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How Did RGGI Do It? Political Economy and Emissions Auctions

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How Did RGGI Do It? Political Economy and Emissions Auctions

Bruce R. Huber*

Among the major emissions trading schemes in operation around the world, the Regional Greenhouse Gas Initiative (RGGI) stands alone: this CO₂ cap-and-trade program among nine northeastern states is the only such scheme to rely primarily on auctions to distribute emissions allowances. The standard practice—distributing allowances for free on the basis of historical emissions—elicits begrudging but politically crucial support from some regulated emitters. Like carbon taxation, allowance auctioning has long been considered economically superior to its alternatives but politically infeasible.

How did the RGGI states manage to defy conventional wisdom and institute a program so reliant on auctions? Existing analyses of RGGI's origins credit entrepreneurial state-level bureaucrats with converting a promising theory into policy reality. These analyses, however, are incomplete and cannot explain why RGGI-state legislatures overwhelmingly supported auctioning in spite of concentrated industry opposition.

This Article suggests that the politics of auctioning in RGGI cannot be understood apart from recent fundamental changes in the structure of electricity regulation. In the Northeast, restructuring has entailed the creation of competitive regional wholesale electricity markets and the breakup of electric utilities. Together, these changes have remade the political economy of energy policy. The newly transformed utility sector now includes industry players who do not oppose auctioning. State legislators, fearing RGGI-induced wholesale rate increases, have embraced auctions as a source of revenue to offset adverse rate effects. The story of RGGI thus demonstrates that received political wisdom can be upset by policy developments in adjacent fields and

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reminds us of the political contingencies that undergird even the most carefully crafted regulatory interventions.

Introduction.....	60
I. Why Auctions Matter	66
A. Emissions Trading and Grandfathering	67
B. The Problems with Grandfathering.....	71
1. Distorted Competition.....	71
2. Windfall Profits.....	73
3. Retardation of Environmental Progress	75
4. Political Manipulation.....	75
C. The Benefits of Auctions	77
D. The Persistence of Grandfathering.....	80
II. How Did RGGI Do It?	83
A. The Decision to Auction	83
B. Explaining the Decision to Auction.....	88
C. The Impact of Electric Restructuring.....	92
1. Wholesale Restructuring.....	93
2. Retail Restructuring	99
Conclusion	101
Appendix.....	104

INTRODUCTION

Emissions trading regulation, despite facing hard times at present,¹ remains one of the most potent tools in the environmental policymaker's toolkit. Not only has such regulation achieved many of its environmental goals;² it also has long had the benefit of a broader political appeal than its older, crankier sibling, the "command-and-control" regulation of first generation environmental law. By employing market-based mechanisms, emissions trading can in some cases reduce the cost of regulation while allowing regulated entities greater freedom in carrying out their business³—

1. At the time of this writing, the most popularized form of emissions trading regulation, cap-and-trade, is in ill repute in the prevailing economic and political climate in Congress. This is despite the fact that California recently launched a substantial greenhouse gas reduction effort using a cap-and-trade approach. Even as many national politicians distance themselves from cap-and-trade and some speak of a "post cap-and-trade" environment, it is far too early to prepare the wake. See Ann Carlson, *Cap-and-Trade is Alive and Well*, LEGAL PLANET (Nov. 16, 2011), <http://legalplanet.wordpress.com/2011/11/16/cap-and-trade-is-alive-and-well/> (arguing that cap-and-trade systems remain "as popular a policy option as ever" despite inaction by the U.S. federal government); BNA, Webinar: "Climate Change Communications: The Post Cap-and-Trade Debate" (Dec. 8, 2011) (on file with author).

2. Emissions trading programs are widely credited, for instance, with reducing the harms associated with leaded gasoline, ozone-depleting gases, and acid rain. For a book-length assessment, see T.H. TIETENBERG, *EMISSIONS TRADING: PRINCIPLES AND PRACTICE* (2d ed. 2006).

3. See, e.g., Robert Stavins, *Market-Based Environmental Policies: What Can We Learn from U.S. Experience (and Related Research)?*, in *MOVING TO MARKETS IN ENVIRONMENTAL REGULATION*:

and, for these reasons, it has found support even in those political quarters typically critical of environmental regulation.⁴

There is also a slightly more complicated reason that emissions trading policies have been found politically attractive: they can significantly lessen political opposition from regulatory targets. Under most such policies, existing entities receive their initial emissions allowances⁵ for free; those that can abate their emissions most cheaply can sell allowances to their competitors or new market entrants. In so doing they may garner a valuable competitive advantage and, in some cases, may find themselves better off as a consequence of regulation.⁶ Thus policymakers can use the promise of free allowances to build support and, one step further, can manipulate the distribution of allowances to placate particular opponents of regulation.⁷

This political benefit arises when initial allowances are given away for free, but disappears when emitters must pay for them. Consequently, scholars and policymakers alike have commonly regarded free initial distributions as a virtual prerequisite to the enactment of emissions trading regulation.⁸ It has been widely assumed that requiring emitters to pay for initial allowances—by way of an auction, for example—is nigh impossible as a political matter, only slightly less fanciful than, say, a carbon tax.⁹

LESSONS FROM TWENTY YEARS OF EXPERIENCE 19, 19 (Jody Freeman & Charles D. Kolstad eds., 2007) (noting that command-and-control regulation allows “relatively little flexibility” and tends to “force firms to take on similar shares of the pollution control burden, regardless of the cost”).

4. Cap-and-trade, for example, was brought to the national stage not by a Democrat but by President George H. W. Bush, whose administration spearheaded the development of the Acid Rain Program of the Clean Air Act Amendments of 1990. Until quite recently, many Republicans continued to champion cap-and-trade as a market-based improvement to earlier forms of environmental regulation. See, e.g., Richard Conniff, *Blue Sky Thinking*, SMITHSONIAN, Aug. 2009, <http://www.smithsonianmag.com/science-nature/Presence-of-Mind-Blue-Sky-Thinking.html>; Jon Hilsenrath, *Cap-and-Trade's Unlikely Critics: Its Creators*, WALL ST. J., Aug. 13, 2009, at A7.

5. Emissions “credits,” “permits” and “allowances,” though conceptually similar, are terms of art with distinct definitions. “Permit” is the most general term and refers to an emissions authorization of any sort. In trading programs, a “credit” usually represents a unit of emissions reduction beyond the emissions limit established by regulation (start with the limit and count down), whereas an “allowance” is simply a unit of authorized emissions (start from zero and count up).

6. See, e.g., Gert Tinggaard Svendsen, *U.S. Interest Groups Prefer Emission Trading: A New Perspective*, 101 PUB. CHOICE 109 (1999) (explaining business and utility support for emissions trading).

7. See *infra* Part I.B.

8. See, e.g., Leigh Raymond, *The Emerging Revolution in Emissions Trading Policy*, in GREENHOUSE GOVERNANCE: ADDRESSING CLIMATE CHANGE IN AMERICA 101, 105 (Barry G. Rabe ed., 2010) (describing “the idea that the government might sell allowances to the highest bidder” as “unthinkable” in conventional models of cap-and-trade).

9. Many environmental economists and other analysts believe carbon taxation to be the policy tool that could most effectively combat climate change, but it is generally treated as a political impossibility. See, e.g., SHI-LING HSU, THE CASE FOR A CARBON TAX: GETTING PAST OUR HANG-UPS TO EFFECTIVE CLIMATE POLICY (2011); Barry G. Rabe, *The “Impossible Dream” of Carbon Taxes: Is the “Best Answer” a Political Non-Starter?*, in GREENHOUSE GOVERNANCE: ADDRESSING CLIMATE CHANGE IN AMERICA, *supra* note 8, at 126 [hereinafter Rabe, *The “Impossible Dream” of Carbon Taxes*]; Barry G. Rabe, *The Aversion to Direct Cost Imposition: Selecting Climate Policy Tools in the United States*, 23 GOVERNANCE 583 (2010) [hereinafter Rabe, *The Aversion to Direct Cost Imposition*].

This bit of context makes all the more remarkable the accomplishments of the Regional Greenhouse Gas Initiative—RGGI, or “Reggie,” as it has come to be called. This carbon dioxide cap-and-trade program among nine (formerly ten) northeastern states¹⁰ is the first of its kind in the United States and has recorded some important achievements in its first years in operation, even as national cap-and-trade legislation remains but a remote prospect. Among these achievements, none is more noteworthy than RGGI’s successful implementation of auctions as a means of distributing emissions allowances. Drawing on a growing body of research, the architects of the Initiative recognized that giving away allowances, while easing political opposition to the onset of new regulation, also creates significant problems. Giveaways erect barriers to entry in affected markets and sometimes result in windfall profits for regulated firms.¹¹ So RGGI was designed differently: power generators subject to the program¹² have had to pay substantial sums to state governments to purchase at auction allowances sufficient to cover their CO₂ emissions—sums totaling over \$1 billion over the program’s first four years alone,¹³ an amount which could rise significantly if the emissions cap is lowered in the years to come, as planned.¹⁴

So how did RGGI do it? How did the RGGI states muster the political will—if that is what it was—to charge for something that used to be given away for free? From one standpoint, RGGI’s heavy reliance on auctions represents a triumph of policy entrepreneurship. On this view, sophisticated and

Rabe acknowledges the conventional political wisdom, but notes that other policies—including auctions of emissions allowances—can in effect impose a “stealth” carbon tax. Rabe, *Aversion to Direct Cost Imposition*, *supra*, at 596–99.

10. RGGI’s member states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. See RGGI, <http://rggi.org/> (last visited Mar. 7, 2013). New Jersey, one of the original members, withdrew from RGGI on the order of Governor Chris Christie in early 2011, effective at the end of that year. Mireya Navarro, *Christie Pulls New Jersey From 10-State Climate Initiative*, N.Y. TIMES, May 27, 2011, at A20.

11. See *infra* Part I.B.

12. RGGI’s emissions cap covers only “fossil fuel-fired electricity generating units having a rated capacity equal to or greater than 25 megawatts.” RGGI MEMORANDUM OF UNDERSTANDING 2 (2005), available at http://rggi.org/docs/mou_final_12_20_05.pdf [hereinafter RGGI MOU].

13. As of November 2012, cumulative auction proceeds under RGGI totaled over \$1 billion; for current totals, see *Cumulative Allowances & Proceeds (by State)*, RGGI, www.rggi.org/market/co2_auctions/results#state-proceeds (last visited Mar. 7, 2013).

14. The original RGGI agreement among the member states, embodied in the RGGI MOU, established that the emissions cap would be held level from 2009 to 2014 and then decrease by 2.5 percent each year until 2018 to accomplish a total reduction of 10 percent in ten years. RGGI MOU, *supra* note 12. The MOU called for a Program Review in 2012, which had not been completed at the time of this Article’s publication. Because many analysts regard the cap as too high given current economic conditions, there is likely to be pressure during the Review to decrease the cap ahead of the original schedule. Seven states’ recent decision to retire previously unsold allowances may foreshadow such a reduction. See Gerald B. Silverman, *RGGI States Retiring Unsold Allowances, Signaling Possible Tightening of Carbon Cap*, STATE ENV’T DAILY, Jan. 30, 2012, Bloomberg BNA; Nathaniel Gronewold, *Consultants Say RGGI Beats Emission Targets by Doing Nothing, Suggest Tighter Cap*, CLIMATEWIRE (Nov. 15, 2010), <http://www.eenews.net/climatewire/2010/11/15/archive/4>.

well-connected state agency officials ushered a promising theory—an idea first developed on a theoretical and experimental basis by research economists—into policy reality by leveraging their access to state politicians and their region’s history of regulatory cooperation.¹⁵

Undoubtedly, careful policy analysis and political entrepreneurship helped make auctioning a reality, but this Article contends that such factors are an insufficient explanation. Even the best policy ideas do not simply rise to the top on the basis of their merits, especially when they carry substantial political liability. And make no mistake: auctioning has powerful political enemies. Large emitters, such as the northeastern power generating companies targeted by RGGI, have long resisted on legal, economic and ethical grounds the notion that they should be made to pay for emissions allowances.¹⁶ Historically, politicians have tended to oppose auctions as well.¹⁷ They have contended that emissions caps alone are sufficient to reduce aggregate emissions, irrespective of the mode of allocation; charging for permits, the argument goes, would only add to the inevitable energy rate increases sure to result from the regulatory program. Yet most RGGI-state legislatures endorsed auctioning by astonishingly wide margins.¹⁸ Any plausible account of RGGI’s development, then, must explain how the program’s champions overcame concentrated political opposition—for such is what the Initiative has faced, squarely, from its origins among New York officials to its formal inauguration and on to the present day—to win the support of a vast majority of RGGI-state legislators.

No complete explanation of RGGI’s unusual and unlikely use of auctions yet exists. This Article will explain that RGGI’s successful implementation of a system of auctioning depended crucially on the restructuring of energy markets that has taken place across much of the United States over the past several decades.¹⁹ Restructuring was critical in two respects. First, because restructuring led to the creation of regionalized wholesale energy markets, individual states in the RGGI regions faced the likelihood of rising electricity rates regardless of their own participation in the Initiative; auctions promised revenue that could offset these rate effects. Second, because restructuring required the breakup of most of the region’s large, vertically integrated utilities, it altered the political economy of energy regulation by creating political diversity across various industry sectors where previously there had been homogeneity. As we will see, some players in the new restructured

15. See discussion *infra* Part II.B.

16. See, e.g., Darren Samuelsohn, *Power Companies Bring Fragile Coalition to Cap-and-Trade Debate*, ENV’T & ENERGY DAILY (Mar. 19, 2009), <http://www.eenews.net/public/EEDaily/2009/03/19/1>.

17. For an extended reflection on the role of equity norms in shaping political and social opinion about allocative mechanisms, see LEIGH RAYMOND, *PRIVATE RIGHTS IN PUBLIC RESOURCES: EQUITY AND PROPERTY ALLOCATION IN MARKET-BASED ENVIRONMENTAL POLICY* (2003).

18. See *infra* Part II.B and Appendix.

19. See *infra* Part II.C.

environment realized that they stood to benefit directly from auctions.

An explanation of the political economy behind auctioning in RGGI is valuable for several reasons. As the first regional greenhouse gas reduction program in the United States, RGGI is an important model for other programs at the state, regional, national and even international level. Indeed, aware of the scrutiny the Initiative would surely receive, RGGI's planners explicitly designed it as a possible forerunner to a national cap-and-trade program.²⁰ And although there is little likelihood of a national program in the short term, RGGI remains a critical point of reference for other state and regional programs, including the nascent cap-and-trade systems in California and Quebec, and perhaps others yet unknown.²¹ Policymakers associated with other programs have carefully watched and learned from RGGI, taking its structure as a point of departure and seeking to leverage its achievements in their own jurisdictions.²²

But the lessons of RGGI may extend well beyond the immediate emissions trading context. As noted, prior to RGGI, auctions were regarded as politically improbable. Accurate identification of the factors that permitted their implementation may help regulatory theorists better model the political economy of regulation and help shed light on the interaction between political economy and institutional and policy design. Furthermore, the linkages between electric restructuring and emissions trading policy suggest that adjacent policy arenas may shape each other's political environment in unanticipated ways. Identifying and specifying the dynamics of these linkages may open the door to more finely tuned regulatory interventions as well as to more complete process-tracing of policy development. By pointing towards the

20. In a 2007 interview, EPA Administrator Lisa Jackson (then Commissioner of the New Jersey Department of Environmental Protection and RGGI's vice chair) described the goal of the RGGI states as "to show the federal government that this is a viable way to address greenhouse gases in one sector." John Wihbey, *Learning from the Difficult Lessons of Real-World Regional Cap-and-Trade*, YALE FORUM ON CLIMATE CHANGE & THE MEDIA, May 5, 2009, available at <http://www.yaleclimatemediaforum.org/2009/05/learning-from-the-difficult-lessonsof-real-world-regional-cap-and-trade/>. See also Joseph Kruger & William A. Pizer, *Regional Greenhouse Gas Initiative: Prelude to a National Program?*, RESOURCES, Winter 2005, at 4.

21. During RGGI's development, the emergence of other regional programs appeared likely (including the Western Climate Initiative and the Midwestern Greenhouse Gas Reduction Accord), but progress on those fronts has since stalled. The Western Climate Initiative, for example, lives on in name, but California is the only U.S. jurisdiction still committed to emissions trading. See *History*, W. CLIMATE INITIATIVE, <http://www.westernclimateinitiative.org/history> (last visited Mar. 7, 2013).

22. See, e.g., Nathaniel Gronewold, *Traders and Experts Say Regional Cap-and-Trade Systems Will Proliferate*, CLIMATEWIRE (June 16, 2011), <http://www.eenews.net/climatewire/2011/06/16/5> (noting that "the RGGI system appears to be the model most states and provinces are referencing in designing further regional cap-and-trade systems"); Paul Hibbard, *Cap and Trade Has Lessons for California*, SACRAMENTO BEE, May 6, 2012, <http://www.sacbee.com/2012/04/29/4449306/cap-and-trade-has-lessons-for.html> (relating economic data gained from RGGI to California's implementation of a carbon market); Hannah Fairfield, *When Carbon is Currency*, N.Y. TIMES (May 6, 2007), http://www.nytimes.com/2007/05/06/business/yourmoney/06emit2.html?_r=0 (RGGI officials are "helping California figure out how best to accomplish its climate plan").

factors that enabled auctioning to prevail in RGGI, this Article helps answer several important questions. Were the factors that led to auctioning among the northeastern states unique to their political, economic, or industrial context? What lessons about policy design can be gleaned from the formation and operation of RGGI, and do these lessons bear on broader debates about the political economy of regulation?

To be sure, RGGI has faced—and continues to face—its share of difficulties, and its ongoing practical and theoretical significance will to some extent turn on whether and how well it can tolerate sustained political and economic turbulence. As a voluntary, cooperative venture, RGGI's very existence has always been dependent upon the resolve of its member states, whose commitment to the Initiative has not been the model of stability. Some states hemmed and hawed before signing on to RGGI in the first place, and more recently New Jersey has dropped out while other states have come to the brink of doing so.²³ Allowance prices have dropped to the reserve price at the last few quarterly auctions,²⁴ and the number of auction buyers and bidders has dropped; in some auctions not all allowances have been sold.²⁵ Auction revenues, which were originally dedicated almost entirely to energy efficiency and other public interest investments, have in some states been diverted to ease soaring budget deficits.²⁶ Many commentators agree that the emissions cap is

23. For example, Massachusetts, which had been one of the original states to express interest in RGGI, withdrew at the decision of Governor Mitt Romney in December 2005. Romney's successor, Deval Patrick, rejoined the Initiative shortly after taking office. New Jersey Governor Chris Christie declared that his state would leave RGGI at the end of 2011. See Navarro, *supra* note 10, at A20. The New Hampshire legislature voted to bow out of the Initiative in the spring of 2011, but Governor John Lynch's veto barely withstood the legislature's override attempt. *Lynch Vetoes RGGI Repeal*, CONCORD MONITOR, July 7, 2011, <http://www.concordmonitor.com/article/266848/lynch-vetoes-rggi-repeal>. Maine's Tea Party-backed governor has suggested rollbacks in environmental regulation, but rather than withdraw from RGGI, Maine enacted legislation by which the state would automatically exit the program upon the withdrawal of a majority of the other member states. Coral Davenport, *Climate Change Fight Moves to States*, NAT'L J., Feb. 24, 2011, <http://www.nationaljournal.com/magazine/climate-change-fight-moves-to-states-20110224>. Finally, proposed legislation in Delaware to terminate its participation in RGGI died in committee. Kara Nuzback, *House Committee Votes to Stay Green: Bill to End RGGI in Delaware Tabled*, CAPE GAZETTE, May 20, 2011, at 20.

24. The initial reserve price of \$1.86 was in effect from 2008–2010 and was first met at Auction 9 on September 8, 2010; the clearing price has remained at the point of the reserve price since then, although the reserve price has risen. Annual adjustments to the reserve price are keyed to the Consumer Price Index. See RGGI, CO₂ ALLOWANCE AUCTIONS: FREQUENTLY ASKED QUESTIONS 8 (2011). Auction results can be found at *Auction Results*, RGGI, http://www.rggi.org/market/co2_auctions/results (last accessed Nov. 7, 2012) [hereinafter *Auction Results*].

25. At nearly all of the auctions since Auction 9 in September, 2010, some fraction of allowances have remained unsold, and the number of bidders has dropped from a high of 84 at Auction 2 on December 7, 2008 to a low of 29 at Auction 17 on Sept. 5, 2012. See *Auction Results*, *supra* note 24.

26. See Joey Peters, *The RGGI Raid: How Cap-and-Trade Revenues Went to Fix State Budgets*, STATELINE (June 26, 2010), <http://www.stateline.org/live/details/story?contentId=494460> (noting that New York, New Jersey and New Hampshire have repurposed RGGI funds to meet state budget shortfalls); Christa Marshall, *Money to Fight Climate Change Gets Siphoned into Other Budgets*, CLIMATEWIRE (Mar. 19, 2010), <http://eenews.net/climatewire/2010/03/19/6>.

too high,²⁷ but of course a tighter cap would trade one set of problems for another. And more broadly, as already noted, cap-and-trade everywhere seems imperiled, from California to Europe.²⁸ Even so, RGGI has survived, and its use of auctions to distribute allowances is inconsistent with the prevailing understanding of the politics of tradable emissions.

In short, the aim of this Article is to conduct an exploration of the political, regulatory and legal processes through which RGGI took shape. It seeks to explain why RGGI succeeded in implementing auctions where other programs could not, and to identify as best as possible the factors that drive the politics surrounding the allocation of emissions allowances. To that end, Part I provides background on auctioning, grandfathering and allowance allocation generally in order to establish RGGI's significance for both public policy and regulatory theory. Part II traces the formation of RGGI, compiles and assesses the existing explanations for the emergence of auctions in RGGI, and explains how electric restructuring shaped RGGI's political environment. The Conclusion suggests implications of the Article's analysis and offers concluding thoughts.

I. WHY AUCTIONS MATTER

Why is it so noteworthy that RGGI auctions allowances? Answering this question requires some background about emissions trading more generally. Nearly all of the world's emissions trading programs initially distribute their tradable units for free—most typically by “grandfathering,” that is, by allocating allowances for *future* emissions to existing emitters on the basis of their *past* emissions.²⁹ That this method of distribution entails serious problems is widely accepted; so too is the understanding that distribution via auction can diminish some or all these problems.³⁰ But grandfathering persists nonetheless for reasons political and practical. This Part will explain the history of grandfathering, its problems and its persistence, and explain why emissions trading experts believe that well-designed auctions can cure these defects. With the benefit of this context, the peculiarity of RGGI will come into sharper focus.

27. See Gronewold, *supra* note 14. CO₂ emissions in the RGGI region in 2011 were perhaps 34 percent below the cap established by the program. See Gerald B. Silverman, *Emissions Declined Significantly in 2011 for States in RGGI Program, Report Says*, BNA DAILY ENV'T REP., Jan. 17, 2012, at A-1.

28. See Martin Feldstein, *Cap-and-Trade: All Cost, No Benefit*, WASH. POST, June 1, 2009, at A15; John M. Broder, “Cap and Trade” Loses Its Standing as Energy Policy of Choice, N.Y. TIMES, Mar. 26, 2010, at A13. *But see* Carlson, *Cap-and-Trade is Alive and Well*, *supra* note 1.

29. See Stavins, *supra* note 3, at 26 (noting that “in nearly every case of implemented cap-and-trade programs, permits have been allocated without charge to participants”).

30. *Id.* at 33 (permits are commonly distributed “without charge, rather than through auctions, despite the apparent economic superiority of the latter mechanism in terms of economic efficiency”).

A. Emissions Trading and Grandfathering

The history of emissions trading is well known and well told elsewhere.³¹ In short, tradable permit programs were first proposed as a corrective for the inefficiencies inherent in the command-and-control approach to emissions regulation.³² Emissions trading offered both economic and political benefits: it held out the promise of scaling back the heavy hand of direct government regulation while also securing greater emissions reductions at a lower cost than other approaches. Importantly, the idea of harnessing market forces to solve environmental problems drew support from across the political spectrum.³³ And indeed, several tradable permit programs with bipartisan backing appear to have reduced emissions in a cost-effective manner, just as economists predicted.³⁴

Our immediate concern is narrower: how did emissions trading come to depend on grandfathering to distribute allowances, rather than some other approach? The starting point for this story is the simple fact that for the lion's share of the industrial age, individuals and firms have emitted pollutants into air and water with but very few legal restrictions. Although there were reminders of potential limitations on the "right" to pollute,³⁵ years upon years of unbroken practice created the assumption that free access to atmospheric or hydrological "sinks" could be taken for granted. The idea that one would have

31. See, e.g., TIETENBERG, *supra* note 2; GERT TINGGAARD SVENDSEN, PUBLIC CHOICE AND ENVIRONMENTAL REGULATION: TRADABLE PERMIT SYSTEMS IN THE UNITED STATES AND CO₂ TAXATION IN EUROPE (1998).

32. The idea of trading units of emissions among firms is commonly traced to J.H. DALES, POLLUTION, PROPERTY & PRICES: AN ESSAY IN POLICY-MAKING AND ECONOMICS (1968). Other seminal works along this line include William J. Baumol & Wallace E. Oates, *The Use of Standards and Pricing for Protection of the Environment*, 73 SWEDISH J. ECON. 42 (1971); W. David Montgomery, *Markets in Licenses and Efficient Pollution Control Progress*, 5 J. ECON. THEORY 395 (1972); T.H. Tietenberg, *The Design of Property Rights for Air Pollution Control*, 27 PUB. POL'Y 275 (1974); Bruce Ackerman & Richard Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333 (1985). The fundamental premise underlying this literature is that firms' pollution control costs vary greatly. Emissions trading encourages the lowest cost reductions, providing greater overall emissions reductions at lower cost than would a uniform standard.

33. See *supra* text accompanying note 4. This situation has changed recently, of course. See *supra* text accompanying note 1. Numerous writers have chronicled the shifting political winds behind cap-and-trade policies in particular, a solution which many politicians were for before they were against. David Wiegel, *Pretty Much Every Republican Front-Runner Used to Support Cap and Trade*, SLATE (May 11, 2011), http://www.slate.com/blogs/weigel/2011/05/11/pretty_much_every_republican_front_runner_used_to_support_cap_and_trade.html.

34. See, e.g., A. DENNY ELLERMAN ET AL., MARKETS FOR CLEAN AIR: THE U.S. ACID RAIN PROGRAM (2000); Dallas Burtraw et al., *Economics of Pollution Trading for SO₂ and NO_x*, 20 ANN. REV. ENVTL. RESOURCES 253 (2005); Nathaniel O. Keohane, *Cost Savings from Allowance Trading in the 1990 Clean Air Act: Estimates from a Choice-Based Model*, in MOVING TO MARKETS IN ENVIRONMENTAL REGULATION: LESSONS FROM TWENTY YEARS OF EXPERIENCE, *supra* note 3, at 194. But see Shelby Gerking & Stephen F. Hamilton, *What Explains the Increased Utilization of Powder River Basin Coal in Electric Power Generation?*, 90 AMER. J. AGR. ECON. 933 (2008).

35. Before modern environmental regulation, the law of nuisance, for example, was applied to limit emissions in some instances. ROGER W. FINDLEY ET AL., CASES AND MATERIALS ON ENVIRONMENTAL LAW 273 (6th ed. 2003).

to pay to emit would have been foreign—as absurd, perhaps, as a fee imposed on the act of exhaling.

When the wave of environmental activism of the 1960s and 1970s crested in comprehensive emissions regulation, the assumption of free access finally began to erode. But early regulatory forms focused largely on setting fixed emissions limits for particular categories of sources, and thus explicitly tolerated some amount of free, as-of-right emissions—just as speed limits express the law's tolerance of driving at appropriate speeds.³⁶

Regulatory programs like the Clean Air Act's ambient air quality standards program,³⁷ however, signaled a sea change. Ambient standards dealt with emissions in the aggregate, rather than per-source, and thus allowed for an approach that tolerated different levels of pollution control from different point sources. Environmental Protection Agency (EPA) officials quickly realized that the burden on regulated entities could be reduced by allowing firms to trade emissions "credits"—certified emissions reductions in excess of legal pollution control requirements.³⁸ Total emissions among sources in highly polluting areas became a more or less zero-sum affair: emissions increases somewhere would require decreases elsewhere. A new emitter might be allowed to enter a nonattainment area, for example, by purchasing offsetting credits from another source in the same area.³⁹

In such a case, the new emitter clearly did not have free access to the atmosphere, but instead had to purchase an emissions credit from another emitter. The buyer was essentially securing a commitment from another entity to reduce its emissions below the level demanded by law.⁴⁰ As a way to prevent increases in aggregate emissions, this made good sense. But only existing emitters, of course, could "create" emissions credits as a matter of law. In substance, then, even this early form of emissions trading employed grandfathering by privileging the emissions of those entities that were already in operation at the time credit-trading began. These entities did not themselves have to buy any legal authorization to pollute and yet could, if they wished, sell

36. The 1970 Clean Air Act, for example, established emissions limits for various mobile and nonmobile sources. See MARK S. SQUILLACE & DAVID R. WOOLEY, *AIR POLLUTION* 55–70 (3d ed. 1999).

37. Clean Air Act §§ 108–109, 42 U.S.C. §§ 7408–7410 (2006). The National Ambient Air Quality Standards program is the cornerstone of the Clean Air Act and remains one of the most important national environmental regulatory programs.

38. The EPA's approach, known as the Emissions Trading Program, included four elements—emission offsets, netting, bubbles and banking—explained at Emissions Trading Policy Statement: General Principles for Creation, Banking and Use of Emission Reduction Credits, 51 Fed. Reg. 43,814 (Dec. 4, 1986). See also TIETENBERG, *supra* note 2, at 7; Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109 (1989).

39. Clean Air Act § 173(a)(1), 42 U.S.C. § 7503(a)(1) (new permits in nonattainment areas conditioned on applicant's ability to obtain "sufficient offsetting emissions reductions").

40. See Emissions Trading Policy Statement, 51 Fed. Reg. at 43,832 (defining as creditable only those emissions reductions "not required by current regulations").

to other entities the authorization to emit some amount. In essence, they were handed a new asset—a limited right—that could immediately be sold for cash.

In time, policymakers sought not merely to prevent emissions increases, but to reduce overall emissions levels. The trading of emissions credits was not well suited to meet this objective because, as we have seen, credits were created voluntarily. The degree of emissions reduction, if any, would be dictated by the private decisions of emitting firms. Emissions reduction could be better accomplished by way of a tradable *allowance* scheme in which firms would need to possess allowances for *every* unit of specified pollution emitted during a particular period of time. Where government had previously acted only as a certification authority, protecting the terms of exchange between the parties in an emissions credit transaction, government would now call allowances into being and control their aggregate supply. The calibration of this supply (or “cap,” as we now know it), according to the desired level of pollution reduction, became the regulator’s basic policy lever.⁴¹

This cap-and-trade structure has been employed in the United States in the program to reduce ozone-depleting substances pursuant to the Montreal Protocol,⁴² the Acid Rain Program initiated by the 1990 Clean Air Act Amendments,⁴³ the NO_x Budget Trading Program targeting ozone levels in northeastern states,⁴⁴ RGGI and others. In each of these programs, save RGGI, regulated entities were granted their initial allotment of emissions allowances for free.⁴⁵ The number of allowances received was generally keyed to a historical baseline,⁴⁶ so new firms with no history of emissions would have to purchase grandfathered allowances from firms that pre-dated the regulatory

41. In a classic article, Bruce Ackerman and Richard Stewart endorsed a shift towards capped emissions on the grounds that it would make “accessible to the general public” the “quintessentially political question” of the desirable level of overall pollution reduction. Ackerman & Stewart, *supra* note 32, at 1353.

42. Authorizing legislation is found in Title VI of the Clean Air Act, 42 U.S.C. § 7671.

43. Pub. L. No. 101-549. The Acid Rain Program was codified as Title IV-A of the Clean Air Act, 42 U.S.C. § 7651.

44. See Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356 (Oct. 27, 1998) (codified at 40 C.F.R. pts. 51, 72, 75, and 96).

45. A very small fraction of allowances—just 2.8 percent—in the Acid Rain Program was withheld and auctioned as well; payments for these allowances were rebated to buyers on a pro rata basis. Clean Air Act § 416, 42 U.S.C. § 7651o; see *infra* text accompanying notes 81–84; ELLERMAN ET AL., *supra* note 34, at 167–96. And in the NO_x Budget Trading Program, the state of Virginia conducted a one-time auction of NO_x allowances for fiscal years 2004 and 2005. See David Porter et al., *The Design, Testing, and Implementation of Virginia’s NO_x Allowance Auction*, 69 J. ECON. BEHAV. & ORG. 190 (2009).

46. Precisely what should serve as the baseline is, of course, a crucial and controversial element of policy design. Regulators typically employ, if available, a measure of emissions from a reference period some time before such an allocation was contemplated—striving to avoid a situation in which emitters are incentivized to elevate emissions prior to the onset of regulation in order to maximize their allotment. For a general discussion of the use of (and problems attendant to) historic baselines, see J.B. Ruhl & James Salzman, *Gaming the Past: The Theory and Practice of Historic Baselines in the Administrative State*, 64 VAND. L. REV. 1 (2011).

program. In form, existing emitters now needed to obtain allowances just as new firms did; but in practice, they received those allowances for free. To be sure, the change from emissions reduction credits to allowances was an important one. Credits, representing reductions below a regulatory standard, implied that achieving the standard was the baseline expectation of the regulatory framework. Allowances, by contrast, implied that legal authorization was necessary for any and all emissions, and this change opened the door for regulators to demand a fee for such authorization. But as long as allowances were given away *gratis* to existing parties, tradable allowance programs remained economically equivalent to tradable credit programs.

Policymakers did not lose much sleep over grandfathering. Economic models and Coasean logic suggested that the mode of allowance distribution was more or less irrelevant to the success of trading programs in terms of emissions reduction.⁴⁷ The attainment of environmental goals was thought to depend only on the setting of the emissions cap—on reducing aggregate emissions—and thus charging for allowances was unnecessary. A smoothly functioning market, according to theory, would allow parties to exploit the available gains from trade such that emissions allowances would end up in the hands of emitters whose pollution abatement costs were highest, regardless of to whom they were initially allocated.⁴⁸ In addition, grandfathering satisfied policymakers' common inclination to provide relief to existing parties in times of regulatory transition.⁴⁹ Industry would be rankled enough by being subjected to an emissions cap; why add insult to injury by making firms pay for their allowances?

Moreover, if the initial allocation of allowances did not affect the environmental outcome of the program, this had a critical political implication. The allocation of allowances among emitters could be manipulated to make the program more politically desirable without damaging its environmental effectiveness. In congressional debates over the Acid Rain Program, for example, representatives from the states of the Ohio Valley (home of numerous

47. See, e.g., W. David Montgomery, *Markets in Licenses and Efficient Pollution Control Programs*, 5 J. ECON. THEORY 395 (1972); Robert N. Stavins, *Transaction Costs and Tradeable Permits*, 29 J. ENVTL. ECON. & MGMT. 133 (1995); T. H. TIETENBERG, *EMISSIONS TRADING: PRINCIPLES AND PRACTICE* 127 (2d ed. 2005). For a more recent examination of the conditions under which allowance allocation may affect program performance, see Robert W. Hahn & Robert N. Stavins, *The Effect of Allowance Allocations on Cap-and-Trade System Performance*, 54 J.L. & ECON. S267 (2011).

48. Hahn & Stavins, *supra* note 47, at 4 ("The permit price itself will not be affected by the initial distribution of permits, because the initial allocation does not affect firms' marginal abatement cost functions. Therefore, the final allocation of permits, in which no firm can be made better off by buying or selling a permit at the market price, is unaffected.")

49. See Bruce R. Huber, *Transition Policy in Environmental Law*, 35 HARV. ENVTL. L. REV. 91 (2011); see also Cass Sunstein, *Paradoxes of the Regulatory State*, 57 U. CHI. L. REV. 407, 419 (1990) (noting that existing players can obtain transition policies because the "victims" of a regulatory "old-new division" are "usually hard to identify, do not perceive themselves as victims, and are not politically organized").

coal-fired power plants, the largest source category for the sulfurous emissions responsible for acid rain) initially opposed the program but were at least partially placated by an over-sized allotment of emissions allowances.⁵⁰ Without such distributional flexibility, perhaps Congress would not have passed early tradable permit programs into law—a significant fact, considering how many new regulatory programs have foundered on political shoals.

Today, the political benefits of grandfathering remain as attractive as ever to legislators, and recent emissions trading programs and proposals rely heavily on grandfathering.⁵¹ What has changed, however, is that a rough consensus has formed among emissions trading analysts that grandfathering entails certain problems, problems that could be lessened by shifting away from grandfathering and towards the use of auctions.

B. *The Problems with Grandfathering*

Roughly speaking, the criticisms of grandfathering can be sorted into four categories.⁵² The first category is concerned with the impacts of grandfathering on competitive dynamics within targeted industries. The second focuses instead on the possibility of windfall profits as a consequence of grandfathering, while the third highlights the environmental consequences of grandfathering. Finally, grandfathering's distributional flexibility is often criticized for inviting political manipulation. Although these categories overlap substantially, this section will separate them for the sake of clarity.

1. *Distorted Competition*

Like other forms of transition relief,⁵³ grandfathering benefits existing firms but places new entrants into a field or industry at a corresponding

50. See, e.g., Paul Clancy, *Fairness Question Stalls Clean Air Bill*, USA TODAY, Feb. 9 1990, at 6A (noting the initial opposition of, among others, Ohio Senator John Glenn); Karl Hausker, *The Politics and Economics of Auction Design in the Market for Sulfur Dioxide Pollution*, 11 J. POL. ANALYSIS & MGMT. 553, 566–57 (1992) (describing the political vectors shaping allowance allocation); RAYMOND, *supra* note 17, at 68–108 (providing an in-depth case study of the congressional debates over allocation in the Acid Rain Program); Hahn & Stavins, *supra* note 47, at 4.

51. The 2009 Waxman-Markey climate change bill (formally, the American Clean Energy and Security Act of 2009, H.R. 2454), which cleared the House only to fail in the Senate, provides a recent example. Professor Rabe's account of the bill—the only national greenhouse gas cap-and-trade program to pass either chamber of Congress—makes clear that it would certainly have failed to pass the House had it not grandfathered the overwhelming majority of CO₂ allowances. See Rabe, *The Aversion to Direct Cost Imposition*, *supra* note 9, at 599–605.

52. For other general discussions of the problems related to grandfathering in the context of tradable permit programs, see Kim Neats Martinez & Karsten Neuhoff, *Allocation of Carbon Emission Certificates in the Power Sector: How Generators Profit from Grandfathered Rights*, 5 CLIMATE POL. 61 (2005); Edan Rotenberg, *Ending Both Forms of Grandfathering in Environmental Law*, 37 ENVTL. L. REP. 10,717 (2007).

53. The term refers to public policies that provide some form of relief to parties subject to a change in their legal obligations. See Huber, *supra* note 49, at 94.

disadvantage.⁵⁴ In conventional environmental regulation, grandfathering creates a “new source bias”⁵⁵ by subjecting old assets and facilities to more lenient standards than new ones (or perhaps to no standards at all).⁵⁶ In emissions trading programs, grandfathering operates differently but the effect is the same: grandfathering can reduce or distort competition by bestowing a competitive advantage upon existing firms (who are given free allowances) relative to new entrants in the allowance market (who must purchase allowances).⁵⁷ Not only must new entrants pay for something that their competitors receive for free; they also are dependent upon these same competitors’ willingness to sell. Existing firms can thus wield their market power by restricting sales, driving up prices, or otherwise impeding the development of a smoothly functioning market. In other words, grandfathering adds a barrier to entry to regulated sectors. In the electric generating industry, where historically such barriers have been enormous even without grandfathering, this is no small matter.⁵⁸

These sorts of concerns surfaced in debates prior to the passage of the Acid Rain Program,⁵⁹ which was the first large-scale emissions-trading program in the United States. Independent power producers—a rapidly growing but vulnerable category of small, non-utility electric generators⁶⁰—for example, worried about their ability to secure necessary outside financing without ready access to an allowance stream.⁶¹ Regulators shared their concern that established firms could hoard allowances or engage in other

54. *Id.* at 95, 97–98.

55. *See, e.g.*, MARK TIETENBERG, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS 548–51 (3d ed. 1992).

56. *See* Rotenberg, *supra* note 52, at 10,717. Some have termed this regulatory pattern “vintage differentiated regulation.” *See* Robert Stavins, *Vintage-Differentiated Environmental Regulation*, 25 STAN. ENVTL. L.J. 29 (2006). In the case of emissions permits, of course, physical assets are treated similarly regardless of vintage.

57. In principle, there is no reason why some number of allowances cannot be set aside and granted for free to new entrants; indeed, this approach was attempted by the European Union in its Emission Trading Scheme with somewhat unclear results. *See* A. DENNY ELLERMAN ET AL., PRICING CARBON: THE EUROPEAN UNION EMISSIONS TRADING SCHEME 114 (2010).

58. Indeed, the utilities industry represents the quintessential regulated industry; prior to recent restructuring laws, market entry was simply disallowed without the approval of the relevant regulatory body, which was not likely to be forthcoming in any area already served by an existing utility.

59. Title IV-A of the Clean Air Act, 42 U.S.C. § 7651 (2006).

60. Independent power producers became an increasingly important category in the wake of the Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (1978), which incentivized utilities to purchase electricity from these entities, often at above-market prices. *See* John T. Miller Jr., *Conscripting State Regulatory Authorities in a Federal Electric Rate Regulatory Regime: A Goal of PURPA Partially Realized*, 4 ENERGY L.J. 77 (1983).

61. *See* Hausker, *supra* note 50, at 561 n.21 (“IPPs [independent power producers] will have to lock in a long-term supply of allowances in order to obtain financing for their projects In the near future, lenders will demand that IPPs have allowances for at least the term of financing (typically, 15–20 years).”).

anticompetitive practices.⁶² By simply requiring nondisclosure of the terms of an allowance transaction, sellers could easily ensure that most other buyers lacked market data that might enhance their bargaining position. (As a comparison, imagine how much better car buyers would fare in negotiations with dealers if buyers had accurate data about the dealer's recent sales.) Thus some power generators subject to the Program expressed the general worry that allowance markets would not be truly "free," and complained about widespread uncertainty over allowance prices.⁶³ As a result, policymakers sought ways to make allowance markets more liquid and transparent.⁶⁴

2. *Windfall Profits*

More recently, policymakers have raised a different concern about grandfathering: in some instances, grandfathering has been thought to lead to windfall profits for allowance recipients. The European Union's Emission Trading Scheme (ETS) is typically cited as the leading example of this phenomenon.⁶⁵ Launched in 2005, the ETS's first phase relied heavily on grandfathering.⁶⁶ Having received emissions allowances for free, many electricity generators nonetheless raised their bid prices for wholesale electricity on the expectation of eventual increases in regulatory compliance costs. These cost increases turned out to be much smaller than anticipated, but generators pocketed the surplus, leading to claims that billions of dollars were

62. See, e.g., *Independents Seek More Assurance They Can Get Emission "Allowances,"* INDEP. POWER REP., Jan. 12, 1990, at 13; Lori M. Rodgers, *Wanted: Federal and State Cooperation*, PUB. UTILS. FORTNIGHTLY, Dec. 20, 1990, at 34; Paul L. Joskow & Richard Schmalensee, *The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program*, 41 J.L. & ECON. 37, 42 (1998). Some utilities evidently threatened not to sell their allowances at any price. ELLERMAN ET AL., *supra* note 34, at 9.

63. See, e.g., *Clean Air Act Reauthorization (Part 3): Hearing of the Energy and Power Subcomm. of the H. Comm. on Energy and Commerce*, 101th Cong. (1989) (including testimony to this effect from several regulators and industry participants). Price uncertainty did appear to dampen trading during the Program's early years; see U.S. GENERAL ACCOUNTING OFFICE, GAO/RCED-95-30, ALLOWANCE TRADING OFFERS AN OPPORTUNITY TO REDUCE EMISSIONS AT LESS COST 29 (1994) ("Utilities are uncertain about the price at which to buy or sell allowances because of limited and conflicting price information.").

64. See ELLERMAN ET AL., *supra* note 34, at 167-96.

65. The ETS was formed pursuant to Council Directive 2003/87, 2003 O.J. (L 275) 32 (EC).

66. *Id.* The ETS Directive provides that member states shall allocate 95 percent of the allowances free of charge for the three-year period from 2005-2007, then 90 percent for the five-year period from 2008-2012. *Id.* at 36. In recognition of the problems associated with grandfathering, the EU Council passed a major amendment to the initial directive on April 6, 2009. Council Directive 2009/29, 2009 O.J. (L 140) 63 (EC) (entered into force June 25, 2009). Pursuant to the amendment, "[a]uctioning is to be increasingly phased in as the predominant form of allocation rising from 20 percent in 2013 to 70 percent in 2020. Full auctioning is aimed for in 2027." STEFAN WEISHAAR, TOWARDS AUCTIONING: THE TRANSFORMATION OF THE EUROPEAN GREENHOUSE GAS EMISSIONS TRADING SYSTEM 5-7 (2009) (citing Article 10a(11) of Directive 2009/29, which also provides free allocations in various circumstances and other forms of transition relief).

transferred from electricity ratepayers to generating firms.⁶⁷

Although U.S. wholesale electricity markets operate somewhat differently than those in Europe, the fear of windfall profits has also arisen in connection with the regulation of electric generators on this side of the Atlantic. In many domestic markets, wholesale prices at any given time are set by the most expensive generating unit that the grid operator must dispatch to meet demand at that time. The bid price associated with this unit will be the price at which the market clears, and according to market rules, all generators dispatched to satisfy demand will receive this price. As emissions regulation compels energy firms to dispatch cleaner but more expensive units (such as those burning natural gas rather than coal), all other dispatched units benefit from the higher clearing price.⁶⁸

Of course, regulated firms dispute the notion of windfall profits and regard grandfathered permits as appropriate—if less than complete—compensation for an adverse regulatory transition. The weight of recent economic research on the question is distinctly to the contrary, however. A handful of studies suggest that even if full compensation for such transitions is desirable—itsself a matter of some dispute—it often requires far less than full grandfathering. In other words, existing firms can be shielded from the effects of a transition without receiving *all* of their allowances for free. In fact, some have argued that full compensation could be achieved by granting firms as few as 6–10 percent of their necessary allowances.⁶⁹ Allocating all allowances for free thus substantially overcompensates the regulated firms, resulting in a windfall. To the extent that lawmakers wish to reduce the economic shock of a major

67. See, e.g., Fairfield, *supra* note 22 (referencing a British study claiming that “power companies in Britain alone made about \$1 billion from free credits in 2005”); Justin Cunningham, *Carbon Jackpot*, PROF. ENGINEERING, Mar. 7, 2007, at 27. For more robust, less sensational analyses, see Robin Smale et al., *The Impact of CO₂ Emission Trading on Firm Profits and Market Prices*, 6 CLIMATE POL’Y 31 (2006); Jos Sijm et al., *CO₂ Cost Pass-Through and Windfall Profits in the Power Sector*, 6 CLIMATE POL’Y 49 (2006). *But see* A. DENNY ELLERMAN & PAUL L. JOSKOW, PEW CTR. ON GLOBAL CLIMATE CHANGE, *THE EUROPEAN UNION’S EMISSIONS TRADING SYSTEM IN PERSPECTIVE* 24–31 (2008) (identifying several difficulties with the windfall profits idea).

68. See PEW CTR. ON GLOBAL CLIMATE CHANGE, CONGRESSIONAL POLICY BRIEF: GREENHOUSE GAS EMISSIONS ALLOWANCE ALLOCATION (2008). In some instances, however, electric generators may not be able to pass-through the costs of compliance to their customers, in which case a windfall may not materialize. The difference will generally depend on the marginal cost of the electric generating unit that is setting the price in the electricity market. *Id.* at 5. For a helpful description of the setting of wholesale electricity rates, including how regulation can produce windfalls even for *non*-regulated firms, see Marc B. Mihaly, *Recovery of a Lost Decade (or Is It Three?): Developing the Capacity in Government Necessary to Reduce Carbon Emissions and Administer Energy Markets*, 88 OR. L. REV. 405, 436–38 (2009).

69. See, e.g., A. Lans Bovenberg & Lawrence H. Goulder, *Neutralizing the Adverse Industry Impacts of CO₂ Abatement Policies: What Does it Cost?*, in BEHAVIORAL AND DISTRIBUTIONAL EFFECTS OF ENVIRONMENTAL POLICY (Carlo Carraro & Gilbert E. Metcalf eds., 2001); Tom Tietenberg, *Tradable Permits in Principle and Practice*, in MOVING TO MARKETS IN ENVIRONMENTAL REGULATION: LESSONS FROM TWENTY YEARS OF EXPERIENCE, *supra* note 3, at 63, 81; Dallas Burtraw & Karen Palmer, *Compensation Rules for Climate Policy in the Electricity Sector*, 27 J. POL. ANALYSIS & MGMT. 819 (2008).

regulatory change, that objective is not inconsistent with requiring payment for the majority of allowances.

3. *Retardation of Environmental Progress*

Grandfathering can also retard environmental progress in regulated industries. In conventional regulation, grandfathering slows capital turnover by incentivizing managers to keep older, pollution-intensive facilities in operation longer than they otherwise might.⁷⁰ Grandfathering in emissions trading works differently, of course, because the regulation is blind to the vintage of the asset. Nevertheless, environmental progress can still be negatively impacted; although grandfathered emissions allowances are not directly linked to older assets, they may be indirectly linked by way of those assets' owners. In other words, emissions reductions may be delayed because new firms—those which tend to bring to market superior emissions control technology—face the barriers to entry described above.⁷¹ New entrants are less likely to enter a market in which they are at an immediate disadvantage relative to the existing industry players.

4. *Political Manipulation*

Finally, the free distribution of allowances is susceptible to manipulation and rent-seeking. On one hand, as we have seen, it is precisely the manipulability of free allowance distributions that makes grandfathering so politically useful.⁷² We may have this attribute to thank for the very existence of some emissions trading programs, but the blessing can easily become a curse. In grandfathering, government is openly and publicly handing out a valuable asset. When policymakers debate the number of allowances to which each recipient is entitled, we should not be surprised to see firms lobby for the allowance distribution that optimizes their position—or, perhaps more

70. See Shi-Ling Hsu, *The Real Problem With New Source Review*, 36 ENVTL. L. REP. 10,095 (2006) (decrying grandfathering as an inefficient drag on capital turnover); Randy Becker & Vernon Henderson, *Effects of Air Quality Regulations on Polluting Industries*, 108 J. POL. ECON. 379, 415 (2000); Garth Heutel, *Plant Vintages, Grandfathering, and Environmental Policy*, 61 J. ENVTL. ECON. & MGMT. 36 (2011). Becker and Henderson's analysis in particular suggests that, depending on the magnitude of the drag on turnover, grandfathering could actually produce worse overall outcomes from an environmental standpoint than would have resulted with no regulation at all. There is some debate, however, about the circumstances under which grandfathering produces such inefficiencies. See, e.g., Steven Shavell, *On Optimal Legal Change, Past Behavior, and Grandfathering*, 37 J. LEGAL STUD. 37 (2008); Jonathan S. Masur & Jonathan Remy Nash, *The Institutional Dynamics of Transition Relief*, 85 N.Y.U. L. REV. 101 (2010); Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 NW. U. L. REV. 1581 (2011).

71. Of course, it is not only environmental benefits that new entrants bring to an existing market. In the energy sector, new entrants also bring cost-effective generation resources that are crucial for the success of market restructuring that has been underway since the 1980s. See Hausker, *supra* note 50, at 558; Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339 (1993).

72. See *supra* text accompanying notes 50–51.

troublingly, to see them distort their behaviors to maximize their allotment.⁷³ In some instances, firms might be incentivized to emit more than they otherwise would in the period prior to the onset of a cap, knowing that their historical emissions level will drive their subsequent allowance allocation. Regulators are usually savvy enough to select as an emissions baseline a period of time prior to any public proposal about impending regulation, but emitters still have incentives to over-report prior emissions or otherwise engage in artifice to receive more allowances.⁷⁴ Political gamesmanship was widely blamed for missteps in allowance allocation in the early stages of the ETS and was certainly at work in the development of the Acid Rain Program, although the effects were less dire.⁷⁵

These problems come about in part because firms have much more information than regulators about both their actual emissions practices and the costs of altering those practices to reduce emissions.⁷⁶ This asymmetry prevents regulators from assessing the validity of emitters' demands, which can lead to an over-allocation of allowances. A surplus of allowances, in turn, dampens the price signal sent by emissions trading and diminishes the overall effectiveness of the program.⁷⁷

Depending on the structure of the program, there may be multiple levels of allocation and thus multiple opportunities for lobbying. In the ETS, for example, allowances had to be allocated first among the European Union's member states, then among the targeted sectors within those states, and finally,

73. See, e.g., Ruhl & Salzman, *Gaming the Past*, *supra* note 46; MARK SAGOFF, *THE ECONOMY OF EARTH: PHILOSOPHY, LAW, AND THE ENVIRONMENT* 90 (2d ed., 2008) ("So far, experience with attempts to 'cap' carbon and trade 'allowances' have been fraught with corruption as each player has insisted on having a supersized initial endowment. It would be one thing if carbon 'allowances' were sold to the highest bidders and the money invested in clean technologies. It is another thing that the 'allowances' are constructed from political whole cloth and allocated accordingly.").

74. See Jonathan Remy Nash, *Allocation and Uncertainty: Strategic Responses to Environmental Grandfathering*, 36 *ECOLOGY L.Q.* 809 (2009).

75. With respect to the ETS, see Susan J. Kurkowski, *Distributing the Right to Pollute in the European Union: Efficiency, Equity, and the Environment*, 14 *N.Y.U. ENVTL. L.J.* 698 (2006). For accounts of the politics at work in the Acid Rain Program, see Hausker, *supra* note 50; ELLERMAN ET AL., *supra* note 34, at 31–76; and Paul L. Joskow & Richard Schmalensee, *The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program*, 41 *J. LAW & ECON.* 37 (1998).

76. See WORLD RES. INST., *RESPONSES TO QUESTIONS ON THE DESIGN ELEMENTS OF A MANDATORY MARKET-BASED GREENHOUSE GAS REGULATORY SYSTEM* 12 (2006), available at http://pdf.wri.org/ghg_regulation_testimony_060313.pdf.

77. Over-allocation can occur even in those instances where the total number of allowances is capped by law. In fact—and cynics will appreciate this—some tradable permit laws create explicit “ratchet-back” procedures which specify a procedure for reducing all allocations proportionately if the aggregate give-away exceeds the legislated cap. See Hausker, *supra* note 50, at 567; Joskow & Schmalensee, *supra* note 75, at 51 n.39 (noting that the ratchet-back provision in the Acid Rain Program had to reduce allowances by nearly 10 percent in 1992). Perhaps politicians should be given credit, at least, for understanding their own behavior. For a general discussion of the problem and possible solutions, see Lesley K. McAllister, *The Overallocation Problem in Cap-And-Trade: Moving Toward Stringency*, 34 *COLUM. J. ENVTL. L.* 395 (2009).

in most cases, among specific installations within those sectors.⁷⁸ Similarly, in RGGI, program officials first had to decide upon an appropriate allocation among the participating states, and those states were then to determine how to allocate their allotment of allowances among regulated entities within their borders.⁷⁹

Rent-seeking is costly not only because of the distortions it may impose on public policy, but also because rent-seeking activities themselves divert no small amount of money, time and talent away from more socially valuable activities.⁸⁰ All else being equal, it stands to reason that lawmakers should avoid policies that invite rent-seeking in favor of policies that are less susceptible to manipulation.

C. *The Benefits of Auctions*

These problems are substantial and, as we have seen, are not merely hypothetical: they demonstrably plague existing emissions trading programs. They are, however, not irremediable. Policy analysts and scholars from a variety of disciplines have urged that the problems described above can be alleviated by simply selling allowances at auction rather than giving them away. To be sure, auction design is itself a complex matter involving a number of variables.⁸¹ Policymakers must determine, for example, who may participate, how frequently auctions will occur, the reserve price (if any), the auction format, and so forth.⁸² An auction poorly suited to its context may create as many problems as it solves. But auctions carefully designed for the trading of emissions, many agree, improve upon grandfathering in important ways.

First, auctions can help level the playing field between new and existing players by ensuring that allowance markets are liquid and at least somewhat transparent. When concerns about market access arose in connection with the Acid Rain Program, auctions were proposed as a possible corrective, and legislation implementing the program eventually called for a small, revenue-

78. See A. Denny Ellerman, Barbara K. Buchner & Carlo Carraro, *The EU ETS Allocation Process: An Overview*, in ALLOCATION IN THE EUROPEAN EMISSIONS TRADING SCHEME: RIGHTS, RENTS, AND FAIRNESS 3, 8 (A. Denny Ellerman, Barbara K. Buchner, & Carlo Carraro eds., 2007). In fact, rather than set a firm overall cap, the ETS relied on member states to establish caps for their jurisdictions. Naturally, domestic regulators faced rent-seeking by powerful industries seeking a competitive advantage over cross-border firms, whether by reduced control costs or allowance surpluses that could be sold for additional revenue. See Kurkowski, *supra* note 75, at 701–03.

79. See Raymond, *supra* note 8, at 108.

80. See Peter Cramton & Suzi Kerr, *Tradeable Carbon Permit Auctions: How and Why to Auction Not Grandfather*, 30 ENERGY POL'Y 333, 343 (2002) (noting that under grandfathering, “firms may end up putting as much effort into rent capture as into finding efficient ways to reduce carbon usage”).

81. See, e.g., Giuseppe Lopomo et al., *Carbon Allowance Auction Design: An Assessment of Options for the United States*, 5 REV. ENVTL. ECON. & POL'Y 25 (2011). This piece also provides a helpful list of the general benefits of allowance auctions. See *id.* at 30–31.

82. See *id.*

neutral auction: Congress required the EPA, beginning in 1993, to withhold approximately 2.8 percent of the allowances that would otherwise be allocated to each generating unit subject to the Program.⁸³ These allowances were then sold during an annual auction and the proceeds rebated on a pro rata basis to the generators from whom they had been withheld.⁸⁴ The rationale was that a small auction would not only grant new market entrants access to allowances, but would also provide all market participants with price information that would facilitate other transactions.⁸⁵ Legislators regarded the auction as “a form of insurance against the possibility of a poorly functioning market.”⁸⁶ Market liquidity and transparency reduces the opportunities for existing firms to exercise market power in inappropriate ways, and places new entrants on a more secure footing relative to established industry actors.

In addition, competitive bidding in connection with a smoothly functioning auction provides assurance that allowance prices will at least approximate fair market value. As will be obvious, this simple fact can prevent profit windfalls for emitters and may also reduce their rent-seeking opportunities. Under auctioning, government (rather than emitters) captures the value associated with the creation of the legal authorization to emit, and emitters bargain against each other rather than with public officials for generous allotments. As such, auctions better accord with the “polluter pays” principle of environmental regulation than does grandfathering.⁸⁷

Finally, another set of possible benefits stems from the revenue that auctions generate. Governments are always in need of cash, of course, but there is perhaps philosophical justification as well for recovery by the general public of revenue attributable to the sale of a public asset.⁸⁸ On this view, the giveaway of access to the atmosphere is no more defensible than a giveaway of any other public asset. The resulting funds can be put to a variety of uses, but in the context of emissions trading, auction advocates generally propose that monies be used to support the broader objectives of the emissions program. For example, when the energy sector is regulated and rates expected to rise, revenues could be rebated to taxpayers, used to offset rate increases for low-income energy customers, or applied to energy efficiency investments that

83. See *supra* note 45; see also Tom Tietenberg, *Cap-and-Trade: The Evolution of an Economic Idea*, 39 AGRIC. & RESOURCE ECON. REV. 359, 362 (2010) (auctions in the Acid Rain Program developed in response to concerns that “lack of price transparency inhibited effective emissions trading”).

84. Clean Air Act § 416(d)(3), 42 U.S.C. § 7651o(d)(3) (2006).

85. See ELLERMAN ET AL., *supra* note 34, at 169.

86. Hausker, *supra* note 50, at 559.

87. But see Edwin Woerdman et al., *Emissions Trading and the Polluter-Pays Principle: Do Polluters Pay Under Grandfathering?*, 4 REV. L. & ECON. 565 (2008) (arguing that grandfathering is compatible with certain formulations of the polluter pays principle).

88. For an excellent discussion of this philosophical justification, see RAYMOND, *supra* note 17.

reduce overall energy usage and demand.⁸⁹

In fact, in the context of greenhouse gas reduction programs, it has been suggested that investments made from auction revenues may be *more* important to the accomplishment of emissions reduction than the capping of emissions. This is because there is “no ‘scrubber’ for carbon, no simple way to abate it through an add-on pollution control device.”⁹⁰ While other emissions trading programs have succeeded by incentivizing the adoption of cost-effective end-of-pipe pollution control technologies, no such technologies exist for the reduction of carbon emissions by power producers.⁹¹ In the case of carbon dioxide, the most cost-effective reductions can likely be obtained indirectly through reductions in consumption brought about by increased energy efficiency at the level of the end user.⁹² But governments have historically neglected investments in energy efficiency, a trend not likely to change during an economic downturn. Dedicating receipts from allowance auctions to this purpose could represent a large step towards plucking the “low-hanging fruit” of energy efficiency opportunities.

Moreover, improvements in energy efficiency, and consequent reductions in energy demand, can play an important role in minimizing one of the primary risks attendant to cap-and-trade programs: leakage. Leakage refers to the possibility that polluting activities are simply exported outside of the capped system, offsetting any perceived emissions reduction.⁹³ If energy can be purchased from an uncapped neighboring market, for example, a cap on emissions from power generation could simply export generation (and its emissions) elsewhere. But if demand declines within the capped region, the corresponding drop in the price of energy generated there can substantially

89. See Lawrence H. Goulder et al., *Revenue-Raising Versus Other Approaches to Environmental Protection: The Critical Significance of Preexisting Tax Distortions*, 28 RAND J. ECON. 708 (1997). But note that some scholars discount the benefits of auction revenues, arguing that government cannot be assumed to invest revenue optimally. See Robert W. Hahn, *Greenhouse Gas Auctions and Taxes: Some Political Economy Considerations*, 3 REV. ENVTL. ECON. & POL’Y 167 (2009). More generally, while most scholars agree about the general effects of auctions and grandfathering, they disagree as to the expected magnitude of those effects and their policy significance. One’s assessment of auctions will necessarily be driven by the weight one gives to their benefits and detriments. See Edwin Woerdman & Steven Weishaar, *Pros and Cons of Auctioning Emission Rights: A Law and Economics Perspective* (Maastricht Faculty of Law Working Paper No. 2010-1, 2010), available at <http://ssrn.com/abstract=1596682>.

90. Mihaly, *supra* note 68, at 420.

91. Power producers as a category are responsible for roughly 72 percent of all domestic greenhouse gas emissions. Andrew Childers & Avery Fellow, *Power Plants Accounted for 72 Percent of Greenhouse Gases Reported in 2010*, 43 BNA ENV’T REP. 80 (2012).

92. See THE REGULATORY ASSISTANCE PROJECT, THE REGIONAL GREENHOUSE GAS INITIATIVE IN THE NORTHEASTERN UNITED STATES: AUCTIONING EMISSIONS ALLOWANCES 5 (2008).

93. See Michael P. Vandenbergh & Mark A. Cohen, *Climate Change Governance: Boundaries and Leakage*, 18 N.Y.U. ENVTL. L.J. 221 (2010); Erik B. Bluemel, *Regional Regulatory Initiatives Addressing GHG Leakage in the USA*, in CLIMATE CHANGE AND EUROPEAN EMISSIONS TRADING: LESSONS FOR THEORY AND PRACTICE (Michael Faure & Marjan Peeters eds., 2008).

reduce the threat of leakage.⁹⁴

D. *The Persistence of Grandfathering*

Given these considerations—and perhaps especially the allure of new revenue—one may wonder why cash-strapped governments have not more frequently relied on auctioning as a critical component of emissions trading. Laws and policies are the product of political institutions, of course, and political considerations are as important as substantive, technical ones. By all appearances, the allocation of allowances in existing emissions trading programs reflects the former just as much as, if not more than, the latter.⁹⁵ To understand the persistence of grandfathering, one must explore not only the insights of policy experts, but also the demands and preferences of the various stakeholders in the regulatory process, as well as the officials and institutions that convert those demands and preferences into public policy.⁹⁶

On the demand side, utilities and energy firms have historically been well represented in governmental processes.⁹⁷ In political science terms, they wield both direct and indirect power: they influence public policy not only through typical direct channels such as lobbying and political donations, but also indirectly as a consequence of their important position in the national economy. Their political power thus stems not only from their deep pockets, but also from their crucial structural role. Energy is a key industrial input, and energy providers can credibly threaten that price increases caused by regulatory mandates will reverberate throughout the U.S. economy and have a regressive effect on consumers.⁹⁸ For these and other reasons, politicians are often hesitant to change public policy in ways that disadvantage these firms, even in the absence of formal lobbying efforts.⁹⁹ And clearly, energy firms can be

94. Furthermore, this demand-side approach to leakage avoids the legal problems associated with other approaches. Rules restricting the importation of energy from outside the region, for example, raise dormant commerce clause concerns. See William Funk, *Constitutional Implications of Regional CO₂ Cap-and-Trade Programs: The Northeast Regional Greenhouse Gas Initiative as a Case in Point*, 27 UCLA J. ENVTL. L. & POL'Y 353, 366 (2009); Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 34 ECOLOGY L.Q. 835, 862–81 (2008).

95. See generally B. Timothy Heinmiller, *The Politics of "Cap and Trade" Policies*, 47 NAT. RESOURCES J. 445 (2007) (explaining how politics influences the structure and operation of cap and trade programs).

96. In fact, given the dominance of political variables, one wonders why more attention has not been paid to analyzing the various distortions imposed by politics on the allocation process. Even modest success at predicting these distortions might allow policymakers not only to better avoid unintended consequences, but also to structure the process in such a way as to minimize them. See, e.g., Svendsen, *supra* note 6.

97. See Jim Rossi, *The Political Economy of Energy and its Implications for Climate Change Legislation*, 84 TULANE L. REV. 379 (2009).

98. See Don Fullerton, *Six Distributional Effects of Environmental Policy* 4–5 (Nat'l Bureau of Econ. Research, Working Paper No. 16703, 2011).

99. For a general discussion of "structural power," see Jacob S. Hacker & Paul Pierson, *Business Power and Social Policy: Employers and the Formation of the American Welfare State*, 30 POL. & SOC'Y 277, 279–83 (2002). See also Charles Lindblom, *The Market as Prison*, 44 J. POL. 324 (1982).

expected in general to oppose auctioning, for it adds regulatory and competitive uncertainty to their business environment, increases their costs of doing business and on the margin reduces demand for the energy they provide.

One might expect that environmental groups would support auctioning, but until quite recently, environmentalists—as well as other public interest groups, such as consumer advocates—have been relatively silent on the matter of allowance allocation. These groups have tacitly supported grandfathering, probably because it was considered a political prerequisite to enactment of cap-and-trade programs,¹⁰⁰ and because, as mentioned earlier, most analysts regarded auction allocation as independent of program performance. Some environmentalists actively oppose cap-and-trade altogether, arguing that such policies fail on environmental justice grounds by allowing emissions to concentrate in areas populated by low-income or minority residents.¹⁰¹ For their part, consumer groups tend to emphasize electricity rate effects and may assume that auctioning is more likely to result in rate increases.¹⁰² Thus, in terms of political demand, most of the central actors in debates over environmental policy have generally either preferred grandfathering over auctioning or have tolerated this approach.

Thus for many years, auctioning has been a policy concept without a natural constituency. But this may be changing. As familiarity with cap-and-trade policies grows, a constituency for auctions can develop among those who stand to benefit from the revenues they generate—for example, those entities eligible for energy efficiency funding from the state.¹⁰³ Some major environmental groups now also actively push for auctions, citing both the benefits of a revenue stream dedicated to energy efficiency and the detriments of granting windfall profits to energy firms.¹⁰⁴ The impetus for change may have been a 2006 crash in the ETS allowance market. Allowance prices plummeted from roughly €30 per ton of carbon dioxide to under €1 in a year's time. The crash was widely blamed on overgenerous allocations by European Union member states to their domestic industries, and auction proponents seized upon the crash to highlight the potential downfalls of highly politicized grandfathered distributions.¹⁰⁵ To date, however, neither the ETS's difficulties

100. See ELLERMAN ET AL., *supra* note 34, at 24–25 (noting the awkward situation of environmental groups in negotiations leading up to the enactment of the Acid Rain Program).

101. See, e.g., Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles's Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y F. 231, 251–58 (1999). Environmental justice advocates in California recently brought a high-profile suit attempting to stop that state from instituting a cap-and-trade policy. The challenge failed. See *Ass'n of Irrigated Residents v. Cal. Air Res. Bd.*, 143 Cal. Rptr. 3d 65 (Ct. App. 2012).

102. See, e.g., Anne C. Mulkern, *Industry Witnesses' Dominance of Hill Hearings Irks Consumer Advocates*, GREENWIRE (Nov. 12, 2009), <http://www.eenews.net/public/Greenwire/2009/11/12/1>.

103. See *infra* Section II.C.2.

104. See, e.g., DAVID SASSOON, GREENPEACE, *BUSINESS AS USUAL: A REPORT TO THE PRESIDENT ON PENDING FEDERAL CLIMATE LEGISLATION* (2009).

105. *But see* ELLERMAN & JOSKOW, *supra* note 67 (arguing that some of the purported failings of the ETS were overblown).

nor the possibility of additional funding sources for efficiency investments have succeeded in creating a base of popular support of sufficient size or impact to alter the political status quo.

Any nascent political demand for auctioning has thus far been easily overpowered by clear, loud and unified voices of the energy industry.¹⁰⁶ Of course, political demand does not necessarily translate straightforwardly into policy supply; policymakers face their own incentives, shaped by the institutions they inhabit, and while these incentives sometimes produce a rough alignment between supply and demand, at other times they manifestly do not. Elected politicians are subject to pressures related to campaign finance, to participation in state and national party organizations, to membership in a chamber's caucus, and to deals and compromises forged with other legislators. Amidst these cross-cutting pressures, politicians' votes quite clearly do not bear a neat, one-to-one correspondence with constituent demand.

Moreover, environmental policy—even with respect to politically sensitive matters—is increasingly being made by unelected regulatory officials. Bureaucrats generally lack the legal wiggle room to fashion new regulatory approaches out of whole cloth,¹⁰⁷ but insulation from direct electoral pressure may create space for them to consider technical expertise that would be squelched by political influences at the legislative level.¹⁰⁸

To date, however, neither political bargaining nor bureaucratic experimentation has overcome the powerful political inertia by which grandfathering remains the default method of allowance allocation. Outside of RGGI, auctioning's brightest moment probably occurred when, in debates leading up to the House's passage of the Waxman-Markey Bill in 2009, President Barack Obama's proposal for a nationwide greenhouse gas cap-and-trade program relied on auctioning rather than grandfathering. But the idea died a remarkably quick death,¹⁰⁹ and policy entrepreneurship¹¹⁰ of this sort too has

106. See, e.g., Rabe, *The Aversion to Direct Cost Imposition*, *supra* note 9, at 602.

107. This generalization masks an interesting and oft-studied principal-agent problem that arises between legislatures and bureaucrats. See, e.g., DAVID EPSTEIN & SHARYN O'HALLORAN, *DELEGATING POWERS: A TRANSACTION COST POLITICS APPROACH TO POLICY MAKING UNDER SEPARATE POWERS* (1999); Gary J. Miller, *The Political Evolution of Principal-Agent Models*, 8 ANN. REV. POL. SCI. 203 (2005).

108. This is not to suggest that politics are absent from administrative processes, even those that appear to be beyond the reach of public involvement. Administrative law provides several mechanisms by which private interests can signal their positions to agencies. The administrative rule-making process invites regulated industries (1) to make public arguments about transition relief, perhaps highlighting potential job losses and disruption to relevant legislators; (2) to challenge regulations in court; and (3) to lobby legislators or chief executive officials directly to intervene even after the agency's work is complete.

109. See Rabe, *The Aversion to Direct Cost Imposition*, *supra* note 9, at 599–603.

110. In those instances in which the public stands to receive a generalized benefit from a particular policy—as may be the case with auctions—some political scientists have suggested that policy entrepreneurs may succeed in championing a particular policy. See JAMES Q. WILSON, *THE POLITICS OF REGULATION* 367–70 (1980). Wilson's oft-referenced typology proposed that political competition takes four different forms: *majoritarian* politics, when both the costs and benefits of a proposed policy are

fallen short of materially changing the policy debate. All this is to say that despite growing support for auctions within the policy community, domestic policymakers have nonetheless failed thus far to utilize them in more than small proportion—with the exception, of course, of RGGI.

II. HOW DID RGGI DO IT?

It would appear, on the basis of the foregoing discussion, that the political deck was stacked against auctioning in RGGI notwithstanding its increasing and justifiable support among emissions trading experts. Stacked deck nothing: the RGGI states produced an outcome stunningly at odds with conventional political wisdom. First, a working group of agency officials from the participating states, after years of work and negotiation, reached a tentative agreement according to which each state would allocate at least 25 percent of its allowances to public benefit purposes, presumably by way of auction.¹¹¹ This step alone represented a significant departure from previous emissions trading systems. The states were then tasked with adopting the legislation and/or regulation required to approve and implement the agreement. Not only did each state approve the working group's plan, but as the process unfolded, not a single state remained at the plan's 25 percent auctioning minimum; most states announced that nearly 100 percent of their allowances would be auctioned. Perhaps most surprisingly, state legislatures approved these plans with overwhelming majorities.¹¹² Bear in mind that each state could have chosen its own course, adopted the working group's 25 percent plan, or simply refused to join RGGI altogether—yet none chose these courses. How, indeed, did RGGI do it?

This Part will begin with a brief account of RGGI's formation. It will then review the explanations that have been offered thus far to explain the degree of auctioning in RGGI. Finally, this Part will expound the central argument of the Article: that one of the most important factors contributing to the reliance of auctions in RGGI was the restructuring of energy markets that occurred in the years leading up to its implementation.

A. *The Decision to Auction*

RGGI's origins in the early 2000s can be traced back to New York and its then-governor George Pataki. Pataki had long expressed frustration at the federal government's inability or unwillingness to address climate change, and in 2001 he established a Greenhouse Gas Task Force charged with exploring policy options for the state of New York. The task force's final report, released

widely distributed; *interest group* politics, when both are instead narrowly concentrated; *client* politics, when benefits are concentrated but costs distributed; and *entrepreneurial* politics, when costs are concentrated but benefits widely distributed. *Id.*

111. See *infra* text accompanying note 130.

112. See *infra* text accompanying note 168 and Appendix.

in April 2003, called for an in-state cap-and-trade program.¹¹³ Days later, Pataki formally invited other northeastern governors to join New York, proposing to them in a letter the idea of a regional cap-and-trade approach to carbon dioxide emissions.¹¹⁴

Pataki's invitation to create what would become RGGI required little by way of introduction or groundwork to insure a positive reception, for the northeastern states had been cooperating for years on various emissions reductions initiatives.¹¹⁵ Nine governors rapidly expressed their agreement in principle with Pataki's proposal, and each committed several senior officials from their states' environmental and energy regulatory agencies to a Working Group that would carry out a negotiation and planning process.¹¹⁶ These officials became the engine of the design process for RGGI, wielding substantial influence with their superiors in state government. The New York delegation took the lead initially,¹¹⁷ and the Working Group met regularly for years, both in private and at a set of stakeholder meetings intended to solicit input from interested parties and to build support for policy ideas. Beginning in September 2003, state agency chiefs met regularly as well to oversee the Group's activities, decisions and recommendations, and to update the Group's marching orders.

Early documents from the Working Group's meetings suggest that the issue of allowance allocation was immediately flagged as one demanding a great deal of careful attention. There was a thicket of vexing questions. Overhanging them all, of course, was the question of whether allowances would be sold, given away, or, most likely, some combination of the two—and if that, then in what proportion? But tied up with this were others: would allowances be allocated first among the states, leaving it to each state to determine how to allocate its own allowances, or would the region uniformly allocate directly to allowance recipients? If the former, what degree of uniformity would be required in the allocation procedures employed by each state? If allowances would be given away, would allocations be made on the basis of fuel inputs, energy outputs, actual emissions or some other metric? Would they be fuel-specific or fuel-neutral? If allowances were to be auctioned,

113. See Elizabeth Benjamin, *New York Task Force Calls for Sharp Reduction of Carbon Dioxide Emissions*, TIMES UNION, Apr. 24, 2003, LexisNexis.

114. See Michael Gormley, *Pataki Asks Regional Solution to Power Emissions; Critics Say New York Governor Is Avoiding His Duty to Cut Pollution at State Electric Generating Plants*, TIMES UNION, Apr. 26, 2003, LexisNexis.

115. See *infra* text accompanying notes 128–35. In fact, Pataki was not the only one who wanted to claim credit for the idea: when Pataki proposed the plan to the other governors, New Jersey governor James McGreevey urged that the states adopt *his* plan instead. See Erin Duggan, *Mixed Reviews for Regional Emissions Plan; States Voice Interest in Pataki Proposal, but Critics Say It's Inadequate*, TIMES UNION, July 25, 2003, LexisNexis.

116. See REGIONAL GREENHOUSE GAS INITIATIVE (RGGI), GOALS, PROPOSED TASKS, AND SHORT-TERM ACTION ITEMS (2004), available at <http://www.rggi.org/docs/actionplanfinal.pdf>.

117. New York representatives chaired the Working Group and served on its Steering Committee for the first six months of its operations. *Id.* at 2.

who could purchase them—only emitters, or other parties, such as brokers, speculators and environmental groups?¹¹⁸

In preliminary discussions, the state representatives remained noncommittal on these important points, and in October 2004 the Working Group organized a high-level workshop on the issue of allocation for the benefit of agency officials as well as stakeholders.¹¹⁹ A Working Group subcommittee had recruited a set of tradable permit experts to weigh in on issues of policy design. Several ideas from these presentations—ideas which will be familiar to the reader from Part I of this Article—became recurrent motifs in ensuing debates. First, several presenters expressed concern that allowance recipients can receive windfall profits as a consequence of the free distribution of allowances.¹²⁰ As explained earlier, this is because firms pass on to consumers the market value of their spent allowances regardless of how those allowances were obtained.¹²¹ For months to come, generators would be on the defensive against this charge, characterizing revenue increases as temporary or mere “paper gains,” likely to evaporate as allowance prices rose.¹²²

A related point was equally difficult for power generators to counter: group participants learned that generators did not need to receive *all* their allowances for free in order to be fully compensated for additional control costs resulting from the regulatory cap. The relative inelasticity of energy demand meant that price increases attributable to regulation would generate additional revenue for firms, more than compensating them for any purchase of allowances that would be required to satisfy the cap.¹²³

These ideas, it appears, began to convince leading policy experts that

118. These sorts of questions were discussed, for example, at the RGGI Stakeholder meeting of June 24, 2004. See RGGI, INC., RGGI STAKEHOLDER GROUP MEETING #3: MEETING SUMMARY 5–9 (June 24, 2004), available at http://rggi.org/docs/final_summary_6_24_04.pdf [hereinafter STAKEHOLDER MEETING #3 SUMMARY].

119. Documents related to this workshop are available at http://rggi.org/design/history/topical_workshops under “Allocations Workshop Presentations.”

120. See, e.g., Dale S. Bryk, Natural Res. Def. Council, Presentation to the RGGI Workshop on Allocations: Public Benefit Allowance Allocations (Oct. 14, 2004), available at http://rggi.org/docs/bryk_pres_10_14_04.pdf; Richard Cowart, The Regulatory Assistance Project, Presentation to the RGGI Workshop on Allocations: Allocating to Power Resources: Economic and Environmental Options (Oct. 14, 2004), available at http://rggi.org/docs/cowart_pres_10_14_04.pdf; Dallas Burtraw & Karen Palmer, Res. for the Future, Presentation to the RGGI Workshop on Allocations: The Initial Distribution of Tradable CO₂ Emission Allowances in RGGI: Compensation and Economic Efficiency (Oct. 14, 2004), available at http://rggi.org/docs/burtraw_pres_10_14_04.pdf.

121. See Dallas Burtraw & Karen Palmer, Res. for the Future, Presentation to the RGGI Stakeholder Group Meeting: Initial Allocation of CO₂ Allowances in the Regional Greenhouse Gas Initiative: Preliminary Observations (June 24, 2004), available at http://rggi.org/docs/burtraw_presentation_6_24_04.ppt.

122. See, e.g., Bruce H. Braine, Am. Elec. Power, Presentation to the RGGI Workshop on Allocations: Comments on Auction vs. Allocation of CO₂ Allowances (Oct. 14, 2004), available at http://rggi.org/docs/braine_pres_10_14_04.pdf.

123. Analysts reported that in a national analysis, a 21 percent grandfathered allocation would be sufficient to compensate generators. See STAKEHOLDER MEETING #3 SUMMARY, *supra* note 118, at 4.

auctioning was particularly crucial to achieving RGGI's specific objectives, for auctions would reduce the possibility of windfalls and of overcompensating firms. But there were other factors that pointed in the same direction also. The task of reducing CO₂ emissions in the RGGI states presented quite different challenges than those confronted by these same states in connection with other tradable emissions initiatives such as the Acid Rain Program and the NO_x Budget Trading Program. Because there are no established, practicable means by which electric generators can reduce CO₂ emissions rates per unit of energy generated,¹²⁴ for northeastern power generators to comply with RGGI's cap would require not pollution control technologies but a shift away from coal-generated power towards power from natural gas, nuclear and other sources. Utilities would first have to alter usage patterns among their existing plants and, ultimately, replace coal-burning plants with cleaner ones.

To some degree, the low-hanging fruit had already been picked. The northeastern states had been towards the leading edge of the coal-to-gas shift that had been underway since roughly the early 1990s.¹²⁵ Further emissions reductions from reducing coal-based energy would become increasingly expensive. As a consequence, leakage became a major concern among RGGI officials.¹²⁶ The states neighboring the RGGI region had ample coal-fired power generating capacity, and utilities there stood all too ready to supply additional electricity to the RGGI states.

Concerned by the easy availability of coal-generated power in neighboring states, the Working Group came to appreciate the importance of demand-side efficiencies, which could offset any increase in demand for imported energy. Again, auctions seemed to provide a solution. The crucial benefit to auctions, it was argued, was that they would provide additional revenue for the states that could be channeled directly towards investments in energy efficiency. These investments would help reduce energy demand in the RGGI states, thus reducing the chance of leakage while also sparing utilities the massive costs associated with replacing old coal-burning plants.¹²⁷ Environmentalists had long championed certain efficiency investments as among the most cost-effective ways to reduce carbon emissions,¹²⁸ but faced perennial challenges in extracting funds from the state and federal governments. Auction revenues

124. See *supra* text accompanying notes 90–91.

125. See Ken Costello, *Increased Dependence on Natural Gas for Electric Generation: Meeting the Challenge*, 17 *ELECTRICITY J.* 10 (2004).

126. See *supra* text accompanying note 93.

127. See Richard Cowart, *Carbon Caps and Efficiency Resources: How Climate Legislation Can Mobilize Efficiency and Lower the Cost of Greenhouse Gas Emission Reduction*, 33 *VT. L. REV.* 201 (2008).

128. A widely circulated report by the renowned management consulting firm, McKinsey & Co., has become gospel among efficiency advocates and makes this case forcefully. See HANNAH CHOI GRANADE ET AL., MCKINSEY & CO., *UNLOCKING ENERGY EFFICIENCY IN THE U.S. ECONOMY* (2009), available at http://www.mckinsey.com/Client_Service/Electric_Power_and_Natural_Gas/Latest_thinking/Unlocking_energy_efficiency_in_the_US_economy.

seemed a perfect way to fund efficiency expenditures without adding a new line to a state's budget. And because such expenditures would serve the same purpose as the emissions cap—namely, the reduction of greenhouse gas emissions—they could be defended to voters as a crucial prong of RGGI, defusing any charge that they constituted just another tax.

Thus the idea of auctioning a substantial fraction of RGGI allowances seemed to gain traction with the Working Group. The sophisticated computer models used by the Working Group to model power generation provided additional supporting evidence,¹²⁹ and by the summer of 2005 the RGGI states coalesced around a proposal that eventually would be included in the RGGI Model Rule: states joining RGGI would be obligated to allocate 25 percent of their allowances to “consumer” or “strategic energy” purposes.¹³⁰ In other words, these allowances would not be handed out to emitters but would instead be sold for the direct benefit of the public; the clear presumption was that such a sale would take place via auction. The 25 percent share was without precedent in prior cap-and-trade arrangements. The Model Rule was finalized over the subsequent year and issued as an official matter on August 15, 2006, setting in motion various approval processes within the participating states.¹³¹

Had the RGGI states merely auctioned 25 percent of their allowances per the Model Rule, this would itself have been a game-changer in the design of cap-and-trade programs—but more was yet to come. In December 2006, Governor Pataki made the dramatic announcement that for its part, the state of New York would auction off not only 25 percent, but nearly 100 percent of its allowances.¹³² “[A]n allowance giveaway would be grossly unfair,” commented the state’s Department of Environmental Conservation in a

129. RGGI pre-planners elected to use an existing model known as the Integrated Planning Model developed by ICF Consulting in Washington, D.C., a model previously used by the EPA for several large-scale highly politicized regulatory analyses. The analytical validity of this model and the respect it had garnered in the field apparently helped validate the conclusions it produced, which included a recommendation in favor of auctioning. See THE REGULATORY ASSISTANCE PROJECT, HOW MODELING INFORMED THE DESIGN OF THE US REGIONAL GREENHOUSE GAS INITIATIVE (2010), available at <http://www.raponline.org/Publications.asp>.

130. As of an August 2005 memo from the Working Group to the Agency Heads, the Group’s proposal was that 5 percent be allocated to a regional Strategic Carbon Fund, and that “all states agree to propose—for legislative and/or regulatory approval—that 20 percent of the allowances will be allocated for a public benefit purpose.” Memorandum from the RGGI Staff Working Group to the RGGI Agency Heads 2 (Aug. 24, 2005), available at http://rggi.org/docs/rggi_proposal_8_24_05.pdf (emphasis added). In time, the 20 percent proposal became a requirement.

131. Press Release, Reg’l Greenhouse Gas Initiative, States Reach Agreement on Proposed Rules for the Nation’s First Cap-and-Trade Program to Address Climate Change (Aug. 15, 2006), available at http://www.rggi.org/docs/model_rule_release_8_15_06.pdf.

132. New York’s only non-auctioned allowances would be a small number set aside for those generators who were locked into long term energy contracts at set rates and therefore could not pass along increased costs associated with purchasing allowances at auction. Eligibility was limited to generators with an emissions rate at or below that of natural gas, which in effect excluded coal-powered units. ENV’T NE., RGGI ALLOWANCE ALLOCATIONS & USE OF AUCTION PROCEEDS 2 (2009), available at, http://www.env-ne.org/public/resources/pdf/ENE_Auction_Tracker_3.20.09.pdf.

memorandum:

[U]nder the proposed RGGI rule, the modestly increased costs to electricity consumers under RGGI will be cycled back through energy efficiency investments that will reduce the demand for electricity, thereby taking pressure off electricity prices and the need for new generation in the state.¹³³

Other RGGI states rapidly followed suit. Shortly after his inauguration as governor of Massachusetts in January 2007, Deval Patrick reversed the course set by his predecessor, Mitt Romney,¹³⁴ and entered RGGI, committing his administration also to auctioning 100 percent of its carbon dioxide allowances.¹³⁵ By June 2007, New York and Massachusetts had been joined by New Jersey, Vermont, Connecticut and Maine, each state launching the necessary legal processes to implement the auctioning of nearly the full allotment of their respective allowances. By the time of RGGI's first auction in September 2008, not a single participating state remained at the 25 percent floor set by the Model Rule. Delaware would grandfather a larger share of its allowances than any other state, and even there, 60 percent would be auctioned during RGGI's first year, a rate that was to increase by 8 percent per year thereafter until all grandfathering was phased out.¹³⁶

On September 25, 2008, RGGI held the first-ever mandatory auction of carbon allowances in the United States. Over twelve million allowances were sold at a clearing price of \$3.07 per allowance, yielding over \$38 million for energy efficiency and consumer benefit projects.¹³⁷ Now, over four years later, the auctions continue. There have been hiccups over the intervening years,¹³⁸ surely made worse by the economic difficulties of those years, but these hiccups have not yet reversed the states' fundamental commitment to auctioning.

B. Explaining the Decision to Auction

Although much has been written about RGGI, scholarly attention thus far

133. See *New York 100% Auction Plan for CO₂ Rights Meets IPPNY Resistance, but State Defends It*, ELECTRIC UTILITY WEEK, Dec. 11, 2006, LexisNexis.

134. After initially voicing support for RGGI, Romney withdrew from the regional pact just prior to the finalization of the MOU. See Jay Fitzgerald, *Romney OK with Plan on Emissions*, BOS. HERALD, July 24, 2003, at 38; Amanda Little, *Mass. Lawmakers Pushing to Join Climate Pact, Despite Romney's Objections*, GRIST (Jan. 27, 2006, 4:36 AM), <http://grist.org/politics/romney1>.

135. Press Release, Governor Deval Patrick of Massachusetts, Governor Patrick Signs Regional Pact to Reduce Greenhouse Gas Emissions (Jan. 18, 2007), available at <http://www.mass.gov/governor/pressoffice/pressreleases/2007/pact-signed-to-reduce-greenhouse-gases.html>.

136. See Appendix.

137. Press Release, RGGI, Inc., RGGI States' First CO₂ Auction Off to a Strong Start (Sept. 29, 2008), available at http://www.rggi.org/docs/rggi_press_9_29_2008.pdf.

138. See *supra* text accompanying notes 15–20.

has focused largely on technical and legal aspects of policy design.¹³⁹ Relatively little work has explored the politics of RGGI or, more specifically, the puzzle of why and how the RGGI states chose to auction allowances despite the political difficulties encumbering this course. Nonetheless, a handful of scholars have addressed the question and offer some important insights.

Professor Barry Rabe, a leading scholar of the politics of climate policy, ascribes RGGI's success in large part to the effort and expertise of policy entrepreneurs: the Initiative was "a classic case of policy entrepreneurship guided by state department heads and senior associates;"¹⁴⁰ agency officials and bureaucrats "had substantial, even decisive, influence over policy"¹⁴¹ and "sold" the policy to "key principals such as governors and legislators."¹⁴² This conclusion accords with Rabe's prior work on state-level climate policy, in which he largely attributes state policy achievements to the work of technically and politically sophisticated upper-level bureaucrats.¹⁴³

The spirit of policy entrepreneurship, according to other accounts, was not limited to bureaucratic officials. Several state governors advanced the cause of RGGI by seizing political opportunities to strengthen state commitments to climate policy generally and the Initiative in particular. George Pataki, the governor of New York at the time of RGGI's formation, is often singled out as a key catalyst for RGGI; his leadership is sometimes linked to his presidential aspirations and his desire to strengthen his credentials as an innovative political centrist.¹⁴⁴ In the 2006 gubernatorial election in Massachusetts, Deval Patrick used climate policy as a wedge issue in his challenge to incumbent Mitt Romney, opposing Romney's decision to withdraw from RGGI in late 2005; after his victory, one of Patrick's first acts as governor was to rejoin RGGI and commit to the full auctioning of emissions allowances.¹⁴⁵ Patrick, writes Brian Cook, "was motivated to take a strong position on the allowance allocation

139. See, e.g., Dallas Burtraw, Danny Kahn, & Karen Palmer, *CO₂ Allowance Allocation in the Regional Greenhouse Gas Initiative and the Effect on Electricity Investors*, 19 *ELECTRICITY J.* 79 (2006); Paul J. Hibbard & Susan Tierney, *Carbon Control and the Economy: Economic Impacts of RGGI's First Three Years*, 24 *ELECTRICITY J.* 30 (2011); Yihsu Chen, *Does a Regional Greenhouse Gas Policy Make Sense? A Case Study of Carbon Leakage and Emissions Spillover*, 31 *ENERGY ECON.* 667 (2009); Anthony Paul et al., *The Role of Energy Efficiency Spending in Maryland's Implementation of the Regional Greenhouse Gas Initiative*, 38 *ENERGY POL'Y* 6820 (2010); Funk, *supra* note 94; Ferrey, *supra* note 94.

140. Rabe, *The Aversion to Direct Cost Imposition*, *supra* note 9, at 597.

141. *Id.* (quoting Kwang-Hoon Less & Jos C.N. Raadschelders, *Political-Administrative Relations: Impact of and Puzzles in Aberbach, Putnam, and Rockman, 1981*, 21 *GOVERNANCE* 419, 429 (2008)).

142. *Id.*

143. See BARRY G. RABE, *STATEHOUSE AND GREENHOUSE: THE EMERGING POLITICS OF AMERICAN CLIMATE CHANGE POLICY* (2004).

144. See *Northeast States Aim to Cut Carbon Emissions: Nine Northeast States to Cut Plant Emissions*, *REUTERS*, Aug. 25, 2005; Little, *supra* note 134, at 38 (noting Pataki's efforts to position himself for a presidential run).

145. See *supra* note 134.

issue by electoral competition,”¹⁴⁶ and, crucially, Patrick had the “independent legal authority and the political power gained through a strong electoral victory and veto-proof party control of the state legislature to overcome the resistance of the concentrated cost bearers.”¹⁴⁷

Aiding these entrepreneurs, according to Rabe and others, was a long history of cooperation among the northeastern states in their efforts to combat environmental problems affecting the region. These states had first mobilized around the issue of acid rain in the 1980s, goading Congress into negotiations that would eventuate in the enactment of the 1990 Clean Air Act Amendments. The Amendments not only initiated the Acid Rain Program, but also authorized the creation of the Ozone Transport Commission, a multi-state body tasked with proposing other air pollution control measures for the northeast region.¹⁴⁸ The Commission’s work led to the development of the regional NO_x Budget Program, over which the EPA assumed administrative control in 2003.¹⁴⁹ In addition, and apart from any federal involvement, the New England governors and several Eastern Canadian premiers collaborated to create and adopt a Climate Change Action Plan,¹⁵⁰ and several states joined to sue the EPA for its failure to act on climate change—litigation that would result in the landmark *Massachusetts v. EPA* ruling of the U.S. Supreme Court.¹⁵¹

Some scholars suggest that this history of cooperation served as a valuable basis for RGGI, in several respects.¹⁵² First, it created a linked network of state officials, which itself was connected with—and drew upon the resources of—an impressive array of policy experts, think tanks, advocacy groups and academic researchers.¹⁵³ This network facilitated subsequent cooperation among the states by establishing an important foundation of trust and familiarity and by decreasing the start-up costs associated with subsequent efforts. Second, collaboration among the states gave them important learning opportunities and policy experience. Especially noteworthy in this respect is that both the Acid Rain Program and the NO_x Budget Program made use of

146. Brian J. Cook, *Arenas of Power in Climate Change Policymaking*, 38 POL’Y STUD. J. 465, 478 (2010).

147. *Id.*

148. See Clean Air Act § 184, 42 U.S.C. § 7511c (2006).

149. Under the EPA’s administration, the program is called the NO_x Budget Trading Program. See *NO_x Budget Trading Program/NO_x SIP Call, 2003–2008*, EPA (Jan. 6, 2011), <http://www.epa.gov/airmarkets/progsregs/nox/sip.html>.

150. See Barry G. Rabe, Mikael Roman & Arthur N. Dobelis, *State Competition as a Source Driving Climate Change Mitigation*, 14 N.Y.U. ENVTL. L.J. 1, 42 (2005).

151. 549 U.S. 497 (2007). See also Jennifer Lee, *The Warming Is Global but the Legislating, in the U.S., Is All Local*, N.Y. TIMES, Oct. 29, 2003, at A20.

152. See, e.g., Ann Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1151–52 (2009) (finding it “obvious that RGGI is the direct offspring” of prior joint efforts among the northeastern states, some of which were mandated by federal regulation).

153. This array included experts affiliated with, for example, the World Resources Institute, Resources for the Future, the University of Virginia, the Massachusetts Institute of Technology, the Natural Resources Defense Council, and so forth. See Rotenberg, *supra* note 52, at 10,737.

emissions trading.¹⁵⁴ The NO_x Budget Program even targeted many of the same sources that would later be tackled by RGGI.¹⁵⁵

Finally, prior accounts of RGGI suggest that its planners were influenced by the experiences of other carbon trading policies, most notably the ETS in Europe. When the ETS carbon market crashed in 2006, the standard explanation was that grandfathering had led to an over-allocation of allowances, making a crash inevitable.¹⁵⁶ The plunge in allowance prices “opened a proverbial window of opportunity for RGGI policy entrepreneurs to propel a rapid shift toward full auctioning.”¹⁵⁷ In addition, the sharp criticisms over windfall profits in the ETS scheme had an outsized influence on RGGI stakeholders.¹⁵⁸ By learning from the ETS situation, the RGGI states “have realized that instead of allowing the value of ‘freely’ allocated allowances to affect the price at which electricity is sold—thereby giving power producers the windfall—the state could capture the windfall by auctioning all of the allowances.”¹⁵⁹ The “official RGGI-state rationale” for auctioning, notes Professor Steven Ferrey, thus became “to prevent emitters of CO₂ from gaining any ‘windfall.’”¹⁶⁰

These scholars stand on firm ground. The evidence on which they rely establishes that senior bureaucrats, acting at times under the political cover provided by supportive state governors, leveraged their expertise and their shared experience with emissions trading to shape the design of RGGI in ways that would avoid the pitfalls that befell the ETS.

But these accounts are incomplete. Although they help to explain how complaints about grandfathering migrated from the policy community to administrative and political officials with the power to shape policy, they do not adequately explain the political dynamics that allowed those complaints to carry the day. They do not explain, for example, why the opponents of auctions were unable to muster political support of their own, or why the appeal of auctioning would extend beyond sophisticated, high-level bureaucrats to reach

154. See Barry G. Rabe, *Regionalism and Global Climate Change Policy: Revisiting Multistate Collaboration as an Intergovernmental Management Tool*, in INTERGOVERNMENTAL MANAGEMENT FOR THE TWENTY-FIRST CENTURY 176, 185 (Timothy J. Conlan & Paul L. Posner eds., 2008) (“[T]he construction of the RGGI has been eased greatly by the substantial experience among participating states with previous forms of emissions trading. . . . This experience was embedded in long-standing collaboration on environmental and related matters.”).

155. ANDREW AULISI ET AL., WORLD RES. INST, GREENHOUSE GAS EMISSIONS TRADING IN THE U.S. STATES: OBSERVATIONS AND LESSONS FROM THE OTC NO_x BUDGET PROGRAM 9 (2005), available at http://pdf.wri.org/nox_ghg.pdf.

156. See, e.g., Mathew Carr, *Emissions Profits in Europe Plunge as Data Questioned*, BLOOMBERG (May 15, 2006), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=agFHU6rBtNoE&refer=europe>.

157. Rabe, *The Aversion to Direct Cost Imposition*, *supra* note 9, at 597.

158. See *supra* Section I.B.2.

159. Steven Ferrey, *Auctioning the Building Blocks of Life: Carbon Auction, the Law, and Global Warming*, 23 NOTRE DAME J.L. ETHICS & PUB. POL’Y 317, 330 (2009).

160. *Id.* at 317.

rank-and-file state legislators. After all, in many RGGI states, the decision about what fraction of allowances to sell by auction ultimately rested with the state legislature, not with an administrative agency. In most of these state legislative chambers, the votes were not close. Legislators who supported the auctioning of nearly all their states' allowances vastly outnumbered those who favored more grandfathering. In Maine, for example, the legislation authorizing full auctioning passed the state Senate by a vote of 35–0 and the House by a 129–7 margin. Not a single Massachusetts legislator voted against full auctioning, and only small numbers did so in Connecticut, Delaware, Rhode Island and Vermont. Only in New Jersey and New Hampshire was there more substantial opposition to auctioning, yet even in those states, bills requiring the auction of the vast majority of allowances passed by a wide margin.¹⁶¹

Why were these votes so lopsided? Why were not more legislators, driven by concerns over energy rates or by pressure from important industrial constituencies, willing to cast votes in opposition to such extensive auctioning? The factors cited in the previous section—political entrepreneurship, prior cooperation among the RGGI states, and so forth—do not well account for the extent of the support that auctioning received, which stretched far beyond merely those legislators with ties to environmental and energy policy networks.

C. *The Impact of Electric Restructuring*

A central contention of this Article is that the RGGI states' successful adoption of a system of auctioning depended crucially on developments outside of environmental law—specifically, on the restructuring of energy markets that has taken place over the past several decades. Restructuring was critical in two principal respects. First, because restructuring entailed the creation of regionalized wholesale energy markets, individual states could not escape the increases in electricity rates that could result from RGGI. For rate-sensitive legislators, auction revenue served to at least partially offset adverse rate effects. Second, because restructuring required the breakup of many energy utilities, it altered the political economy of the sector, creating divergent incentives for different subsectors of the energy industry. The competitive position of renewable generators would improve under any emissions regulation, of course, but of greater political importance was the fact that so-called “wires-only” utilities—i.e. utilities with no electricity generating capacity, but only transmission and distribution lines¹⁶²—stood to benefit from energy efficiency investments that would come from auction revenues. Both

161. See Appendix.

162. In the parlance of the electric industry, transmission refers to the bulk (and often long-distance) transfer of electricity from a generating unit to a population center or other locus of demand, generally via high-voltage lines. Distribution refers to process of delivering that electricity to individual end users via substation transformers and low-voltage, insulated power lines of the sort that line the streets of many American neighborhoods. See FRED BOSSELMAN ET AL., *ENERGY, ECONOMICS AND THE ENVIRONMENT* 581–82 (3d ed. 2010).

industry segments had far less cause to oppose auctions than did carbon-intensive power generators.

The past several decades have seen extensive changes to the structure of the electricity industry.¹⁶³ Historically, electricity markets were served primarily by vertically integrated utilities which were heavily regulated by state public utilities commissions.¹⁶⁴ These utilities carried out every aspect of the electricity business: they owned and operated generating units, transmission lines, distribution infrastructure and backend billing systems. In return for utilities' commitments to serve customers within fixed service areas, state regulators granted a monopoly franchise and established electricity rates sufficient to allow a stable (and often fairly generous) return on investment.¹⁶⁵ Interstate transactions for power escaped state regulation but were regulated by the Federal Energy Regulatory Commission (FERC).¹⁶⁶

Today, much has changed. Restructuring of the industry has proceeded along two fronts. First, FERC has encouraged competition in wholesale or bulk electric markets by requiring owners of transmission lines to open those lines to independent, non-utility generators. Second, many states have encouraged competition in retail markets by allowing consumers to choose from whom to buy their power.¹⁶⁷ Some states, including most of the RGGI states, have also required local utilities to divest themselves of power generating assets.¹⁶⁸ These changes have altered the political economy of energy policy in important ways: they have diminished individual states' control over the energy rates paid by their residents, and they have created a more heterogeneous incentive structure among energy firms.

1. Wholesale Restructuring

FERC's efforts to restructure the wholesale provision of electricity can be traced to the energy crises of the 1970s. Rising oil, natural gas and electricity

163. See RICHARD F. HIRSH, *POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRIC UTILITY SYSTEM* (1999); MATTHEW H. BROWN & RICHARD P. SEDANO, NAT'L COUNCIL ON ELEC. POLICY, *A COMPREHENSIVE VIEW OF U.S. ELECTRIC RESTRUCTURING WITH POLICY OPTIONS FOR THE FUTURE* (2003); CAPTURING THE POWER OF ELECTRIC RESTRUCTURING (Joey Lee Miranda ed., 2009); John A. Anderson, *Electricity Restructuring: A Review of Efforts Around the World and the Consumer Response*, 22 *ELECTRICITY J.* 70 (2009).

164. HIRSH, *supra* note 163, at 11–31.

165. *Id.*

166. The Supreme Court ruled states powerless to set prices for interstate electricity transactions in *Public Utilities Comm. of Rhode Island v. Attleboro Steam & Electric Co.*, 273 U.S. 83 (1927). The regulatory gap that ensued until federal regulation commenced was known as the “Attleboro gap.”

167. On the distinction between wholesale and retail restructuring and for a thorough account of their relationship, see HIRSH, *supra* note 163, at 239–60.

168. Although wholesale restructuring has stuck, retail restructuring has fared less well—in the wake of California's energy crisis and the Enron scandal of the late 1990s, many states have reversed course and ended their experiments with restructuring. Importantly, however, retail restructuring in the RGGI states has taken hold. The relevance of state-level restructuring will be taken up in the next subsection. See BOSSELMAN ET AL., *supra* note 162, at 683–721.

prices led policymakers to question the pervasive economic regulation that had defined the energy sector for half a century. Regulation had been premised on the theory of natural monopoly, but critics now asserted that that theory only applied to the pipes and wires that carried oil, gas and electricity—but not to the production of those commodities.¹⁶⁹ If competition among producers could be catalyzed by the removal of regulatory price and entry controls, perhaps energy prices would fall notwithstanding the ongoing regulation of the transmission and distribution functions.

Federal experimentation with deregulation began with natural gas, but early signs of success created demand for a similar approach to the electricity industry.¹⁷⁰ In the 1990s, FERC took several steps towards creating a competitive environment for electricity generation. The Commission began by encouraging owners of transmission lines to allow nonutility electric generating firms “open access” to those lines.¹⁷¹ FERC’s objective was to create genuine wholesale markets for electricity by allowing nonutility generators access to the existing grid, as these generators would otherwise have no way to deliver power to buyers and thus no way to compete with the traditional utilities.

By the late 1990s, FERC was no longer encouraging but rather requiring open access to transmission facilities, and the merchant generation market was growing steadily.¹⁷² But for a variety of reasons, FERC was unable to create a truly national wholesale market.¹⁷³ Instead, FERC’s efforts have resulted in a handful of regional markets, the boundaries of which are more directly attributable to political factors at the state level than to factors related to optimal market design.¹⁷⁴ Nonetheless, where these regional markets exist—including RGGI’s coverage area—energy rates are no longer the exclusive province of state public utility commissions.¹⁷⁵ Rather, prices are set by market

169. See Richard J. Pierce, Jr., *Natural Gas Regulation, Deregulation, and Contracts*, 68 VA. L. REV. 63 (1982); Richard J. Pierce, Jr., *Reconsidering the Roles of Regulation and Competition on the Natural Gas Industry*, 97 HARV. L. REV. 345 (1983); PAUL L. JOSKOW & RICHARD SCHMALEENSE, *MARKETS FOR POWER: AN ANALYSIS OF ELECTRIC UTILITY DEREGULATION* (1983).

170. See, e.g., Richard J. Pierce, Jr., *Using the Gas Industry as a Guide to Reconstituting the Electricity Industry*, 13 RESOURCES L. & ECON. 7 (1991).

171. FERC’s authority to regulate and restructure electricity markets received the careful scrutiny of the Supreme Court in *New York v. FERC*, 535 U.S. 1 (2002), in which the Court reviewed FERC’s Order No. 888 of 1996, one of the most important of the restructuring rules.

172. FERC Order No. 888, *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities*, 61 Fed. Reg. 21,540 (1996).

173. See Richard J. Pierce, Jr., *Completing the Process of Restructuring the Electricity Market*, 40 WAKE FOREST L. REV. 451 (2005).

174. See *id.* at 470 (“In the cases of New York and New England, the boundaries of the markets were based solely on political factors that should be totally irrelevant in setting the boundaries of an electricity market.”).

175. The New England states are members of ISO-NE (Independent System Operator—New England), while New York’s grid is operated by a single entity (the New York Independent System Operator—NYISO). The remaining RGGI states are part of the Pennsylvania-Jersey-Maryland (or PJM) Interconnection. See *Regional Transmission Organizations (RTO)/Independent System Operators (ISO)*, FERC (Feb. 19, 2013), <http://www.ferc.gov/industries/electric/indus-act/rto.asp>.

forces within a broad set of regulatory and technical constraints.

The diminution of the states' role in establishing energy rates has had critical but underappreciated political ramifications, including ones that bear directly on the matter of legislative support for auctioning in RGGI. Because rates now vary in response to developments beyond state lines, state lawmakers find themselves situated differently on the politically sensitive matter of energy rates than they had been before restructuring. Their prospective influence on rates via utilities commissions now reduced, state legislators are confined to a more reactive role. To the extent that energy rate increases mobilize constituent pressure, political accountability presumably will turn increasingly on lawmakers' *ex post* responses to market events rather than on their *ex ante* energy policies as implemented through the public utility commissions.

As RGGI took shape, all indications were that the mere existence of the Initiative would cause upward pressure on wholesale energy prices across the Northeast. Importantly, because of the regionalization of wholesale markets, such pressure would arise notwithstanding any particular state's decision to join RGGI.¹⁷⁶ Just as importantly, rate increases were expected even if allowances were grandfathered—this, after all, was the lesson of the EU's ETS.¹⁷⁷ Lawmakers were damned-if-you-do, damned-if-you-don't, and given that fact, maximizing revenue from auctioned allowances was one readily available way to make the best of a bad situation. To turn down a possible revenue stream as energy rates rose would represent a serious political liability, because states that either chose not to participate in RGGI or not to sell their allowances would bear costs associated with the program but receive none of the financial benefits of participation.¹⁷⁸

There is ample evidence that this logic guided legislators in many of the RGGI states. As early as the spring of 2005, consumer advocates from Connecticut, Maine, New Hampshire and New York—as well as from several

176. See, e.g., RGGI, INC., RGGI STAKEHOLDER GROUP MEETING #8: MEETING SUMMARY 10 (May 19, 2005), available at http://www.rggi.org/docs/final_summary_5_19_05.pdf. Of course, the magnitude of the increase would be affected by the amount of generating capacity contributed to the regional market by states whose emissions were capped by RGGI, as well as by the proportion of energy demand satisfied by out-of-region providers. But with the possible exception of New York, each state's marginal contribution was fairly small compared to the expected system-wide effects. See *infra* text accompanying note 187. Even more importantly, the revenue expected from auctioned allowances, and the benefits that revenue could secure, far exceeded the adverse economic effects attributable to that state's membership in RGGI.

177. Recall that in restructured markets, power generators have greater flexibility to pass increased costs along to end users without the approval of state public utility commissions. See *supra* Section I.B.2. See also William Shobe et al., *An Experimental Analysis of Auctioning Emission Allowances Under a Loose Cap*, 39 AGRIC. & RESOURCE ECON. REV. 162, 165 (2010).

178. The amount of revenue that each state would receive from auctions was, of course, completely dependent on the trading price of carbon allowances. Although estimates vary widely, state-level planning documents suggest that officials expected allowances to trade at roughly \$5 (each allowance granted the right to emit one ton of CO₂). See *RGGI Goes Live, and Debate Begins*, 21 ELECTRICITY J. 2 (2008). At this price, even Vermont, the lowest emitting of the RGGI states, would receive approximately \$6 million per year of auction revenue during the first few years of the program.

non-RGGI states—began pushing for the auctioning of 100 percent of RGGI allowances.¹⁷⁹ Maine's Public Advocate, Stephen Ward, put the case this way:

Even if Maine chose not to participate in the RGGI program . . . Maine's electric customers—large and small—would still pay the costs of RGGI compliance in their power bills. If ratepayers are stuck with paying these compliance costs, we should certainly insist on a full share of RGGI's public benefit allocation and get no less than 100 percent of the proceeds from the sale of allowances.¹⁸⁰

Maine, one of the lowest-emitting of the RGGI states, otherwise arguably would have had little to gain from joining the Initiative. As one state senator put it during legislative debate:

If Maine does not participate in RGGI, we will not have any permits to sell on this market, and the price of electricity, which is set regionally, will go up anyway. When you have Massachusetts, Connecticut, New York, Rhode Island, Vermont, New Jersey, when you have all of these states in the initiative, the cost of electricity, if there is a price impact, it will be felt by Maine. We buy our energy on a regional market. So by participating, we get to sell the six million permits, we get money back So whether you like RGGI or not, or are a big fan of it or not, you should be supporting it. If you don't, if this does not succeed, Maine consumers will bear the brunt of the cost of the initiative and reap none of the benefits.¹⁸¹

And another:

Maine finds itself in a very unfortunate position where it cannot extricate itself from the effects of higher electricity cost because of the way electricity pricing is set through ISO New England. . . . In effect, if the other states, which are party to RGGI, proceed to implement it, the increased costs incurred by the sale of emissions allocations will be reflected in the regional price-setting mechanism at ISO New England, and Maine will be required to pay these higher prices, whether Maine is in or out of RGGI. Therefore, the only hope Maine has is to off-set these higher electric costs through these efficiency programs. . . . Maine is in essence trapped into this program from which it cannot escape¹⁸²

Next door, a University of New Hampshire study commissioned by that state's legislature reached the same conclusion: electricity costs in the state would rise whether the state joined RGGI or not; joining and auctioning allowances would return revenue that would "more than offset the added cost

179. Letter from seven state public advocates to the RGGI Working Group (Apr. 19, 2005) (on file with the author). In addition to the states mentioned, advocates from California, Arizona, and Iowa also signed the letter.

180. Stephen Ward, *Regional Greenhouse Gas Initiative Up for Debate*, 12 CHOICES: IDEAS FOR SHARED PROSPERITY 1, 3 (2006).

181. MAINE S. JOURNAL, 123rd Leg., 1st Reg. Sess. S-874 (June 6, 2007) (comment by Senator Bartlett from Cumberland, Maine).

182. *Id.* at S-875-6 (comment by Senator Smith from Piscataquis, Maine).

of joining RGGI.”¹⁸³ Maryland, New Jersey and Delaware participate not in the New England wholesale market, but in the Pennsylvania-Jersey-Maryland (PJM) market, the nation’s largest, which serves over fifty million people in a region stretching from Illinois to North Carolina. Thus the rates in these states were less directly affected by developments in New York and New England; nonetheless, even in Maryland, electricity bills were predicted to drop in inverse proportion to the fraction of auction revenue devoted to energy efficiency investments.¹⁸⁴

For legislators concerned about electoral politics, there was precious little wiggle room here.¹⁸⁵ The recent regionalization of wholesale energy markets meant that energy rates were likely to rise if any regional market participants joined RGGI; to reject auctioning would be not only to reject the expertise of the policy community, but also to turn away the opportunity to derive revenue from RGGI’s operation.

But could the RGGI states not together see that they were stuck in a collective action problem—stemming from the fact that each state’s participation imposed rate increases on energy buyers throughout the wholesale marketplace—and simply prevent RGGI from coming about altogether? The problem with this approach was that New York in particular, and to a lesser degree Massachusetts, had made credible and firm commitments to RGGI; these two states were home to much of the region’s generating capacity and were also the first to commit publicly to auctioning nearly all of their RGGI allowances.¹⁸⁶ New York was not a member of the New England power

183. ROSS GITTELL & MATT MAGNUSSON, *ECONOMIC IMPACT IN NEW HAMPSHIRE OF THE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI): AN INDEPENDENT ASSESSMENT* 3, 68 (Jan. 2008). New Hampshire’s governor relied on the same logic in resisting a recent attempt to withdraw from RGGI. In vetoing a 2011 bill that would have required the Granite State to withdraw, Governor John Lynch argued that “if the state left RGGI, ratepayers would continue to pay part of the program’s cost while no longer receiving benefits from allowance auction revenue.” Rick Valliere, *N.H. Senate Sustains Governor’s Veto of Bill to Quit Cap-and-Trade Program*, STATE ENV’T DAILY, Sept. 8, 2011, BNA Bloomberg.

184. See Matthias Ruth et al., *Economic and Energy Impacts from Participation in the Regional Greenhouse Gas Initiative: A Case Study of the State of Maryland*, 36 ENERGY POL’Y 2279 (2008); MATTHIAS RUTH, *THE ROLE OF ENERGY EFFICIENCY SPENDING IN MARYLAND’S IMPLEMENTATION OF THE REGIONAL GREENHOUSE GAS INITIATIVE* (2008). Maryland’s situation was also different from the New England states in that fewer of the states in its regional market, PJM, were participating in RGGI. Nonetheless, the cited studies suggest that Maryland policymakers believed that wholesale energy costs would rise when RGGI took effect, and that energy efficiency investments made from auction revenues would more than offset those increases.

185. An important line of work in political science builds on the premise that legislative behavior can be explained largely in terms of lawmakers’ single-minded pursuit of reelection. See DAVID R. MAYHEW, *CONGRESS: THE ELECTORAL CONNECTION* (1974). Electorally motivated legislators claim credit for policies that work, and avoid blame for those that do not—in particular, by dodging decisions that voters might trace back to a particular vote. See R. DOUGLAS ARNOLD, *THE LOGIC OF CONGRESSIONAL ACTION* (1990).

186. New York’s commitment to RGGI and to full auctioning was credible for several reasons. First, New York had led the push for RGGI since day one, and had given no indication that political or economic developments within the state would prevent it from moving forward with the Initiative. See

market, but because it regularly sells into that market, even an in-state cap-and-trade program would have affected rates in New England. Massachusetts generates more power than any other New England state; if the other states doubted that New York's actions would materially elevate wholesale rates, Massachusetts' commitment left no room for doubt.

It may be objected that the suggestion that New York and perhaps Massachusetts set the auctioning ball in motion merely begs the question of why those states chose to auction nearly their entire allotment of RGGI allowances and, further, implies that these crucial states made the decision to auction independent of the market-wide dynamics explained in this Part. It is certainly true that New York and Massachusetts, with their vast in-state generating capacity, were not "trapped" into RGGI in the way that the smaller states may have been. But it does not logically follow that wholesale restructuring and the creation of regional wholesale markets did not affect these states' decisions to auction rather than grandfather the bulk of their allowances. Indeed, to the extent that wholesale markets permitted these states to project their influence into the entire region, restructuring likely established a propitious context for the auction policies of New York and Massachusetts: leaders in these states knew that they could not only establish a crucial and influential precedent but also change the strategic calculus faced by their smaller neighbors, thereby leveraging their influence into a regional accord.¹⁸⁷

Christopher Rizzo, *Cap-and-Trade Under Attack Around the Nation*, GREENLAW (June 29, 2011), <http://greenlaw.blogs.law.pace.edu/2011/06/29/cap-and-trade-under-attack-around-the-nation/>; see also *Thrun v. Cuomo*, No. 4385-11 (N.Y. Sup. Ct. June 12, 2012). Second, pre-existing New York law authorized the governor and executive-branch agencies to commit the state to RGGI without legislative approval. In other words, New York was unique among the RGGI states in that the only direct avenue for electoral opposition to RGGI was via the governor—and Governor Pataki had in 2005 announced that he would not seek reelection in 2006, insulating his actions from electoral consequences. His replacement, Eliot Spitzer, was firmly committed to RGGI. See Ray Pospisil & Lisa Wood, *New Democratic Governors Boosting RGGI Prospects in Massachusetts and Maryland*, ELECTRIC UTILITY WEEK, Nov. 27, 2006, LexisNexis.

For its part, Massachusetts' commitment gained its credibility from electoral dynamics. As mentioned earlier, Deval Patrick, having used RGGI as a campaign issue, made it one of his first acts in office to commit to RGGI and to full auctioning. See *supra* text accompanying notes 141–42. Patrick enjoyed not only strong electoral support, but his party held a veto-proof majority in the legislature. See Cook, *supra* note 142, at 478.

187. The interstate dynamic referenced here bears on debates about how policies diffuse among states, a question that has intrigued political scientists and legal scholars. For approaches from political science, see Francis Stokes Berry & William D. Berry, *State Lottery Adoptions as Policy Innovations: An Event History Analysis*, 84 AM. POL. SCI. REV. 395 (1990); Charles R. Shipan & Craig Volden, *The Mechanisms of Policy Diffusion*, 52 AM. J. POL. SCI. 840 (2008); Brady Baybeck, William D. Berry, & David A. Siegel, *A Strategic Theory of Policy Diffusion via Intergovernmental Competition*, 73 J. POL. 232 (2011). In the context of environmental regulation, legal scholars have explored whether policies spread by way of, for example, a "race to the bottom," "regulatory cascades," or, in David Vogel's phrase, a "California effect" in which one important state's regulatory leadership elevates other states who seek entry into its markets. See Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210 (1992); Kirsten H. Engel & Barak Y. Orbach, *The Politics of Local Climate Change Initiatives*, 32 ADMIN. & REG. L. NEWS 6 (2007); DAVID VOGEL, TRADING UP: CONSUMER AND

2. Retail Restructuring

While federal restructuring efforts focused on wholesale energy markets, state efforts were aimed at enabling competition at the retail level by allowing end users to choose their energy supplier.¹⁸⁸ Traditionally, electricity buyers could purchase power only from the state-regulated utility holding the franchise for their service territory. That utility likely generated its own power and, if necessary, purchased additional power at wholesale. State restructuring laws in the Northeast proceeded from the premise that competitive pressures and consumer choice could not adequately open energy markets until utilities divested themselves of power plants, ceased their involvement in the generation portion of the electricity industry, and purchased all their power through wholesale markets. Thus typical state restructuring acts gave vertically integrated utilities a period of several years in which to sell off their generating assets,¹⁸⁹ and the resulting transactions drastically reconfigured the region's energy industry. Among the RGGI states, only Vermont—by far the lowest-emitting state in the region¹⁹⁰—has retained the historical regulated utility model. For purposes of this Article, the principal consequence of retail restructuring was the diversification of the economic and political interests of the various segments of the energy industry. The traditionally monolithic utility sector, which would have been reliably opposed to auctioning, was replaced by an array of utilities and energy firms marked by different business models, different strategic approaches to emissions trading and thus different viewpoints on auctions.

First and foremost, utilities' divestiture of power generation transformed the political landscape of the energy industry by converting most utilities into wires-only entities whose business now became the wholesale purchase and subsequent distribution of energy. Their generating assets were bought up by out-of-state utilities or by non-utility merchant power generation firms.¹⁹¹ Prior to restructuring, wholesale power markets in the Northeast satisfied only that portion of utilities' demand that exceeded their generating capacity. After restructuring, wholesale markets were the whole ball game: only in limited circumstances (and in Vermont) could utilities generate their own power and

ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY (1995); Barry G. Rabe, Mikael Roman & Arthur N. Dobelis, *State Competition as a Source Driving Climate Change Mitigation*, 14 N.Y.U. ENVTL. L.J. 1 (2005). The example presented in this Article hints at a variant of Vogel's mechanism by suggesting that influential states may at times be able to change the structure of incentives facing other states so as to induce policy change.

188. See NAT'L CONFERENCE OF STATE LEGISLATURES, *RESTRUCTURING IN RETROSPECT* (2001).

189. Of the northeastern states that pursued restructuring, only Delaware did not order divestiture generally. DEL. CODE ANN. tit. 26, § 1013 (2013).

190. Vermont's initial allowance allocation (roughly 1.2 million tons of CO₂) was less than half that of the next lowest emitter, Rhode Island, which was allocated nearly 2.7 million tons. See *Allowance Allocation*, RGGI (Feb. 27, 2012), http://www.rggi.org/market/co2_auctions/allowance_allocation.

191. See Regina R. Johnson, *The Shrinking Industry*, 137 PUB. UTILS. FORTNIGHTLY 62 (1999).

avoid purchasing power at wholesale.¹⁹² Previously, utilities were similar in structure and operation from state to state; their political interests were relatively homogeneous; they were only rarely in direct competition with one another on wholesale markets, and never in retail competition. Following restructuring, the energy industry was increasingly characterized by competition and by structural and political heterogeneity, even within particular market segments. Generators, for example, faced a radically altered investment environment. Where state regulation had previously authorized rate recovery for prudent investments in new generating plants, now the market would determine with ruthless efficiency which investments were prudent.¹⁹³

These changes had significant consequences for the political economy of energy under RGGI. Various generators that would have stood on relatively equal footing in the regulated world now found themselves quite differently situated depending on the carbon emissions of their power plants. Perhaps even more importantly, “wires-only” utilities soon came to see the world of energy policy quite differently than their former colleagues in the generation sector. National Grid, for example, one of the largest distributors in the region, indicated early its view that all emissions allowances ought to be auctioned.¹⁹⁴ Why would distribution firms favor auctioning? At a minimum, they would experience the economic impact of RGGI less directly than generators, who would bear the immediate burden of procuring the requisite allowances. In addition, distributors wished to minimize any rate increases facing electricity customers on account of RGGI. Apparently persuaded by the Working Group’s research, National Grid accepted that prices would rise whether auctions occurred or not and therefore supported auctions as a means of mitigating rate impacts on its customer base.¹⁹⁵

But there may have also been another reason for utilities to support auctioning, one less obvious on the face of the program. Recall that a number of states planned to use auction revenue to expand their investments in energy efficiency programs. In a number of states, these programs were already in place and were operated, in fact, by utilities, who quickly realized that they were the likely beneficiaries of expanded state funding should auctions be

192. Here by “market” I refer not only to the day-ahead and real-time markets operated by regional independent system operators, but also to the broader marketplace; buyers and sellers are also able to enter into longer-term provisioning agreements outside of those markets, and in fact such long-term contracts represent a sizeable share of the energy delivered to customers today. See NAT’L COUNCIL ON ELEC. POLICY, *supra* note 163, at 60.

193. In most northeastern states, power generators are required to sell power into wholesale markets where it will receive a price set by the marketplace. Prior to restructuring, the price for power would have been established through the conventional rate-setting process. See Miranda, *supra* note 163, at 28–33.

194. Letter from Joseph M. Kwasnik, Vice President, Env’t Dep’t, National Grid, to the RGGI State Working Group (Aug. 29, 2005) (on file with author). See also Cook, *Arenas of Power*, *supra* note 142, at 476 (noting the impact of National Grid’s position).

195. See Kwasnik, *supra* note 194.

employed. In Massachusetts and Rhode Island, for example, National Grid is by far the largest recipient of auction revenues, and utilities in nearly every other RGGI state have received millions of dollars in funding dedicated to energy efficiency programs.¹⁹⁶ Utilities in these states had in essence a direct financial stake in the revenue stream that auctions would create.

Although unexplored in the energy context, the idea that deregulation creates political heterogeneity within once-homogeneous industries is not new. Michael Levine has noted that the airline industry was characterized increasingly by political fragmentation in the wake of its deregulation in the late 1970s, and that such fragmentation more or less guaranteed that the industry could not easily be re-regulated.¹⁹⁷ In the energy context, diverse policy preferences created political space for legislators, sparing them the dilemmas posed by coalitional lines in the sand. Opposition to energy interests had long carried political liability, but now northeastern legislators did not need to choose between energy interests and auction advocates, for some important energy interests were themselves in support of auctions. The breathing room provided by heterogeneity within the electric power sector afforded elected officials the opportunity to cast their votes not on the basis of industry pressure, but on the basis of the strategic rationales and policy-analytic arguments laid out earlier in this Article.

CONCLUSION

This Article has advanced the claim that changes associated with the restructuring of wholesale and retail electricity markets substantially impacted the political environment in which the decision to auction allowances in RGGI was made. If accurate, this claim both challenges and supplements accounts that narrate RGGI's development primarily with reference to the analytical expertise of well-placed bureaucratic officials. It identifies another major strand in the causal story, one that helps explain both how an important policy idea made the politically unlikely journey from think tank to full-scale

196. Information about the distribution of auction revenues is tracked on the RGGI website at http://rggi.org/rggi_benefits/program_investments. Energy efficiency investments were not always channeled through utilities, but even when they were not, they altered the incentives of recipients, making them more likely to endorse auctions. Emissions trading expert Tom Tietenberg has noted that RGGI's success in Maine is attributable partially to its support among industrial firms that expected to procure a share of the state's auction revenue. Tom Tietenberg, *Cap-and-Trade: The Evolution of an Economic Idea*, 39 *AGRIC. & RESOURCE ECON. REV.* 359, 364 (2010). Tietenberg suggests that, at least in Maine, a unique political coalition of environmentalists and large businesses provides critical support for auctions. *Id.*

197. Michael E. Levine, *Regulation, the Market, and Interest Group Cohesion: Why Airlines Were Not Reregulated*, in *CREATING COMPETITIVE MARKETS: THE POLITICS OF REGULATORY REFORM* 215 (Marc K. Landy, Martin A. Levin & Martin Shapiro eds., 2007). Levine writes: "Today, there is no longer an 'industry position' on most matters of regulation and perhaps no 'industry' at all in its historical sense. . . . Under the deregulated regime, the legacy carriers themselves face widely differing financial and strategic situations and therefore differ greatly in their policy preferences." *Id.* at 225. These words could be directed at the energy industry with only slight modification.

implementation, and why northeastern legislators so overwhelmingly endorsed auctioning in spite of the fervency of its opponents. By inducing the formation of regional wholesale electricity markets, federal restructuring rules altered the strategic position of state policymakers and indirectly provided incentives for them to endorse auctions as a way of offsetting any adverse economic effects stemming from RGGI. The breakup of integrated electric utilities created political diversity where there had been uniformity, further reshaping the political vectors acting on state officials.

It does not follow, of course, that restructured electricity markets are sufficient or even necessary for the auctioning of allowances in emissions trading regulation of the power sector—and outside of that sector, the policymaking environment may be shaped by very different political variables. In fact, the contingency of the political dynamics described here cautions against oversimplified assumptions about the mechanisms of policy diffusion. Even proven and effective policy designs cannot be implemented except by political institutions subject to myriad external influences, and the form and nature of these influences may be difficult to anticipate. Nonetheless, the story of RGGI helps develop our understanding of the political variables that form the backdrop for the technical craft of emissions trading policy design. For example, it makes clear that auctioning is more likely to attract legislative support when lawmakers are disassociated from the direct imposition of consumer costs, when auction revenues offset inevitable program costs and offer opportunities for credit-claiming, and when heterogeneity within the regulated population mitigates industry opposition.

As this Article reaches press, California has initiated a cap-and-trade program of its own,¹⁹⁸ a program which—if all goes according to plan—will use auctions to distribute a portion of its emission allowances.¹⁹⁹ Despite the fact that the proportion of allowances to be auctioned is much smaller than in RGGI—roughly 10 percent at the outset²⁰⁰—the opposition to auctioning has been intense,²⁰¹ in sharp contrast to the relatively broad political support

198. The program is a part of an ambitious suite of initiatives put into place by the state's Global Warming Solutions Act of 2006, more commonly referred to as AB 32 (codified at CAL. HEALTH & SAFETY CODE §§ 38500–38599 (2013)). The cap-and-trade program regulations can be found at CAL. CODE REGS. tit. 17, §§ 95800–96023 (2013).

199. The program's auction provisions are described in CAL. CODE REGS. tit. 17, §§ 95870–95942.

200. The number of allowances to be auctioned will start small and increase to roughly 50 percent in later years as transition relief for industrial entities is gradually withdrawn. Industrial entities covered by the program, for example, will initially receive for free the bulk of the allowances required for their compliance; that proportion will decline over time, except in those industries that are deemed prone to leakage. See *id.* §§ 95870–95891, and in particular the changes in the “Industry Assistance Factor” shown in Table 8-1 of § 95870(e).

201. Numerous business entities are pushing for suspension of the program and/or the elimination of auctions. See Anne C. Mulkern & Debra Kahn, *Business Group Asks Gov. Brown to Delay Cap and Trade*, GREENWIRE (Oct. 18, 2012), <http://www.eenews.net/Greenwire/rss/2012/10/18/14>; Anne C. Mulkern, *Cap-and-Trade System Likely to Survive Lawsuits—Experts*, GREENWIRE (Oct. 26, 2012), http://www.eenews.net/Greenwire/climate_digest/2012/10/26/3. Most recently, the California Chamber

enjoyed by auction advocates in RGGI. Such opposition may simply reflect the expectation that allowances will be much more costly in California than in RGGI,²⁰² but it may also reflect the absence of the salutary contextual factors laid out in this Article. California has its own wholesale electricity market, so there is no comparable regional pressure on California's energy rates. Although California was among the first states to move towards retail restructuring, those efforts came to an abrupt halt in the wake of the energy crisis of 2000–2001 and the Enron debacle,²⁰³ and today California's largest utilities are very much in the business of generating electricity. Furthermore, while RGGI applies only to the electric generation sector, the California program covers the industrial sector as well,²⁰⁴ expanding the breadth and diversifying the composition of political opposition to auctioning. Thus far, given the magnitude of this opposition, California's experience bears a greater resemblance to the conventional narrative, positing the political difficulties of auctions, than to the course of RGGI.

On the other hand, if California is able to accomplish its policy goals while remaining less reliant on auctions than RGGI, perhaps analysts will be forced to revisit their conclusions about the optimal degree of auctioning. For the time being, however, the evidence presented in this Article suggests that cap-and-trade programs that distribute allowances primarily via auction will meet with substantial opposition unless that opposition is mitigated by structural factors of the sort identified here. Auction proponents elsewhere would do well to take stock of the composition of the energy sector with an eye towards the broader political economy of the regulated population. Even more generally, the analysis presented here simply demonstrates that policy developments in one field can upset political equilibria in adjacent fields, and that therefore those who develop and analyze public policy are wise to be attuned to such effects. Once improbable outcomes may emerge as viable possibilities in a reconfigured political space.

of Commerce has filed suit, arguing that the auction provisions exceed the regulatory authority granted by the governing statute. See Carolyn Whetzel, *California Chamber Files Lawsuit Claiming State Auction of Emission Allowances Illegal*, DAILY ENV'T REP., Nov. 14, 2012, at A15.

202. California's reserve price is \$10 per allowance, while RGGI's is just below \$2. In both programs, an allowance covers one ton of carbon dioxide emissions or its equivalent. See *supra* note 24; see also Rhead Enion, *Second California Cap-and-Trade Auction Sells Almost \$225 Million Worth of Allowances*, LEGALPLANET (Feb. 25, 2013), <http://legalplanet.wordpress.com/2013/02/25/second-california-cap-and-trade-auction-sells-almost-225-million-worth-of-allowances/>.

203. See Timothy P. Duane, *Regulation's Rationale: Learning from the California Energy Crisis*, 19 YALE J. ON REG. 471 (2002).

204. Industries covered by the program include cement, glass, iron, and steel production, pulp and paper manufacturing, and petroleum refining, among others. See CAL. CODE REGS. tit. 17, § 95811 (2013).

APPENDIX

*Margins of Victory in State Legislatures' Votes on Auctioning of RGGI Allowances*²⁰⁵

State	Description of Legislative Action	Margin of Victory
Connecticut	The state legislature passed a sweeping energy bill, authorizing the state's participation in RGGI and requiring that at least 77 percent of allowances be auctioned. ²⁰⁶	Senate: 32-3 House: 128-19
Delaware	The state legislature voted to approve a task force recommendation that 60 percent of RGGI allowances be sold at auction, increasing by 8 percent each year until 2014. ²⁰⁷	Senate: 15-5 House: 39-1
Maine	The state legislature enacted legislation requiring that all RGGI allowances be sold at auction, except for certain combined heat and power units. ²⁰⁸	Senate: 35-0 House: 129-7
Maryland	Although the legislature approved the state's participation in RGGI and designated the recipients of auction revenues, it did not vote on the allocation of allowances; this was done by regulation.	N/A
Massachusetts	The state legislature required that "all allowances issued under the program shall be offered for sale by auction," and "proceeds . . . shall be deposited in the RGGI Auction Trust Fund," for use only for specified purposes. ²⁰⁹	Senate: 36-0 House: 154-0

205. State laws and regulations implementing RGGI can be found at <http://www.rggi.org/design/regulations>.

206. 2007 Conn. Acts 07-242 (Reg. Sess.) (enacting House Bill No. 7432).

207. Press Release, Delaware Dep't of Natural Res., Gov. Minner Signs Legislation Authorizing Delaware's Participation in Regional Greenhouse Gas Initiative (June 30, 2008) (on file with author).

208. *Maine Governor Signs Bill Approving Participation in Regional Greenhouse Gas Initiative CO₂ Plan*, GLOBAL POWER REPORT, June 21, 2007, at 28 (describing L.D. 1851, enacted June 12, 2007).

209. S. 2768 § 7, 2008 Gen. Assembly, Reg. Sess., 2008 Mass. Acts ch. 169 (signed by the Governor July 2, 2008).

New Hampshire	The state legislature approved the auctioning of nearly all its allowances, except those needed to convert allowances from a pre-existing in-state emissions program into RGGI allowances. ²¹⁰	House: 214-107 Senate: 16-8 ²¹¹
New Jersey	The state legislature required that 99 percent of allowances be sold at auction; the remaining 1 percent were allocated to certain combined heat and power units. ²¹²	Senate: 23-16 ²¹³ Assembly: 43-31 ²¹⁴
New York	No legislative action was required; pre-existing state law authorized state agencies to join RGGI and auction RGGI allowances. ²¹⁵	N/A
Rhode Island	The state legislature required that 99 percent of the state's allowances be auctioned, and that 100 percent of allowance proceeds "be used for the benefit of energy consumers through investment in the most cost-effective available projects that can reduce long-term consumer energy demands and costs." ²¹⁶	Senate: 30-0 ²¹⁷ House: 50-9 ²¹⁸

210. N.H. Rev. Stat. Ann. §§ 125-O:21(III), 23(II) (2013) (requiring that "all revenue from sale of allowances at auction shall be deposited into greenhouse gas emissions reduction fund;" "[f]und moneys shall be used to support energy efficiency, conservation, and demand response programs" and not for any other purpose).

211. See *HB 1434—Regional Greenhouse Gas Initiative—Key Vote*, PROJECT VOTE SMART, <http://www.votesmart.org/bill/6500/19175/regional-greenhouse-gas-initiative> (last visited Mar. 7, 2013).

212. A.B. 4559, 212th Leg., 2d Sess. (N.J. 2008).

213. 19 N.J. LEGISLATIVE DIGEST 3 (daily ed. Jan. 7, 2008).

214. *Id.* at 7.

215. This point is, however, presently under litigation. See Press Release, Competitive Enterprise Inst., Multi-State Greenhouse Gas Initiative Violates New York Law, Lawsuit Alleges (June 28, 2011), available at <http://cei.org/news-releases/multi-state-greenhouse-gas-initiative-violates-new-york-law-lawsuit-alleges>. A prior lawsuit on the same question was settled in late 2009. Vicki Shiah, *Settlement Reached in Regional Greenhouse Gas Initiative Lawsuit*, ENVTL. NEWS NETWORK (Jan. 14, 2010, 3:20 PM), <http://www.enn.com/pollution/article/40925>.

216. R.I. GEN. LAWS § 23-82-6(a) (2013).

217. S. JOURNAL, 2007 Gen. Assemb., Jan. Sess. 85 (R.I. 2007), available at <http://www.rilin.state.ri.us/journals07/senatejournals07/sjournal6-22.pdf>.

218. H. JOURNAL, 2007 Gen. Assemb., Jan. Sess. 130 (R.I. 2007), available at <http://www.rilin.state.ri.us/journals07/housejournals07/hjournal6-22.pdf>.

Vermont	The state legislature required that 100 percent of credits be allocated to trustees "acting on behalf of consumers." ²¹⁹	Passed without roll call vote in both House & Senate. ²²⁰
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219. VT. STAT. ANN. tit 30, § 255 (2013) (approved May 2, 2006, as Act 123).

220. VT. S. CALENDAR, 2006 Gen. Assemb., Adjourned Sess., at 1073 (Apr. 6, 2006), available at <http://www.leg.state.vt.us/docs/2006/calendar/SC060406.htm>. The only vote on auctioning to occur in the legislative process in Vermont occurred in the Senate Committee on Natural Resources & Energy; the 100 percent allocation passed by a vote of 5-1. *Id.*

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