubts Over EPA GHG Rules for Powerplants*, CLEAN ENERGY REPORT (Feb. 27, 2013), <http://cleanenergyreport.com/201302282426090/Clean-Energy-General/Public-Stories/white-house-raises-doubts-over-epa-ghg-rules-for-power-plants/menu-id-487.html?S=SM>. Similarly, a deputy assistant to the president for energy and climate change, Heather Zichal, has reportedly spoken out against novel rulemaking as the best means to address climate change. See *id.*

¹³⁰ In recent years, the D.C. Circuit has invalidated EPA interpretations offered by both Republican and Democratic administrations, and it has done so even in contexts where the rationale for federal regulation is at its zenith—for example, where the agency has sought to address an interstate pollution problem that the states cannot solve—and where it has been especially sensitive to cost. The court has twice rejected EPA's efforts to adapt the CAA's "good neighbor" provision in section 110 to address cross-state air pollution from fossil fuel fired electricity generation. See *North Carolina v. EPA*, 531 F.3d 896, 930 (D.C. Cir. 2008) (remanding the Clean Air Interstate Rule to EPA); *EME Homer City Generation v. EPA*, 696 F.3d 7, 37 (D.C. Cir. 2012) (vacating and remanding the Cross-State Air Pollution Rule to EPA), *cert. granted*, 2013 U.S. LEXIS 4801 (U.S. 2013). See Richard L. Revesz & Michael A. Livermore, *Sharp Legal Strategy in the Successful Challenge to Obama Air Quality Rule*, HUFFINGTONPOST.COM (Aug. 24, 2012, 4:40 pm), http://www.huffingtonpost.com/richard-l-revesz-and-michael-a-livermore/sharp-legal-strategy-in-t_b_1823784.html (arguing that the decision in *EME Homer* is bad for the environment and for business which favors market-based approaches).

¹³¹ Indeed, Judge David Tatel, author of the D.C. Circuit's dissent in *Mass. v. EPA*, *supra*, and not generally regarded as hostile to the agency's regulatory efforts, took the unusual step in 2009 of writing an article admonishing the agency to remember to adhere to fundamental principles of administrative law. See The Hon. David S. Tatel, *The Administrative Process and the Rule of Environmental Law*, 34 HARV. ENVTL. L. REV. 1, 2 (2010) ("[I]n both Republican and Democratic administrations, I have too often seen agencies failing to display the kind of careful and lawyerly attention one would expect from those required to obey federal statutes and to follow principles of administrative law. In such cases, it looks for all the world like agencies choose their policy first and then later seek to defend its legality. This gets it entirely backwards.").

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, and treating GHGs as “pollutants” under the PSD program; on the other, the agency has in some instances opted for self-restraint, for example by curtailing its own jurisdiction, setting standards on a sliding scale, adopting creative approaches to compliance, and phasing in certain requirements over time. It has proceeded incrementally (step-by-step implementation of PSD), adapted the best available policy-making instrument to the problem (using section 111(d) to regulate existing powerplants, rather than the NAAQS program), and opted for the path of lesser legal risk (in its proposed NSPS for new powerplants).

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 “standards” for existing powerplants include measures other than emissions limits that would achieve an “equivalent” result?); and grappled with how to define the targets of regulation (can coal-fired plants and natural gas-fired plants comprise a single category in the NSPS program?), and of course it is doing these things all at once. Partly because the Congress that designed the CAA did not design it principally to address GHG emissions, 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 20 years, including a sea 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, primarily wind farms, 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 1992.¹³² The Energy Policy Act of 2005 was Congress' lone significant intervention in electricity markets over that time period,¹³³ 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 1935¹³⁴ 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."¹³⁵ For approximately 60 years following the passage of the Act, FERC discharged this responsibility by establishing rates for the provision of bundled wholesale electric service¹³⁶ by electric utilities—meaning that the buyer pays 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,¹³⁷ while economists began to challenge the traditional model of electric power service which treated bundled electricity service as a natural monopoly.¹³⁸ Congress nudged unbundling and competition forward by passing the Public Utility Regulatory Policies Act of 1978 ("PURPA"),¹³⁹ which encouraged the entry into electricity markets of independent "merchant" generators that were unconnected to electric utilities, and granted FERC limited authority to order IOUs to make their transmission lines available to third parties.¹⁴⁰ PURPA stoked demand

¹³² Perhaps not coincidentally, it is about this time that widening of the ideological divide in Congress began to accelerate. See Figure A-8, App., in which the increasing slope of the "Republicans" line and the decreasing slope of the "Democrats" line around 1992 depicts this trend (using the Poole and Rosenthal data).

¹³³ 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.

¹³⁴ Federal Power Act of 1935, 16 U.S.C. §§ 791 - 000.

¹³⁵ See FPA § 205, 16 U.S.C. § 824d(a).

¹³⁶ 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 its prudently made investments and recover its reasonable costs. The seminal case describing the application of the "just and reasonable" standard is *FPC v. Hope Natural Gas*, 320 U.S. 591 (1944) (declining to overturn a Commission ratemaking decision on the grounds that it had underestimated elements of the utility's costs).

¹³⁷ These entities wanted to be able to purchase power from other suppliers, and to use the IOUs' transmission lines. However, FERC 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 (1973) (holding that the regulated industries exemption does not insulate IOUs from all antitrust liability).

¹³⁸ 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 energy was not; to the contrary, there ought to be efficiency gains to be had by unbundling the wires business from the sale of electricity and introducing competition into 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 (1979) (making the general case for the regulation).

¹³⁹ Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (1978).

¹⁴⁰ 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

among the IOUs' captive industrial customers for the right to be able to purchase wholesale power directly from these new, nonutility generators, but did not change the fact that the IOUs still controlled the transmission system.¹⁴¹ In the 15 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 rates,¹⁴² 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.¹⁴³

It was not until the passage of the Energy Policy Act of 1992¹⁴⁴ that Congress provided FERC with clear authority to order competitive wheeling (transmission of power over IOU lines for third parties), essentially ratifying FERC's experiments with limited wheeling orders.¹⁴⁵ The 1992 Act added considerable momentum to the restructuring process, and paved the way four years later for FERC Order 888,¹⁴⁶ which ordered functional unbundling of wholesale electricity sales from transmission services, required owners of transmission lines to provide open access transmission services on nondiscriminatory terms,¹⁴⁷ and opened wholesale electricity markets to competition¹⁴⁸

relationships (including, presumably, the loss by the IOU of a valuable customer), then PURPA did not authorize FERC to order wheeling. *See* 16 U.S.C. § 824k.

¹⁴¹ Indeed, the federal courts had interpreted PURPA to prohibit FERC from ordering open access to transmission lines solely to enhance competition. *See, e.g., New York Elec. & Gas Corp. v. FERC*, 638 F.2d 388, 390 (2d Cir. 1980) (holding that the public interest and enhancement of competition cannot alone compel wheeling); *Florida Power & Light Co. v. FERC*, 660 F.2d 668, 676 (5th Cir. 1981) (holding that FERC "lacks the authority to require electric utilities to provide wheeling even on a reasonable request").

¹⁴² *See, e.g., Dartmouth Power Associates Limited Partnership*, 53 FERC ¶ 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).

¹⁴³ *See* Jim Rossi, *Redeeming Judicial Review: The Hard Look Doctrine and Federal Regulatory Efforts to Restructure the Utility Industry*, 1994 WIS. L. REV. 763, 794 (1994) (explaining that FERC has imposed open-access terms as a condition of approval of market-based rates and used its merger authority to impose open-access terms on a case-by-case basis).

¹⁴⁴ *See* Energy Policy Act of 1992, Pub. L. No. 102-486, § 711, 106 Stat. 2776, 2905-10 (codified as amended in scattered sections of 15 U.S.C.).

¹⁴⁵ In the Energy Policy Act 1992, Congress also helped to facilitate competition by removing some restrictions on the growth of 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 ACT 4 (2006) (explaining that the Energy Policy Act 1992 created an exemption from PUHCA for wholesale electricity generators).

¹⁴⁶ This was accomplished through FERC's Order 888. *See* FERC Order No. 888, Promoting Wholesale Competition Through Open Access, Nondiscriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540, 21,541 (May 10, 1996) (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 21,555.

¹⁴⁷ A companion order to Order 888, Order 889, specifies the specific terms according to which transmission line owners must make transmission services available on an open access, nondiscriminatory basis. FERC Order No. 889, 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) (codified at 18 C.F.R. pt. 37).

However, although it was not evident at the time, the 1992 Act marked the end of Congress' meaningful participation in the restructuring process. Congress did pass the Energy Policy Act of 2005, which concerned mostly distributive policy issues,¹⁴⁹ such as grants and subsidies designed to promote various types of energy development. But on the 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.¹⁵⁰

2. *Adapting the Just and Reasonable Standard to Market Rates*

After Order 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 simply 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 its 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 standard¹⁵¹; however, *Mobile-Sierra* 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.¹⁵²

¹⁴⁸ 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.

¹⁴⁹ Theodore Lowi posited that Congress has a much easier time legislating distributive policies because they promote logrolling and other forms of coalition building, whereas regulatory policies, which involve winners and losers, create more combative and divisive politics. Theodore J. Lowi, *Four Systems of Policy, Politics, and Choice*, 32 PUB. ADMIN. REV. 298 (1972).

¹⁵⁰ 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 for hydroelectric production incentives in section 242, incentives for 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, § 1252(f), 119 Stat. 594, 963 (2005). Title XIII of the Energy Policy Act of 2005 provided tax incentives relating to electricity infrastructure, domestic fossil fuel security, conservation and energy efficiency, alternative motor vehicles and fuels. See *id.* The Energy Independence and Security Act of 2007 provided incentives for renewable fuel production use and research in section 229 and for hydrothermal research and development in section 613. See Pub. L. No. 110-140 § 529 (2007).

¹⁵¹ Indeed, 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 *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (U.S. 1956); *Federal Power Comm'n v. Sierra Pac. Power Co.*, 350 U.S. 348 (U.S. 1956).

¹⁵² Although the 1992 Energy Policy Act, Pub. L. No. 102-486, § 711, 106 Stat. 2776, 2905-10 (codified as amended in scattered sections of 15 U.S.C.), ratified FERC's Open Access Order, it did not go so far as to explicitly authorize market rates. FERC's previous jurisprudence interpreting the “just and reasonable” standard emphasized that rates must reflect “a balancing of the investor and the consumer interests,” but

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 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;¹⁵³ and wholesale buyers flooded FERC with claims that prices charged by sellers violated the FPA's just and reasonable standard, entitling them to refunds.¹⁵⁴ 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 days,¹⁵⁵ or colluding with affiliate companies.¹⁵⁶

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. However, the California market did not react in these ways because it was broken, a victim of manipulation made particularly easy by the market's poor design.¹⁵⁷ 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 courts to decide whether broadly-applied market based rates are "just and reasonable" under the FPA.

In *California ex rel. Lockyer v. FERC*,¹⁵⁸ 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. The Supreme

emphasizing the fairness of the end result rather than any particular formula for the determination of rates. See, e.g., *FPC v. Hope Natural Gas*, *supra* note 000, at 603.

¹⁵³ See Michael W. Lynch & Adrian Moore, *Power Tripped*, REASON, June 2001, at 32.

¹⁵⁴ 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 a little less than half that. FED. ENERGY REGULATORY COMM'N, THE COMMISSION'S RESPONSE TO THE CALIFORNIA ELECTRICITY CRISIS AND TIMELINE FOR DISTRIBUTION OF REFUNDS 3 (2005), available at <http://www.ferc.gov/legal/staff-reports/comm-response.pdf>.

¹⁵⁵ 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 the power 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 in order to create sufficient scarcity that the seller could demand exorbitant rates for power from its other plants. See FERC Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, 97 FERC ¶ 61,220 (Nov. 20, 2011).

¹⁵⁶ For examples of this, see FED. ENERGY REGULATORY COMM'N, FINAL REPORT ON MANIPULATION IN WESTERN MARKETS (2003). Some California market participants manipulated the market by scheduling phony spot market transactions designed to create congestion on the system, so that they could be compensated for relieving congestion by forgoing those transactions.

¹⁵⁷ 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.

¹⁵⁸ 383 F.3d 1006, 1013 (9th Cir. 2004).

Court denied certiorari in the *Lockyer* case, but took up another challenge arising out of the California crisis in the case of *Morgan Stanley Capital Group, Incorporated v. P.U.D. No. 1 of Snohomish County*.¹⁵⁹ *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. 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. The Supreme Court rejected these contentions, but remanded the case to FERC on procedural grounds.¹⁶⁰ Interestingly, 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.¹⁶¹

Thus, the courts have left the 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.¹⁶² The process by which FERC came to this conclusion reflects the same kind of strategic behavior EPA used when adapting the CAA to 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 withholding,¹⁶³ and a "standard market design" for all transmission and wholesale power sales markets,¹⁶⁴ but abandoned those proposals after they met with widespread opposition.¹⁶⁵ 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 that FERC to adopt

¹⁵⁹ 554 U.S. 527, 530 (2008).

¹⁶⁰ *Id.* at 530, 553–55.

¹⁶¹ 554 U.S. at 538. *See also id.*, at 548 ("[w]e reiterate that we do not address the lawfulness of FERC's market-based rates scheme, ... [b]ut any needed revision in that scheme is properly addressed any challenge to the scheme itself not through a disfigurement of the venerable *Mobile-Sierra* doctrine.").

¹⁶² 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 sellers 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).

¹⁶³ Order Amending Market-Based Rate Tariffs and Authorizations, Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, 105 F.E.R.C. ¶¶ 61,218, 62,142 (Nov. 17, 2003), *reh'g denied*, 107 F.E.R.C. ¶ 61,175 (May 19, 2004).

¹⁶⁴ *Remedying Undue Discrimination through Open Access Transmission Service and Standard Electricity Market Design*, Notice of Proposed Rulemaking, 67 Fed. Reg. 55,452 (Aug. 29, 2002), FERC Stats. & Regs. ¶ 32,563 (2002).

¹⁶⁵ *Remedying Undue Discrimination through Open Access Transmission Service and Standard Electricity Market Design*, Order Terminating Proceeding, — Fed. Reg. — (July 19, 2005), available at: <http://www.ferc.gov/eventcalendar/Files/20050719123006-RM01-12-000.pdf>.

an approach to market manipulation borrowed from the securities laws, one that focuses on the use of fraud or deceit in electricity markets.¹⁶⁶

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 (at least the theoretical) option of purchasing power from a larger universe (both numerically and geographically) of potential sellers;¹⁶⁷ at the same time, engineers have improved the efficiency of transmitting power over greater distances.¹⁶⁸ Consequently, more generating plants are being built farther and farther from loads. The last two decades have seen wind and solar farms,¹⁶⁹ almost all of which are located far from cities, and often far from existing transmission lines.¹⁷⁰ This has been spurred by a combination of technological advances,¹⁷¹ public policy incentives—most notably tax credits¹⁷²—and the spread of state renewable portfolio standards.¹⁷³ Finally, the advent of the "smart grid" makes it

¹⁶⁶ Energy Policy Act of 1995, Pub. L. No. 109-58, § 315, 119 Stat. 594, 691 (codified as amended at 15 U.S.C. 717c-1).

¹⁶⁷ See, e.g., *Overview of Economic and Environmental Benefits of RTO/ISO Markets*, COMPETITION COALITION, http://www.competecoalition.com/files/RTO%20White%20Paper_update%2010.6.10.pdf (last visited Apr. 8, 2013) (describing benefits of long-range power, including lower prices to consumers).

¹⁶⁸ See Matthew L. Wald, *Giving the Power Grid Some Backbone*, 19 SCI. AM. 52 (2009) (describing the possibility for a new system of high-voltage lines controlled by state-of-the-art of transmission centers); see also Office of Elec. Transmission and Distribution, U.S. Dep't of Energy, "Grid 2030": A National Vision for Electricity's Second 100 Years iv (2003), available at <http://www.ferc.gov/eventcalendar/files/20050608125055-grid-2030.pdf>.

¹⁶⁹ According to the Energy Information Administration, in the decade between 2000 and 2011, renewable generating capacity grew from about 16 gigawatts ("GW") to more than 61 GW. U.S. ENERGY INFO. ADMIN. ANN.ELEC. GENERATOR REP., Table 4.2 B (2013), available at http://www.eia.gov/electricity/annual/html/epa_04_02_b.html (last visited Apr. 7, 2013). The agency anticipates an additional 13 GW to be added by 2016. See *id.*, at Table 4.5, available at: http://www.eia.gov/electricity/annual/html/epa_04_05.html (last visited Apr. 7, 2013).

¹⁷⁰ 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. The National Renewable Energy Laboratory publishes maps of renewable energy potential in the United States, available at *Dynamic Maps, GIS Data, & Analysis Tools*, NAT'L RENEWABLE ENERGY LAB, <http://www.nrel.gov/gis/wind.html> (last visited Apr. 7, 2013).

¹⁷¹ 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)?*, 22 THE ELECTRICITY J. 95, 98-99 (2009).

¹⁷² See, e.g., Diane Cardwell, *Renewed Tax Credit Buys Wind-Power Projects*, N.Y. Times, Mar. 21, 2013, <http://www.nytimes.com/2013/03/22/business/energy-environment/a-tax-credits-renewal-lifts-wind-projects.html> (describing an increase in development of wind projects in response to Congress' renewal of the production tax credit in January of 2013).

¹⁷³ Generally, renewable portfolio standards 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

possible to integrate information technology into the electricity transmission system,¹⁷⁴ enabling grid operators to identify and avoid congestion problems, price power transfers more efficiently, and better enable demand-side resources to participate in energy markets,¹⁷⁵ 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. 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.¹⁷⁶ 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.¹⁷⁷ To the contrary, siting approval for transmission lines has traditionally rested with the states, including local governments, in some cases. 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 to serve 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 888 encouraged owners of transmission lines (mostly IOUs) to create and join regional nonprofit entities known as "Independent System Operators", or "ISOs"¹⁷⁸ (later, "Regional Transmission Organizations," or

CONN. L. REV. 1339 (2010); see also DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY, <http://www.dsireusa.org/> (last visited Apr. 7, 2013).

¹⁷⁴ 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, see PETER FOX-PENNER, SMART POWER: CLIMATE CHANGE, THE SMART GRID, AND THE FUTURE OF ELECTRIC UTILITIES (2010).

¹⁷⁵ See generally *Understanding the Benefits of the Smart Grid: Smart Grid Implementation Strategy*, NAT'L ENERGY TECH. LAB., DEP'T OF ENERGY, 3 (June 18, 2010), http://www.netl.doe.gov/smartgrid/referenceshelf/whitepapers/06.18.2010_Understanding%20Smart%20Grid%20Benefits.pdf.

¹⁷⁶ See Wald, *supra* note 168-170 (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, *Re-energize Regional Economies with New Electric Transmission Lines*, Center for American Progress, Dec. 15, 2011 (the U.S needs to invest at least \$298 billion dollars to upgrade by 2030).

¹⁷⁷ Fox-Penner, *supra* note 174-176, 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/>.

¹⁷⁸ Section 7 of the Natural Gas Act authorizes FERC to grant certificates of public convenience and necessity to builders and operators interstate natural gas pipelines. See 15 U.S.C. § 717f. With the certificate comes the power of eminent domain. 15 U.S.C. § 717f(h). The Supreme Court has determined that the power granted to FERC under the NGA preempts state and local regulation of pipelines. *Schneiderwind 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.").

¹⁷⁸ Order No. 888, Promoting Wholesale Competition Through Open Access, Nondiscriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and

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"RTOs" ¹⁷⁹) to manage the grid, ensure system reliability, and guard against discrimination and the exercise of market power in the provision of transmission services.¹⁸⁰ The new grid managers would be independent of any individual utility and have operational control of multi-utility transmission networks; and they would answer to FERC.¹⁸¹ Because FERC lacked the explicit authority under the FPA to mandate participation in such bodies, however, it strongly encouraged their formation using the levers it had. FERC issued orders establishing "principles" for ISOs and RTOs, and making clear it would strongly prefer all utilities to join them.¹⁸² FERC also conditioned other benefits, such as merger approval, or approval of market based rates, on utilities' willingness to participate in ISOs/RTOs.¹⁸³ 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 and Midwest, and Texas and California wholesale power markets and utilities' grid assets are now managed by

Transmitting Utilities,, 61 Fed. Reg. at 21,591-21,597. Transmission owners retain ownership of their lines when they joined the ISO, but relinquish control over their use (including pricing and scheduling of transmission services) to the ISO.

¹⁷⁹ FERC's Order 2000 established the parameters for creating regional transmission organizations. *See* Order No. 2000, Regional Transmission Organizations, 89 FERC ¶ 61,285 (Dec. 20, 1999). RTOs operate similarly to ISOs. FERC originally hoped that RTOs would be much broader geographically such that the entire country might be covered by as few as four RTOs. However, we now use the terms RTO and ISO interchangeably.

¹⁸⁰ The transition to competition has meant that more energy producers are feeding power into the grid through an every multiplying number of transactions, creating larger loop flow problems than the networks had experienced before.

¹⁸¹ It is FERC's responsibility to ensure that transmission in power markets operate in ways that are consistent with the Federal Power Act. However, in the organized markets managed by RTOs, FERC oversees the RTOs, and it is the RTOs who 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 no RTO to manage wholesale markets, IOUs remain vertically integrated and traditionally regulated such that the volume and geographic reach of third-party wholesale transactions is 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, robust regional wholesale electricity markets in the Northeast and Midwestern United States, as well as Texas and California, with FERC oversight.

¹⁸² *See* Order No. 888, Promoting Wholesale Competition Through Open Access, Nondiscriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities,, 61 Fed. Reg. 21,540 (encouraging utilities to voluntarily form "properly structured" ISOs and establishing principles to guide their formation); *see also* FERC Order No. 2000, 89 Fed. Reg. 61,285, 18 C.F.R. pt. 30 (Dec. 20, 1999) (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 regional transmission institutions in a timely manner").

¹⁸³ *See* Joel B. Eisen, *Regulatory Linearity, Commerce Clause Brinkmanship, and Retrenchment in Electric Utility Deregulation*, 40 WAKE FOREST L. REV. 545, 573-82 (2005) (providing examples of FERC conditioning merger approval and market-based rates on RTO membership).

ISOs/RTOs.¹⁸⁴ This represents a monumental change in the industry in these regions, one effected 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 21st century. ISOs/RTOs can encourage their 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 a transmission line that crosses through their jurisdiction, but provides 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.¹⁸⁵

Congress has not been oblivious to this problem, but its lone attempt to address it has been timid and unsuccessful. The Energy Policy Act of 2005 tried to encourage states to form compacts to manage the process of transmission planning.¹⁸⁶ More directly, Section 216 of the Energy Policy Act of 2005 attempted to provide FERC with limited "backstop authority" to site transmission lines in regions suffering from severe transmission congestion problems, and designated by the Department of Energy (DOE) as "national interest transmission corridors."¹⁸⁷ 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 decision,¹⁸⁸ or (ii) has "withheld approval for more than one year" or conditioned its approval so as to substantially reduce the congestion relief benefits of line or render the line economically unfeasible.¹⁸⁹ While DOE did designate a few national interest corridors,¹⁹⁰ two circuit courts have overturned the rules FERC promulgated to guide its use of this authority,¹⁹¹ and FERC has been unable to deploy it. Significantly, the Fourth Circuit read the statute so that any state could avoid the application of Section 216 simply by denying approval to a new transmission

¹⁸⁴ FERC publishes a map of current ISOs and RTOs, available at: <http://ferc.gov/industries/electric/indus-act/rto.asp>.

¹⁸⁵ For good analyses of these state obstacles, see Ashley C. Brown & Jim Rossi, *Siting Transmission Lines in a Changed Milieu: Evil Thing Notions of the Public Interest*, 81 COL. L. REV. 705 (2010); Richard Pierce, *Environmental Regulation, Energy and Market Entry*, 15 DUKE ENV. L. & POL'Y J. 167 (2005); Cassandra Burke Robertson, *Bringing the Camel into the Tent: State and Federal Power over Electricity Transmission*, 49 CLEVE. ST. L. REV. 71 (2001).

¹⁸⁶ Section 1221 of EPAct 2005 authorizes three or more contiguous states to enter into an interstate compact that establishes regional siting agencies to carry out those states' siting responsibilities. See 16 U.S.C. § 824p(i).

¹⁸⁷ 16 U.S.C. § 824p(a).

¹⁸⁸ 16 U.S.C. § 824p(b)(1)(A).

¹⁸⁹ 16 U.S.C. § 824p(b)(1)(C).

¹⁹⁰ See Docket No. 2007-OE-1, Mid-Atlantic Area National Interest Electric Transmission Corridor; Docket No. 2007-OE-02, Southwest Area National Interest Electric Transmission Corridor, 72 Fed. Reg. 56,992 (Oct. 5, 2007).

¹⁹¹ See *Piedmont Environmental Council v. FERC*, 558 F.3d 304 (4th Cir. 2009) (finding multiple problems with the rules); *Calif. Wilderness Coal. v. U.S. Dept. of Energy*, 631 F.3d 1072 (9th Cir. 2011) (overturning the rules for failure to comply with the National Environmental Policy Act).

line proposal.¹⁹² FERC has interpreted these judicial setbacks as "a significant constraint on the Commission's already-limited ability to approve appropriate project to transmit energy in interstate commerce,"¹⁹³ and most observers now consider the statutory provision ineffectual.¹⁹⁴ Although the FERC chairman has repeatedly asked Congress to provide more robust backstop transmission siting authority, Congress has failed to do so.¹⁹⁵ Thus, in this instance, FERC has been unable to find a creative solution to the problem of state law impediments to transmission line siting. However, unable to use federal siting as a stick force more investment in transmission, FERC has instead tried to induce investment using the carrot of transmission rate pricing incentives.

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,"¹⁹⁶ and courts have interpreted this language to require that the capital costs of constructing a new transmission line must be borne only by ratepayers who benefit from the line. 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, and whether there are enough beneficiaries to justify the investment in the first place.¹⁹⁷

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

¹⁹² *Piedmont*, 558 F.3d at 310 ("The phrase [withheld approval of a permit application for more than 1 year] does not include, as FERC held, the denial of an application.").

¹⁹³ *Transmission Infrastructure: Hearing before the Senate Committee on Energy and Natural Resources*, 111th Cong. 11 (2009) (testimony of acting FERC chairman Jon Wellenhoff). The Supreme Court has denied certiorari in the *Piedmont* case. See *Edison Electric v. Piedmont Envtl. Council*, 130 S.Ct. 1138 (2010) (denying petition for writ of certiorari).

¹⁹⁴ See, e.g., Jim Rossi, *The Trojan Horse of Electric Power Transmission Lines Siting Authority*, 39 ENVTL. L. 1015 (2009). 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. (2009). 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. 2297 (Oct. 14, 2011) (reporting the DOE's abandonment of the plan).

¹⁹⁵ Specifically, Congress failed to pass three bills that would have increased FERC's backstop authority. See American Clean Energy Leadership Act, S. 1462, 111th Cong. § 216(c) (2009); American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 216A(a)(1) (2009); Clean Renewable Energy and Economic Development Act, S. 539, 111th Cong. §§ 402(a)(1), 403 (2009).

¹⁹⁶ 16 U.S.C. § 824e(a).

¹⁹⁷ ~~The Seventh Circuit struck down a recent transmission rate proposal (that would have spread transmission costs widely) for failing to adhere to this principle. See, e.g., *Ill. Commerce Comm'n v. FERC*, 576 F.3d 470, 476 (7th Cir. 2009). The court offers a qualification to the beneficiary pays principle, however: "We do not suggest that the commission has to calculate the benefits to the last penny, or for that matter to the last million or 10 million or perhaps hundred million dollars." *Id.* at 477 (7th Cir. 2009). See also *K.N. Energy, Inc. v. FERC*, 968 F.2d 1295, 1300 (D.C. Cir. 1992) (upholding FERC cost-spreading order when "all segments of the industry . . . will nonetheless ultimately benefit from their resolution").~~

on investment in new transmission lines, particularly those designed to bring remote renewable power to the grid.¹⁹⁸ Interestingly, transmission lines are being approved and built in Texas with relative speed and ease,²⁰⁰ where much of the grid lies beyond the jurisdiction of the FPA and FERC.²⁰¹ The Commission has tried to help ISOs/RTOs and other transmission owners navigate this “beneficiary pays” rule by promulgating Order 1000,²⁰² which establishes cost allocation guidelines for new transmission investments.²⁰³ Order 1000 incorporates language from a recent court decision applying the beneficiary pays principle,²⁰⁴ which reflects FERC’s awareness of the need to remain within (judicial views of) FPA boundaries. At the same time, FERC gently pushes those

¹⁹⁸ In 2005 the state created “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 than generation in Texas than any other state. See Tex. S.B. 20, 79th Leg., 1st C.S., § 3(g)(3) (2005) (“The commission . . . shall consider the level of financial commitment by generators for each competitive renewable energy zone in determining whether to designate an area as a competitive renewable energy zone and whether to grant a certificate of convenience and necessity”).

¹⁹⁹ The Seventh Circuit struck down a recent transmission rate proposal (that would have spread transmission costs widely) for failing to adhere to this principle. See, e.g., *Ill. Commerce Comm’n v. FERC*, 576 F.3d 470, 476 (7th Cir. 2009) The court offers a qualification to the beneficiary pays principle, however: “We do not suggest that the commission has to calculate the benefits to the last penny, or for that matter to the last million or 10 million or perhaps hundred million dollars.” *Id.* at 477 (7th Cir. 2009). See also *K.N. Energy, Inc. v. FERC*, 968 F.2d 1295, 1300 (D.C. Cir. 1992) (upholding FERC cost-spreading order when “all segments of the industry . . . will nonetheless ultimately benefit from their resolution”).

²⁰⁰ 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. See *Texas to Double Wind Capacity, Deliver to Major Cities*, Sustainable Business (Apr. 1, 2013), <http://www.sustainablebusiness.com/index.cfm/go/news.display/id/24725>. In 2005 the state created “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 than generation in Texas than any other state. See Tex. S.B. 20, 79th Leg., 1st C.S., § 3(g)(3) (2005) (“The commission . . . shall consider the level of financial commitment by generators for each competitive renewable energy zone in determining whether to designate an area as a competitive renewable energy zone and whether to grant a certificate of convenience and necessity”).

²⁰¹ 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 History and Contemporary Appraisal*, 3 TEX. J. OF OIL, GAS, & ENERGY L. 5, 5 (2008) (explaining that ERCOT is “the network of interconnected utilities that together cover approximately 75% 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 11 (explaining that in response to the passage of the Federal Power Act in 1935, Texas utilities cut themselves off from interstate commerce to evade FERC jurisdiction).

²⁰² FERC Order No. 1000, Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 76 Fed. Reg. 49,842 (August 11, 2011).

²⁰³ *Id.*, at 49918-30.

²⁰⁴ Specifically, FERC borrows from the Seventh Circuit’s decision in *Illinois Commerce Commission*, *supra* note 000, 576 F.3d at ___, by requiring that each the costs assigned to utility ratepayers be “roughly commensurate” with the benefits the line will bring to those ratepayers.

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boundaries by authorizing ISOs/RTOs and other transmission owners to consider "public policy benefits" among the benefits to which transmission costs can be allocated.²⁰⁵ Presumably, this means that, when reviewing transmission cost allocation schemes, FERC will look relatively favorably on the allocation of costs to ratepayers who receive only environmental and reliability benefits, so long as those benefits are not trivial.²⁰⁶ 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, environmental and other benefits to the entire RTO system—to ratepayers across the entire RTO region.²⁰⁷ The Seventh Circuit recently affirmed FERC's decision to approve Midwest ISO's multi-value project portfolio,²⁰⁸ 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 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 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.²⁰⁹

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 1000. The Supreme Court has not yet addressed the issue, and of course Congress has not spoken to it. A challenge to Order 1000 sits, as of this writing, before the D.C. Circuit.²¹⁰ The appeal challenges various aspects of the order, including FERC's use of the FPA's just, reasonable and nondiscriminatory rate mandate to compel transmission owners to consider public policy benefits²¹¹ in allocating the costs of new transmission lines.²¹²

²⁰⁵ See *id.* 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.").

²⁰⁶ For an interesting analysis of the federalism issues posed by the transmission lines siting problem, see Alexandra B. Klass and Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: a Federalism Mismatch*, 65 VAND. L. REV. 1801 (2012).

²⁰⁷ For a fuller description of this proposal, see *id.*, at 1851-54. FERC ultimately upheld the multi-value project. See *FERC Upholds MISO's MVP Transmission Cost Allocation Methodology*, Restructuring Today (Oct. 21, 2011), <http://www.restructuringtoday.com/public/9959print.cfm>.

²⁰⁸ *Illinois Commerce Comm'n v. FERC*, __ F.3d __ (7th Cir., 2013) (Case No. 11-3421).

²⁰⁹ *Id.* at 000

²¹⁰ *South Carolina Public Service Authority, et al. v. FERC No. 12-1232* (D.C. Cir. filed May 25, 2012). Ironically, judicial review of the early applications of Order 1000 has preceded review of the Order itself.

²¹¹ FERC also based this requirement on its authority under FPA section 217(b)(4), which provides that:

The Commission shall exercise the authority of the Commission under this chapter in a manner that facilitates the planning and expansion of transmission facilities to meet the reasonable needs of load-serving entities to satisfy the service obligations of the load-serving entities, and enables load-serving entities to secure firm transmission rights (or equivalent tradable or financial rights) on a long-term basis for long-term power supply arrangements made, or planned, to meet such needs.

16 U.S.C. Section 824q(b)(4). This too has been challenged in the appeal of Order 1000.

²¹² FERC's explain's its reasoning this way:

Until these appeals work their way through the federal courts, FERC will 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 for new investment, and to try to facilitate the financing of those investments by authorizing the costs to be spread over as wide a ratepayer base as possible, consistent with the FPA.

Cost allocation is a practice affecting FERC-jurisdictional rates. ... If transmission planners do not know in advance who will pay for regional facilities and free riding is not prevented, transmission planning will be inefficient, the development of more efficient or cost effective transmission facilities will be impeded, and jurisdictional rates will be higher than they otherwise would be.

South Carolina Public Service Authority, et al. v. FERC No. 12-1232 (D.C. Circuit), FERC Brief at 120.

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 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 ~~renewables-renewable energy~~ standards; and some have gone further. California's AB 32 established a statewide program of GHG emission regulation, ~~and~~.²¹³ Other states have been active promoters of clean energy as well. 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,²¹⁴ 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.²¹⁵ It has also declined to use its enforcement authority against states setting favorable power purchase rates for renewable energy.²¹⁶ Of course, most new 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.²¹⁷ However, because grid operators cannot count on wind capacity, they may deny wind generation capacity credits available to more reliable sources of electricity, and/or penalize wind

²¹³ In 2005, a group of northeastern states formed the Regional Greenhouse Gas Initiative ("RGGI"), a cooperative effort to regulate GHGs within their borders using a marketable permit system not unlike the one already in place in the European Union.

²¹⁴ The Energy Policy Act of 2005 authorized FERC to promote the use of Demand Response, stating that it 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, 963. The Energy Independence and Security Act of 2007, Pub. L. No. 110-140 § 529 (2007), requested that FERC conduct a "national assessment" of Demand Response potential.

²¹⁵ See Order No. 2003, Standardization of Generator Interconnection Agreements and Procedures, 68 Fed. Reg. 49,846 (Aug. 19, 2003) (codified at 18 C.F.R. pt. 35) (requiring changes to pro forma large generator interconnection agreements to accommodate variable energy resources).

²¹⁶ See Notice of Intent Not to Act against the California Public Utilities Commission, 134 FERC ¶ 61,271 (Mar. 31, 2011) (declining to enforce PURPA requirements against the California Public Utilities Commission). FERC's regulations implementing PURPA require that rates paid for power from PURPA qualifying generators not exceed the cost of alternative generation. 18 C.F.R. § 292.101(6).

²¹⁷ The marginal cost of wind generation is effectively zero, and so it is dispatched even before cheap coal power.

generators financially for failing to provide forecasted amounts of energy and for the additional “ancillary services” ~~(which are compensated changes in supply or demand necessary to balance loads) that must be made available~~²¹⁸ necessary to back up wind. 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 enacted Order 764 on the integration of “variable energy resources” (“VERs”) in June of 2012.²¹⁹ The Order requires transmission utilities (including RTOs and ISOs) to schedule transmission in smaller increments of time (15 minutes rather than 60 minutes), thereby increasing the probability that wind power will hit its projected generation target within the specified increment. In order 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.

FERC has also tried to promote a cleaner energy mix by pursuing policies that support the widespread use of demand response (DR),²²⁰ reasoning that the participation of DR in electricity markets can displace other (sometimes polluting) generation sources in those markets. Yet these policies have proven controversial. In Order 719²²¹ the Commission required ISOs/RTOs to accept bids from DR resources for certain “ancillary services” ~~(which are compensated changes in supply or demand necessary to balance loads)~~ on a basis comparable to other resources. The Commission also required ISOs/RTOs to permit an aggregator of retail customers²²² to bid DR on behalf of a group of retail customers directly into the organized wholesale energy market. In 2011, FERC went further, issuing Order 745.²²³ The Order seeks to remove barriers to fuller

²¹⁸ Joshua Z. Rokach, *Bending to the Wind*, 24 THE ELEC. J. 86, 88 (2011).

²¹⁹ Integration of Variable Energy Resources, 133 Fed. Reg. 61,149, 61,149 (Nov. 18, 2010), amending 18 C.F.R. § 35.28(c)-(f).

²²⁰ FERC Chairman Jon Wellinghoff, named by President George W. Bush to the commission in 2006 and elevated to its Chair by President Barack Obama in 2009, has made no secret of his aims to take more concrete action in this regard:

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

FERC Chairman Jon Wellinghoff, 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>.

²²¹ Wholesale Competition in Regions with Organized Electric Markets, Order No. 719, 73 Fed. Reg. 64,100 (Oct. 28, 2008), FERC Stats. & Regs. ¶ 31,281 (2008), order on reh'g, Order No. 719-A, 128 FERC ¶ 61,059 (2009).

²²² 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.” P154.

²²³ Order No. 745, Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (codified at 18 C.F.R. pt. 35). The order seeks to balance out the strain on the electric system by giving customers incentives to reduce energy consumption when wholesale energy

participation of DR 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. However, in May of 2014 the D.C. Circuit struck down Order 745, concluding that it is highly controversial, however, and the D.C. Circuit will soon rule on its legality.²²⁴ Among other things, opponents of the order argue that it exceeds FERC's jurisdiction under the FPA, and tramples on state jurisdiction over retail sales of electricity by luring retail buyers into wholesale power markets (as providers of DR resources),²²⁵ and would overcompensate DR providers, resulting in unjust and unreasonable rates.²²⁶ A vigorous dissent by Judge Edwards disputing both points may provide the basis of an appeal to the Supreme Court.²²⁷

For these two policy choices – integrating renewables and DR into wholesale markets – FERC has taken a fairly aggressive approach that leverages its power over wholesale rates to push clean energy goals. On the other hand, given the proliferation of renewable generation and DR 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, additional challenges caused by the integration of more and more renewable resources, and the opportunities posed by smart 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

prices are high. For an analysis, see Richard Pierce, *A Primer on Demand Response and a Critique of Order 745*, 3 GEO. WASH. J. OF ENERGY & ENVTL. L. 102 (2012).

²²⁴ See *Electric Power Supply Assoc. v. FERC*, Nos. 11-1486 (D.C. Cir. 2012). Update before publication.

²²⁵ See Brief for Respondents at 38-39, *Electric Power Supply Assoc. v. FERC*, Nos. 11-1486 (D.C. Cir. 2012) (discussing FERC power over non-jurisdictional entities when those entities participate in the jurisdictional wholesale markets). Petitioners also claim that it overcompensates DR providers because they incur no real costs in providing their “resource” to the market, whereas 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, *Electric Power Supply Assoc. v. FERC*, Nos. 11-1486 (D.C. Cir. 2012).

²²⁶ The court concluded that paying LMP for DR services DR improperly allows DR providers to “retain the savings associated with [the provider’s] avoided generation cost,” resulting in unjust and unreasonable rates. Slip. op. at 15. Petitioners claimed that ~~#~~LMP overcompensates DR providers because they incur no real costs in providing their “resource” to the market, whereas 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, *Electric Power Supply Assoc. v. FERC*, Nos. 11-1486 (D.C. Cir. 2012).

²²⁷ 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.” Slip. op., Dissent, at 13-22.

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California 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 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 80-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 non-discriminatory. Most of the issues FERC must 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 in order 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 shape 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.

IV. Implications of Congressional Dysfunction for Regulatory Policymaking

Clearly, EPA and FERC are grappling with increasingly serious problems of statutory fit, and face considerable pressure to act. These agencies' statutory missions compel them to respond to demands from interest groups and policy experts that they address important problems within their subject matter jurisdiction. Indeed, in EPA's case, agency career staff may have been champing at the bit to deploy the regulatory tools they possessed after years of waiting for congressional action; and for both EPA and FERC, enterprising political appointees, who may have joined the government to "get things done," have seemed keen to put their stamp on policy. But what some might see as zealotry may equally be described as the behavior of faithful agents. As custodians of their respective statutes, it is no surprise that these agencies feel obliged to address economic, scientific and technological shifts that would seem to demand a regulatory response. Yet they do so under significant constraints. 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, we can expect courts to face an increasing number of cases in which they are asked to 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 the current 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 is equated with a democratic deficit: the elected branches, Congress and the president (the principals), struggle to control an agency whose actions may tend toward problems of shirking and moral hazard.²²⁸ 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;²²⁹ politicians also use monitoring and oversight (*ex post* controls) to keep the agency pointed in the right direction.²³⁰ 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.²³¹ Under either view of this dynamic, 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 so 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 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.²³² 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, when policy issues are salient enough and the legal means readily available,

²²⁸ For a summary of this literature, see George A. Krause, *Legislative Delegation of Authority to Bureaucratic Agencies*, in THE OXFORD HANDBOOK OF AMERICAN BUREAUCRACY (Durant, ed. 2010).

²²⁹ This articulation of the political control hypothesis within the public choice literature is most associated with Matthew McCubbins, Roger Noll and Barry Weingast. See 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); and Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243 (1987).

²³⁰ See Mathew D. McCubbins and Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols versus Fire Alarms*, 28 AM. POL. SCI. REV. 165 (1984) (describing *ex post* controls).

²³¹ See Woodrow Wilson, *The Study of Administration*, 2 POL. SCI. Q. 197 (1887) (advocating a “scientific” approach to public administration unfettered by political interference).

²³² See Terry Moe and Scott Wilson, *Presidents and the Politics of Structure*, 57 L. & CONTEMP. PROB. 1 (1994) (describing the president’s tools of political influence over agencies).

it can be done by a motivated White House, and doing so can be politically beneficial to the president.²³³ 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,²³⁴ riding herd on potential inter-agency conflicts,²³⁵ and instructing EPA to issue certain rules by specific deadlines.²³⁶ 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 supported him both publicly and privately.²³⁷ He raised the profile of a number of issues in FERC’s domain, giving prominent speeches about topics like renewable energy, the Smart Grid, and energy efficiency. The White House also coordinated a number of inter-agency initiatives, and included FERC, bringing the agency somewhat “into the fold.”²³⁸ 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 adequate enough to allow him to pursue his goals quite effectively.

Our two policy examples also highlight the importance of consistency between the president’s agenda and the agency mission in an era of congressional dysfunction. Where the president’s objectives and the agency mission are in conflict, as in the case of the Bush Administration’s resistance to GHG regulation, the result can be turmoil and struggle.²³⁹ 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, whereas the George W. Bush Administration opposed GHG regulation, and justified inaction in ways that the courts ultimately claimed conflicted with the CAA,²⁴⁰ the

²³³ See, Elena Kagan, Presidential Administration Harv. L. Rev. (describing administrative policy initiatives led by the White House and claimed by President Clinton as political victories)

²³⁴ See announcement of historic GHG/fuel efficiency standards, May 2009.

²³⁵ See Presidential Order directing EPA and DOT to work together on post-2017 fuel efficiency rules.

²³⁶ See Presidential Order directing EPA to set new and existing powerplant standards by deadlines.

²³⁷ Chairman Wellinghoff has a long history of supporting such policies prior to his service as a FERC Commissioner, and was chosen by the president as Chair 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 *Jon Wellinghoff Nomination: S. Comm. on Energy and Natural Res.*, 109th Cong. (2006) (testimony of Jon Wellinghoff, nominee, FERC comm’r).

²³⁸ See generally Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131 (2012).

²³⁹ Career staff can resist the direction of political appointees, and appointees may come to align themselves with the perspective of the agency rather than 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 regulation. See, e.g., *Christine Todd Whitman: The End of the Road*, THE ECONOMIST (May 22, 2003), available at <http://www.economist.com/node/1800788>.

²⁴⁰ *Mass. v. EPA*, *supra* note 000. 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., *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008) (finding EPA’s decision to regulate mercury emissions from powerplants as a non-toxic pollutant inconsistent with the statute); *Env’tl. Def. v. Duke*

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 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 fairly boldly.

At the same time, there are both internal and external checks on bold 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 the agency and the White House will have to beat back. 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 reaction to, strong interest group and congressional reactions. EPA amassed a voluminous scientific record to support its endangerment finding; sought the auto industry's support for its tailpipe rule; made a *de*-regulatory move with the tailoring rule; reconsidered its initial standard for new powerplants; and in designing its rule for existing powerplants, has signaled that it wishes to provide the states maximum 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 the 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.²⁴¹

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. Agencies take pains to develop their legal strategies, and it is not hard to imagine that they pare back or abandon initial proposals deemed too risky. Indeed, some tempting but problematic strategies may

Energy Corp., 549 U.S. 561 (finding inconsistent with the statute EPA's decision that certain repair and maintenance activities are exempt from the CAA's definition of "modifications" triggering emissions limits under the statute).

²⁴¹ For a description of this process, see U.S. EPA, Carbon Pollution Standards: Public Listening Sessions, web page, available at: <http://www2.epa.gov/carbon-pollution-standards/public-listening-sessions>.

never get off the ground.²⁴² There is good reason to believe that agencies will be somewhat cautious about interpretive strategies they must defend in court. After all, at stake is more than judicial invalidation in any one case. Because they are repeat institutional players, appearing before a limited number of judges over time, agencies must also assess the cumulative risks to their reputation in the courts.²⁴³ There is, moreover, an additional internal executive branch check on agency zealotry, which has proved remarkably effective and stable across administrations: mandatory regulatory review by the Office of Information and Regulatory Affairs in the Office of Management and Budget. As scholars have noted, OIRA has tended, in overseeing agency cost-benefit analyses, to press agencies to weaken rather than strengthen regulation out of concern about high regulatory costs.²⁴⁴ Thus, even when political staff in the White House and officials in an executive agency agree on the direction of policy, specific proposals will not be pursued in an unbridled fashion.²⁴⁵

In sum, both FERC and EPA 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 there is a premium on alignment with the president. They have pursued their version of the “best possible” policy response not in a reckless fashion, but seemingly keenly aware of the “gridlock interval” and mindful of the constraints of their enabling statutes. Yet the courts will be the ultimate arbiters of these adaptive efforts, which means that *they* will determine the policy course for all intents and purposes during periods of congressional dysfunction. All of which raises the question whether courts should approach judicial review of agency action differently in this new strategic environment.

²⁴² 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 greenhouse gas pollution under section 7, which prohibits federal agencies from engaging in actions that will “jeopardize” listed species. The FWS might have taken the position that this “jeopardy” prohibition requires federal agencies to grant permits for oil and gas exploration, and other energy intensive projects, only on the condition that the applicants mitigate their greenhouse gases emissions. Yet the degree of legal difficulty of adapting the ESA for this purpose apparently was deemed insurmountable. The burden of linking greenhouse gas 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 to then devise appropriate mitigation measures—would be daunting. See 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 greenhouse gas lawsuits brought under common law theories “involve massive causation problems”).

²⁴³ See Tatel, *supra* note 000. Even if temporary political appointees might be enticed to take significant legal risks, career lawyers in the agency, and in DOJ, should be expected to push back.

²⁴⁴ Nicholas Bagley and Richard Revesz, *Centralized Oversight of the Regulatory State*, 106 COLUM. L. REV. 1260, 1269-72 (2006).

²⁴⁵ Lisa Heinzerling, *Inside EPA: A Former Insider's Reflections on the Relationship between the Obama EPA and the Obama White House*, forthcoming *Pace L. Rev.*, 2014, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2262337 (commenting on the de-regulatory force exerted by OIRA, even in a democratic administration that has publicly stated its support for environmental protection and public health).

B. Judicial Review in an Era of Congressional Dysfunction

It is hard to know what courts think about statutory obsolescence and congressional dysfunction because judicial opinions do not typically reflect on it explicitly. Individual judges' views on such matters will tend to be subsumed in their approaches to statutory interpretation and in their tendencies when applying the *Chevron* doctrine.²⁴⁶ Some judges might feel a heightened burden to carefully scrutinize agency interpretations of outdated laws on the assumption that these are precisely the conditions under which agencies will be tempted to scour mouseholes for elephants.²⁴⁷ Other judges might be inclined to sympathize with agencies struggling in good faith to adapt obsolete laws to new conditions; they might be persuaded to give agencies the benefit of the doubt, at least where the statutory language can plausibly be declared ambiguous. In a few recent cases, both conservative and liberal judges have openly acknowledged problems of bad fit, and appeared, at least in oral argument, to sympathize with the agencies' plight.²⁴⁸ Still, it remains to be seen whether such sentiments affect their 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 so as to spur a dormant Congress into action? Or should they acknowledge the limits of Congress' ability to act – and a gridlock interval that is wider than at any time in the modern regulatory era – and grant the agencies wide latitude to fashion policy remedies to new problems from old statutory language? What are the implications of either approach for democratic accountability in policymaking? And how do the applicable standards of judicial review of agency decisions influence the courts' choices?

1. Democratic Accountability Concerns

The democratic accountability question is more complicated than it appears at first blush. One might argue that by taking a narrow view of the agency's latitude to

²⁴⁶ Of course, the *Chevron* doctrine specifies that when reviewing agency interpretations of enabling legislation, courts should engage in a two step analysis: at step 1, determine whether the enabling statute speaks plainly to the question at issue; if not, at step 2, determine whether the agency's interpretation of the statute is reasonable. *Chevron U.S.A., Inc. v. NRDC*, 467 U.S. 837 (1984). All of the agency decisions described in this paper involve EPA interpretations of the Clean Air Act or FERC interpretations of the Federal Power Act. Therefore, judicial review of those decisions will invoke the *Chevron* doctrine.

²⁴⁷ See *Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 468 (2001) (per Scalia, J., noting that, Congress does not "hide elephants in mouseholes."); *U.S. v. Home Concrete and Supply*, 132 S.Ct. 1836 (2012) (per Scalia, J., commenting that relying on such sparse statutory language to support the agency's position was like "hoping a new batboy will change the outcome of the World Series.")

²⁴⁸ See, e.g., Judge Wood's comment in oral argument in *Illinois Commerce Comm'n v. FERC*, *supra* note 000 (acknowledging the bad fit between the statute and contemporary energy markets). See also oral argument in *EPA v. Homer* (Judges, Breyer, Kagan and Kennedy acknowledging the challenge for the agency in addressing interstate pollution within the terms of the statute and suggesting why deference may be appropriate) and Chief Judge Sentelle's comment in oral argument in *CRR v. EPA*, *supra* note 000, in response to Counsel's claim that Congress would surely respond if the court ruled in petitioners' favor "With 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."

fashion new policy solutions from old statutes, the court is taking a “democracy-forcing” approach to judicial review, one that allocates more policy decisions to the elected branches and fewer to unelected bureaucrats. One might adopt this view on formal constitutional grounds, because Congress alone possesses Article I lawmaking power, or on standard democratic legitimacy grounds, because members of Congress are elected and agency officials are not,²⁴⁹ or because one believes that when agencies stretch old statutes to fit new problems they more often than not create a costly, ineffective regulatory mess, and undermine their own legitimacy in the process.²⁵⁰

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.²⁵¹ In this way, the agency “adaptations” we examined above may prove quite durable, changing 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,²⁵² 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, regional transmission organizations—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 capacity to produce such durable change, and that courts ought therefore 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

²⁴⁹ See e.g., and Lisa Schulz Bressman, *Deference and Democracy*, 75 GEO. WASH. L. REV. 761 (2007) (when agencies ignore the wishes of Congress and the public, judicial intervention is needed to ensure accountability, or at least the promise of representative and responsive government for which it stands).

²⁵⁰ Cass R. Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187 (2006)(discussing this argument).

²⁵¹ Indeed, this is the essence of the notion of policy drift, discussed supra at note 000, and *infra* at note 000 and accompanying text.

²⁵² Ralph Cavanagh, *Reinventing Competitive Procurement of Electricity Resources*, ElectricityPolicy.com, available at <http://www.seattle.gov/citylightreviewpanel/documents/Competitive%20electricity%20reinvestment%20the%20energy%20efficiency%20imperative.pdf> (last visited Apr. 8, 2013) (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).

those decisions with the agency until Congress affirmatively chooses to speak through bicameralism and presentment.²⁵³ To the contrary, as explained in Section 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.²⁵⁴ 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, one might argue that because the agency has been designated the statute’s custodian, the agency’s claim is the democratically superior one. That is, one can just as easily argue that broad delegations of authority to agencies (and broad constructions of that authority by the agency subsequently) are consistent with democratic accountability – with the expression of the popular will through legislation.

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.²⁵⁵ This is a fairly common refrain,²⁵⁶ perhaps because Federalist No. 10 holds such a lofty position in American civics education. However, as many have noted,²⁵⁷ this view oversimplifies the Framers’ intent. 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 government would be reversed” under such a system, because such a system would empower the minority to “take advantage of it to screen themselves from the equitable sacrifices to the general weal.”²⁵⁸ Similarly, in Federalist No. 22, Hamilton denounces supermajority requirements as likely to “embarrass the administration [and] to destroy the energy of the government.”²⁵⁹ Hamilton notes that:

²⁵³ *But see* Einer Elhauge’s argument that courts should decide cases in a manner consistent with the preferences of the current Congress, or so as to elicit the true preferences of the current Congress. *See* EINER ELHAUGE, STATUTORY DEFAULT RULES (2008).

²⁵⁴ 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 the logic behind this, *see* David B. Spence, *A Public Choice Progressivism, Continued*, 87 CORNELL L. REV. 397 (2002).

²⁵⁵ Bob Cohn, *Scalia: Our Political System is ‘Designed for’ Gridlock*, THE ATLANTIC, October 6, 2011, available at: <http://www.theatlantic.com/national/archive/2011/10/scalia-our-political-system-is-designed-for-gridlock/246257/>; *Justice Scalia Rejects Dysfunctional Government Talk*, REUTERS, October 5, 2011, available at: <http://www.reuters.com/article/2011/10/05/us-usa-court-scalia-idUSTRE7946LB20111005>.

²⁵⁶ *See e.g.*, JAMES MACGREGOR BURNS, THE DEADLOCK OF DEMOCRACY: FOUR-PARTY POLITICS IN AMERICA (1963) at 6 (“our system was designed for deadlock and inaction”); and ROBERT SHOGAN, THE FATE OF THE UNION (1998), at 5 (supporting the view that the Framers did not favor paralysis by gridlock).

²⁵⁷ *See e.g.*, Michael J. Gearhart, *Why Gridlock Matters*, 88 NOTRE DAME L. REV. 2107 (2013) (detailing the values both of gridlock, and of overcoming gridlock); SARAH A. BINDER, STALEMATE: CAUSES AND CONSEQUENCES OF LEGISLATIVE GRIDLOCK (2003) at 7-11 (arguing that the Framers did not favor gridlock).

²⁵⁸ Federalist No. 58.

²⁵⁹ Federalist No. 22.

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[w]hen the concurrence of a large number is required by the Constitution to the doing of any national 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.²⁶⁰

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This does not sound like a celebration of the virtues of legislative gridlock,²⁶¹ or of the sanctification of the status quo in the face of gridlock.²⁶²

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Consider, for example, the Supreme Court's decision in *FDA v. Brown & Williamson*,²⁶³ which held that the FDA lacked the authority to regulate tobacco under the Food, Drug and Cosmetic Act (FDCA). 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. 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. The Court inferred from Congress' behavior a statutory meaning that contradicted (if not directly) the FDA's reading of the statute. By contrast, the *Mass v. EPA* court distinguished *Brown & Williamson*, noting that no comparable legislative record preceded the events that triggered the *Mass v. EPA* case, thereby permitting the conclusion that EPA's foray into GHG regulation comports with the statute.²⁶⁴

The Court's decision in *Brown & Williamson* has been described as "democracy-forcing" because it embraced the view that Congress should speak clearly if it wishes to grant regulatory authority to agencies over matters of great social and economic importance.²⁶⁵ 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 nicotine,²⁶⁶ and authorizing a

²⁶⁰ *Id* (emphasis added).

²⁶¹ See also Charles O. Jones, *A Way of Life and Law*, 89 AM. POL. SCI. REV. 1, 3 ("the point was not solely to stop the bad from happening; it was to permit the good, or even the middling, to occur as well").

²⁶² 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* (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.

²⁶³ *FDA v. Brown & Williamson* 529 U.S. 120 (2000).

²⁶⁴ 529 U.S. at ____.

²⁶⁵ See Sunstein, *Chevron Step Zero*, *supra* note 000, at 191 (2006) (arguing that "those who are enthusiastic about the nondelegation doctrine" will favor the decisions "because it requires Congress, rather than agencies, to decide critical questions of policy"); and John F. Manning, *The Nondelegation Doctrine as a Canon of Avoidance*, 2000 SUP. CT. REV. 223 (2000) (arguing that the *Brown & Williamson* court read the statute narrowly to avoid a nondelegation problem).

²⁶⁶ The Family Smoking Prevention and Tobacco Control Act, Pub.L. 111–31 (2009). Moreover, it would be misleading to assume from the tobacco example that Congress eventually would have acted had the agency only 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 argument with compelling new science showing nicotine is addictive; and had the agency not forced the issue by

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regulatory program similar to the one the FDA originally proposed.²⁶⁷ 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 court's, sets policy in the interim.²⁶⁸ 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.²⁶⁹

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 suggests 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 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.²⁷⁰ 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 a more "democratic" choice to defer during

promulgating regulations itself, Congress may 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.

²⁶⁷ In other cases, the Court has opined similarly that Congress does not "hide elephants in mouseholes," requiring much clearer statements from Congress. *See, e.g., MCI v. AT&T*, 512 U.S. 218 (1994); *INS v. St. Cyr*, 533 U.S. 289 (2001); *Whitman v. American Trucking*, 531 U.S. 547 (2001).

²⁶⁸ Moreover, since 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.

²⁶⁹ 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 to respond. 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.

²⁷⁰ *See Jacobs, supra* at ____.

such 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 interpreted,²⁷¹ and may even have the best information about the political and policy context in which those statutes were enacted.²⁷² 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;²⁷³ and the Court noted that delegation "necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress."²⁷⁴ 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 under the authority of the Clean Air Act, a relatively detailed enacting statute. These include decisions interpreting of statutory terms from different parts of the statute, like "pollutant," "source," and "standard."²⁷⁵ FERC's decisions, by contrast, were made under relatively simple statute containing a broad grant of authority to ensure that the price and terms at which electricity is transmitted and sold at wholesale are "just and reasonable" and "nondiscriminatory."²⁷⁶ 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 later adjusting those proposals in light of comment. The Court has recognized that when agencies make interpretive decisions using formal, transparent processes, as EPA and FERC have in our examples, the decisions are entitled to greater deference.²⁷⁷

Thus far, courts have ~~been~~ tended to be deferential to these two agencies, as they adapt their statutes to the problems we described. Indeed, all but ~~one~~ two appellate

²⁷¹ Cass R. Sustein, *Law and Administration After Chevron*, 90 Colum. L. Rev. 2071, 2087-88 (1990); 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").

²⁷² ADRIAN VERMEULE, *JUDGING UNDER UNCERTAINTY: AN INSTITUTIONAL THEORY OF LEGAL INTERPRETATION* 57 (2006).

²⁷³ 467 U.S. at 843.

²⁷⁴ *Id.*

²⁷⁵ See discussion of these issues *supra* at section III.A.

²⁷⁶ See discussion of these issues *supra* at section III.B.

²⁷⁷ See *U.S. v. Mead Corp.*, *supra* note 000. 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 (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).

decisions to date has~~ve~~ affirmed the agency's interpretive approach.²⁷⁸ 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 the legislation to fashion solutions to problems within the agency's jurisdiction.

Nonetheless, as others have noted,²⁷⁹ *Chevron* offers reviewing courts ample opportunity to use *Chevron* Step 1 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 powerplants as an "adequately demonstrated" technology, and using a textualist analysis to reach that result. In the Supreme Court's review of the application of the PSD program to GHG emissions, for example, the Court may rule out the PSD program as a means of implementing GHG controls by rejecting EPA's conclusion that "any pollutant" necessarily covers GHGs. The Court may agree with Judge Kavanaugh that the phrase "any pollutant" is limited to the criteria pollutants. This would be a practical way to nullify the absurd results that EPA itself insisted could not have been intended by a rational Congress.²⁸⁰

Yet 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.²⁸¹ 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.²⁸²

It is hard to predict the trajectory of cases that might fall in the "bad fit" category. Although we have focused here on examples from the energy and

²⁷⁸ The two exceptions ~~were~~ the Ninth Circuit's decision in *Piedmont*, *supra* note 000, overturning FERC's interpretation of its backstop transmission line siting authority under FPA section 216, and the D.C. Circuit's decision in *Electric Supply Corp.*, *supra* note 000, overturning the FERC's demand response rule.

²⁷⁹ See e.g., Thomas J. Miles and Cass Sunstein, *Do Judges Make Regulatory Policy?: An Empirical Investigation of 'Chevron'*, 73 U.CHICAGO L. REV. 578 (2006)(finding some evidence of this).

²⁸⁰ Losing on this issue might be welcomed by the agency in the sense that it would relieve them of the high costs and political consequences of fully implementing the PSD program for GHG emissions, but it would be problematic too, because such a finding might encourage industry to argue that *other* programs under the Act should be read, in a similarly contextual way, to exclude GHGs.

²⁸¹ See discussion of these links, *supra*, at section III.A.

²⁸² 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 greenhouse gas 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) (holding that petitioner may challenge an EPA compliance order under the APA).

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*,²⁸³ recent years have brought us *MCI v. AT&T*,²⁸⁴ in which the D.C. Circuit invalidated the FCC's effort to promote competition in the increasingly fragmented telecommunication industry because the Commission's interpretation of the word "modify" went too far; and *Verizon v. FCC*,²⁸⁵ in which the D.C. Circuit struck down the Commission's "net neutrality" rules (compelling broadband providers to adhere to open network management practices) because although the Commission has general authority to regulate in the area, it lacks the specific authority to adopt its chosen strategy. At the same time, the Supreme Court in *Arlington v. FCC*²⁸⁶ has 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.²⁸⁷ 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.

V. Conclusion

It is axiomatic that Congress cannot anticipate all of the ways in which an agency must apply its statutory mandate,²⁸⁸ and so Congress sometimes chooses not to address particular applications of the mandate in the enabling legislation, whether for efficiency or political reasons.²⁸⁹ Consequently, the agency's implementation of the mandate may eventually deviate from either the enacting Congress' wishes, or those 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 updated the CAA several times between 1970 and 1990, or when it updated the FPA in 1978 and 1992. This is no longer true, for reasons we have explained. Today, we face energy and environmental problems that are at least as pressing as those of the 1970s. Pressure to

²⁸³ 529 U.S. 120.

²⁸⁴ 512 U.S. 218.

²⁸⁵ ___ U.S. ___ (2014).

²⁸⁶ *City of Arlington v. FCC*, 133 S. Ct. 1863 (2013).

²⁸⁷ 133 S.Ct. at 1874–75.

²⁸⁸ This is inherent in the task of writing a rule. Even the wisest legislator cannot anticipate every single situation to which legislation will eventually apply.

²⁸⁹ 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 the agency.

address at least some of these problems may be building.²⁹⁰ 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 ideological polarization between the parties. The unprecedentedly wide and widening gridlock interval makes bipartisan action to address important problems that much more difficult.

Still, change continues apace in the energy and environmental 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 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 so far.²⁹¹

Their efforts to do so have yielded a suite of new policies, all fashioned from old statutory provisions that were not drafted with these new problems in mind. These policies reflect an appreciation for the new strategic environment of agency policymaking, and 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 responsibly adapt obsolete statutes 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. As we have noted, 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 (and the threat of judicial review alone performs a prophylactic 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

²⁹⁰ See *Poll: Americans Back Climate Change Regulation, Not Taxes*, SANFORD SCHOOL OF PUBLIC POLICY (Feb. 7, 2013) (presenting poll data showing that 64% of Americans strongly or somewhat favor regulating greenhouse gases), <http://news.sanford.duke.edu/news-type/news/2013/poll-americans-back-climate-change-regulation-not-taxes>; *Tracking Public Attitudes—Latest Polls*, U.S. CLIMATE ACTION NETWORK, <http://www.usclimatenetwork.org/hot-topics/climate-polling> (last visited Apr. 8, 2013) (collecting climate change polls).

²⁹¹ Indeed, there are good reasons to believe that over the last 20 years Congress has been losing the *ability* to react legislatively to these changed circumstances or the policy choices EPA and FERC are making, riven as it is by growing ideological and partisan polarization.

awkwardly or poorly, judicial review of those decisions ought to be deferential in recognition not only of the *Chevron* doctrine 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 the United States Congress in recent decades.

Models of Gridlock

Two competing explanations of congressional (in)action, which can both be depicted using spatial models, 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 theory²⁹² (associated with Keith Krehbiel and others) focuses on the importance of supermajoritarian institutions in Congress (like the Senate requirement of 60 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. By contrast, party cartel theory²⁹³ (associated with Gary Cox and Matthew 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, abstracted visual depictions used to convey the theory's central insights.²⁹⁴

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 11 member legislative body) over alternatives along a policy dimension.²⁹⁵ 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

²⁹² See Krehbiel, Pivotal Politics, *supra* note 000.

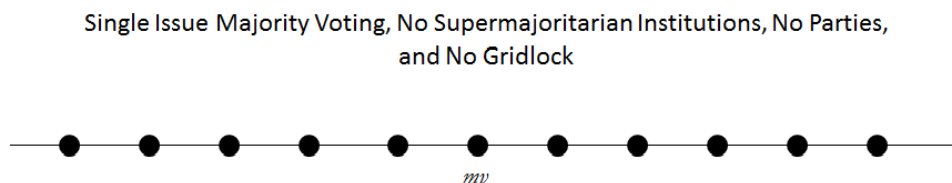
²⁹³ See Cox and McCubbins, Setting the Agenda, *supra* note 000.

²⁹⁴ Some people find these kinds of abstractions of reality useful, distilling a more complex situation to its essence. Others find these kinds of 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 these theories use those models, and in part because they provide a visual illustration of the central concepts in a way some might find helpful.

²⁹⁵ This approach assumes that legislators' preferences can be depicted as points distributed along a single dimension – e.g., liberal versus conservative, or more or less stringent regulation of greenhouse gas emissions. These spatial models further assume the existence of a utility distribution around each legislator's ideal point that reaches its highest point at the ideal point; stated differently, it assumes 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.

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 median voter ought to drive the policy choices of this legislature.²⁹⁶ 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; however, under these assumptions, the median voter's preferences would control outcomes even if preferences were polarized.)

Figure A-1



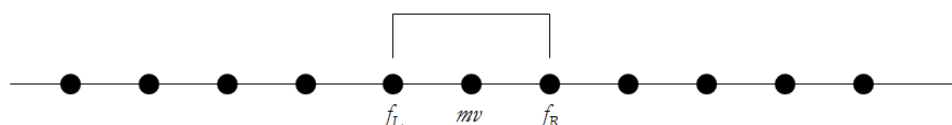
Now assume that this legislature has adopted the filibuster rule, and that the filibuster can only be overcome by a vote of 60 percent of the legislature (7 members), akin to the process of invoking cloture in the U.S. Senate. For any status quo policy that lies to the left or right of the median voter, 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 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."²⁹⁷

²⁹⁶ 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.

²⁹⁷ Krehbiel, Pivotal Politics, *supra* note 000, at 35-8.

Figure A-2

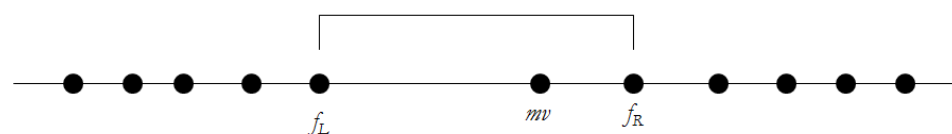
Pivotal Politics: the Gridlock Intervals with a Strong Middle, No Parties, But Filibuster



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,²⁹⁸ 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 that 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 the status quo. 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.²⁹⁹

Figure A-3

Pivotal Politics: the Gridlock Interval with a 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 in order 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

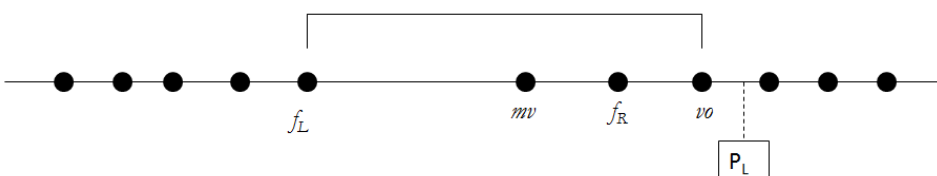
²⁹⁸ For a full discussion of this phenomenon and the literature explaining it, see *supra* section ____.

²⁹⁹ Of course, ideology is a key determinant of partisan affiliation, and we have already noted the ideological divergence between (and increasing ideological homogeneity within) American political parties. See Poole and Rosenthal, *supra* note 000. Indeed, parties may exacerbate these trends. See Layman, et al., *supra* note 000 (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 the authors call "conflict extension"). In any case, the following section depicts the potential influence of parties as causes of gridlock.

the legislature (8 legislators). Consider Figure A-4. Note that the president's ideal point 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 a 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 implies that policy lags behind voter preferences when the gridlock interval is wide.³⁰⁰

Party Politics

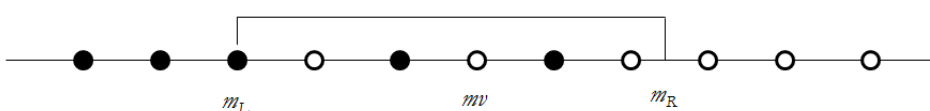
The introduction of parties into the model shows how party discipline can exacerbate the gridlock problem. Figure A-5 is identical to Figure A-2 in that it depicts a legislature with relatively evenly distributed preferences (a strong middle), but differs from Figure A-2 in that the legislature is now divided into two (relatively) ideologically heterogeneous parties, a majority right party (with 6 members) and a minority left party (with 5 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 A-5) will drive the behavior of all of the members of the party. This moves the filibuster pivots further away from mv , expanding the gridlock interval. Now

³⁰⁰ 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 founders design of that process. One set of question goes to theories of representation. Should the legislator's ideal points reflect the current preferences of 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 and Cross, *supra* note 000, at 106-12.

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 party³⁰¹), 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



However, we generally do not think of American political parties as disciplined in this way; to the contrary, compared with parties in parliamentary systems, we think of them as relatively weak, exerting relatively little party discipline over voting behavior.³⁰² However, party leaders do exert voting discipline on rare occasions, and according to some commentators, somewhat more frequently in the current era of ideological polarization.³⁰³ 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 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."³⁰⁴ One way to conceptualize this duty is to posit that it makes the median member of the majority party (but not the

³⁰¹ 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.

³⁰² This argument is usually made in comparisons of American parties and European parties, or parties in Westminster systems. See e.g., Keith Krehbiel, *Where's the Party?*, 23 BRITISH J. POL. SCI. 235(1993) (ascribing the relatively greater party discipline in parliamentary systems to greater ideological homogeneity of parties); and Cox and McCubbins, *supra* note 000 (ascribing discipline to institutions).

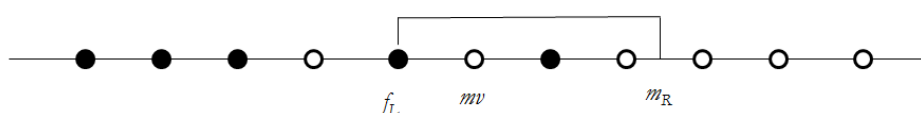
³⁰³ The so-called "Hastert Rule," named after former House Speaker Denny Hastert, says that the majority should only bring to a vote bills supported by a majority of the majority party. In 2013 Speaker John Boehner pledged to follow that rule in managing the House of Representatives' consideration of immigration reform bills. Molly K. Hooper, *Boehner: No immigration vote without 'majority support' of GOP conference*, THE HILL, June 18, 2013, available at: <http://thehill.com/homenews/house/306179-boehner-commits-to-hastert-rule-on-immigration-reform>.

³⁰⁴ Cox and McCubbins, *supra* note 000, at 9.

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.³⁰⁵ 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 exerted voting discipline).³⁰⁶

Figure A-6

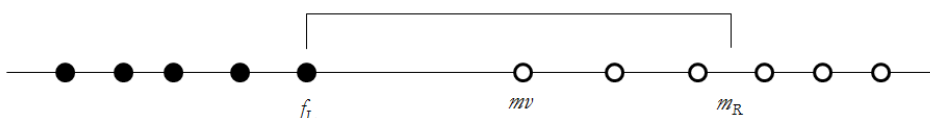
Party Politics: Gridlock Interval with Strong Middle, Filibuster, and Agenda Control



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 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

³⁰⁵ In this instance, the leftward boundary of the gridlock interval is marked by the left side filibuster pivot, and the right boundary by the median voter in the (majority) right party.

³⁰⁶ This depiction of the gridlock interval assumes that members continue to vote sincerely (and not in response to party instructions) in response to motion to invoke cloture.

differently, legislation is more likely when the ideological environment within Congress is less polarized, all else equal.

Polarization in Congress

As already noted,³⁰⁷ the political science literature documents the increasing polarization of Congress (and, some argue, the electorate) over time in the late 20th and early 21st century, 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 Howard Rosenthal,³⁰⁸ 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 to 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.³⁰⁹ Each member of each Congress is assigned an ideological score ranging between -1 (most liberal) and 1 (most conservative).³¹⁰ 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 moderates³¹¹ within Congress, and the percentage of ideological overlap between Democrats and Republicans.³¹²

Figures A-8 and A-9 illustrate the increasing polarization of Congress since the fertile environmental and energy legislative environment of 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.³¹³ As already noted, there are several competing (and complementary) explanations for this trend,³¹⁴ but it certainly supports the notion of a widening the 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 case, 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/or majority party agenda control

³⁰⁷ See *supra* Section ____.

³⁰⁸ See Poole and Rosenthal, *supra* notes 000 and accompanying text. The figures presented here were developed using data from Keith Poole's Voteview web page, at <http://www.voteview.com/>.

³⁰⁹ Poole and Rosenthal actually position members of Congress along two dimensions, but it is this first dimension that they use to measure economic policy, left-right ideology.

³¹⁰ For a full description of the methods used to develop these ideological positions, see [CITE]. For critical analyses of the Poole and Rosenthal typology, see [CITES].

³¹¹ Poole and Rosenthal define moderates as those with ideological scores lying between -.25 and .25.

³¹² 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.

³¹³ The Senate scores are not depicted here, but see Figure A-9, *infra*, for a measure of ideological divergence in the Senate over time.

³¹⁴ See *supra* note 000 and accompanying text for a discussion of the political science literature explaining increasing polarization over time.

decisions (in ways that spatial models suggest), the greater ideological polarization depicted here suggests that recent congresses ought to be less capable of responding to policy problems legislatively.

Figure A-8: Mean Scores (Lib-Cons Dimension), U.S. House of Representatives, 1970-2011³¹⁵

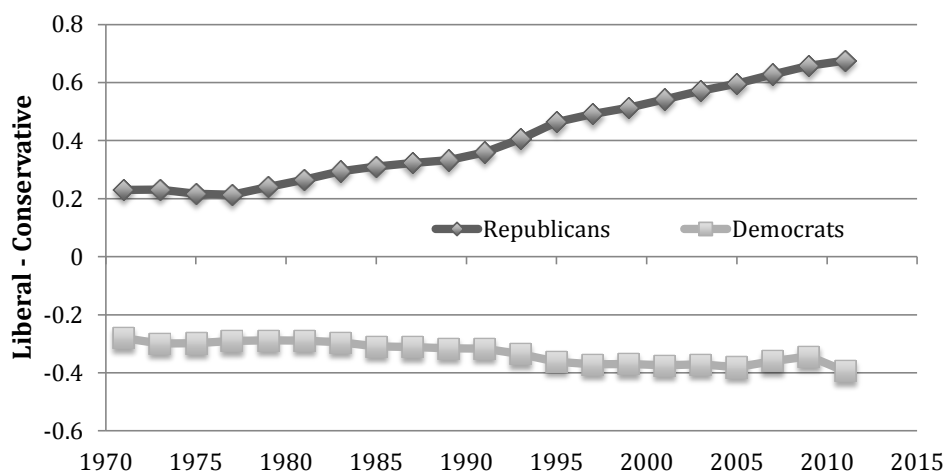
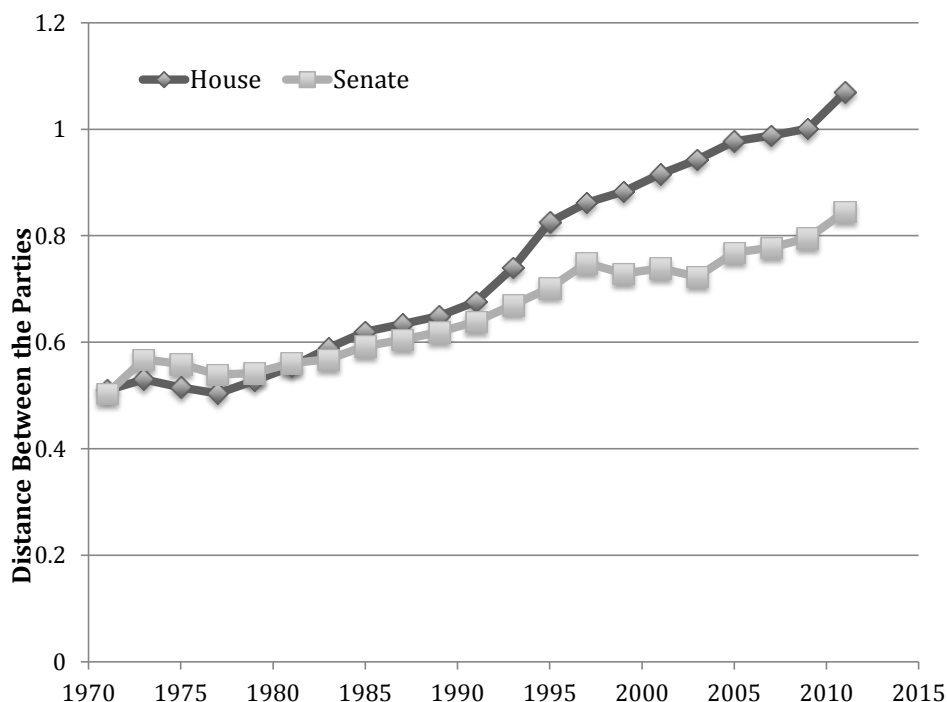


Figure A-9 illustrates this same point a different way, by graphing the ideological distance between the parties (distance between the mean Democrat and the mean Republican) in both chambers over time. On this scale, the maximum possible ideological distance between the parties is 2 points (representing 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 8/10 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 1990³¹⁶ and the Energy Policy Act of 1992.³¹⁷

³¹⁵ 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).

³¹⁶ See *supra* note 000 and accompanying text for a description of this statute.

³¹⁷ See *supra* note 000 and accompanying text for a description of this statute.

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 resultant bargain to members of their own party.³¹⁸ Figures A-10 and A-11 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 $-.25$ and $.25$) in the Senate over the last four decades, showing a precipitous drop, particularly since the late 1970s.³¹⁹

³¹⁸ At course, we might surmise that even when moderates are present, the sale of legislative bargains within party becomes more difficult as the distance between the mean party members increases.

³¹⁹ The House of Representatives figures are not depicted here, but show a similar phenomenon.

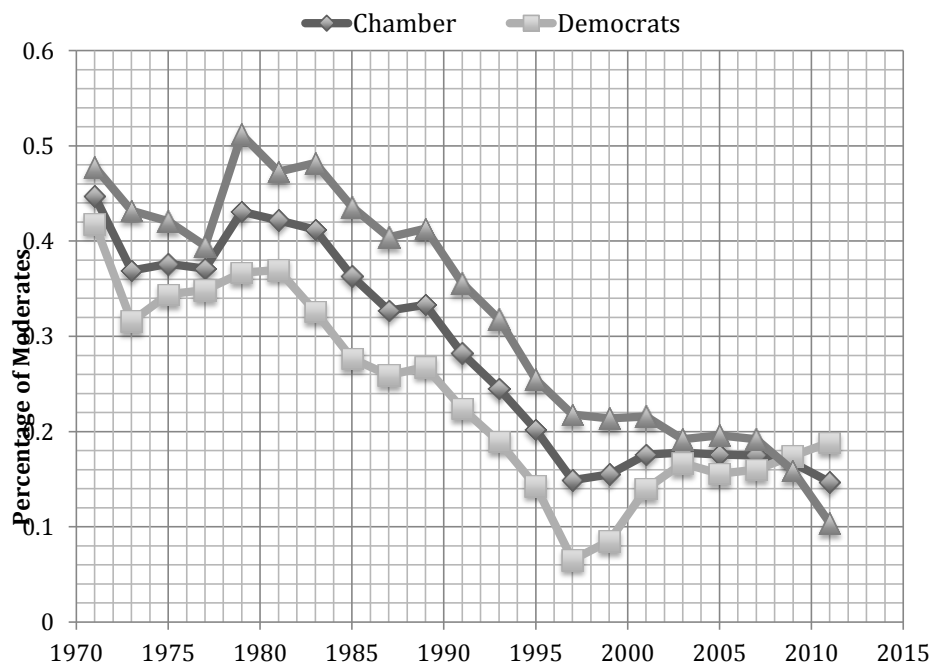
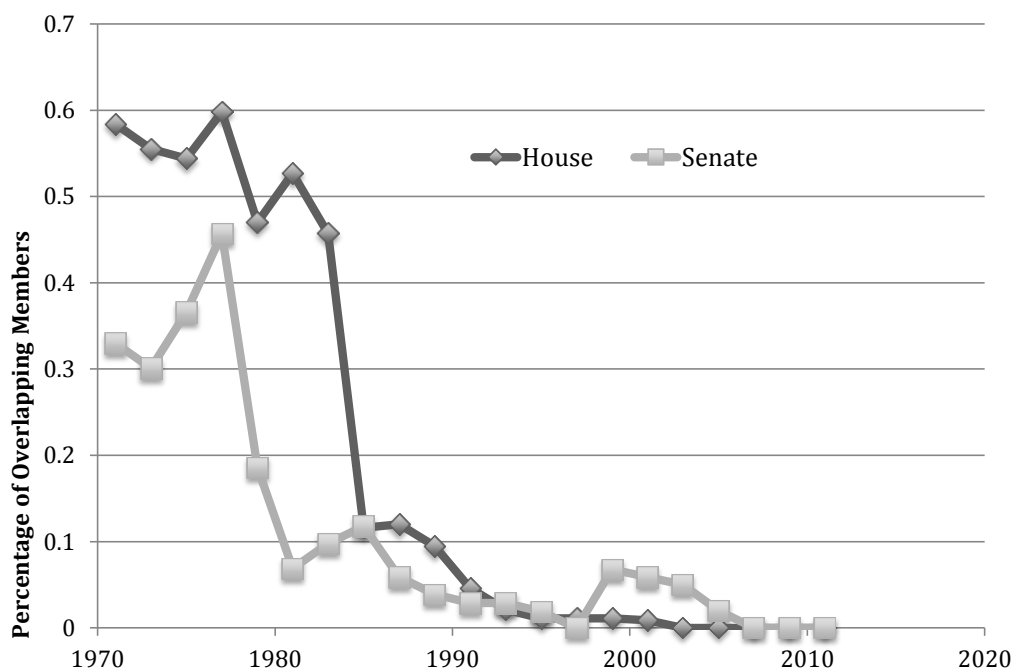
Figure A-10: Percentage of Moderates in the Senate, 1970-2011

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 Members³²⁰ in Congress, 1970-2011

Conclusion

Thus, 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 significantly 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 significantly wider than it was in the heyday of environmental and energy legislation of the 1970s. All of which suggests that given a policy problem and public concern surrounding that problem, the political environment *in Congress* is less conducive to the enactment of legislation addressing that problem now than at any time since 1970.

³²⁰ Data drawn from Poole and Rosenthal's voteview.com site.