INTRODUCTION: ENVIRONMENTAL LAW WITHOUT CONGRESS

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Often, scholarly legal articles are written with some trepidation that by the time they are finally printed, their titles or subjects will have become mooted or superseded by intervening events. This is not the case with the articles in this symposium issue, *Environmental Law Without Congress.* It has been twenty-five years since Congress last passed any meaningful environmental legislation—the Clean Air Act Amendments of 1990.[1] With no signs of change on the horizon, the Florida State University College of Law convened a conference on February 28, 2014, to begin a conversation about what to do about environmental law in a world without a functional U.S. Congress.

Since then, numerous compelling problems have presented themselves, including climate change, the proliferation of toxic chemicals, and a burdensome and an ineffective Endangered Species Act. With the long, dark shadow of partisan and special interest politics looming over it, Congress has ducked them all. In fact, Congress seems to have withdrawn from passing any meaningful legislation at all, other than stopgap measures absolutely necessary to keep the United States government running and to avoid defaulting on its sovereign debt, and even then with some noisy complaints.[2]

Congress's dysfunction is extremely costly. The Congressional budget stalemate that shut down the U.S. government for sixteen days in 2013 was estimated to have shaved 0.6% off of GDP growth, about $24 billion in lost output.[3] The National Park Service lost about $76 million of foregone visitor spending for every day that the shutdown forced its units to remain closed.[4] In 2011, as part of a resolution to an ongoing partisan dispute over the

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1. Clean Air Act Amendments of 1990, Publ. L. No. 101-549, 104 Stat. 2468.

2. S*ee, e.g.,* Ezra Klein & Evan Soltas, *Wonkbook: Three Terrifying Quotes on the Debt Ceiling,* THE WASH. POST WONKBLOG (Oct. 7, 2013), http://www.washingtonpost.com/blogs/wonkblog/wp/2013/10/07/wonkbook-three-terrifying-quotes-on-the-debt-ceiling/.

3. *See, e.g.,* Eliana Dockterman, *Here's How Much the Government Shutdown Cost the Economy,* TIME (Oct. 17, 2013), http://swampland.time.com/2013/10/17/heres-what-the-government-shutdown-cost-the-economy/.

4. Josh Hicks, *National Parks Losing Revenue Under Shutdown,* THE WASH. POST (Oct. 14, 2013), http://www.washingtonpost.com/blogs/federal-eye/wp/2013/10/14/national-parks-losing-revenue-under-shutdown/.

raising of the U.S. federal government debt ceiling, President Obama signed into law the Budget Control Act of 2011,[5] which would, in future debt limit political showdowns, automatically trigger across-the-board spending cuts unless Congress could agree to a new spending plan. There is no controversy over the inefficiency of these blunt, pro rata spending cuts, known as the "Sequestrations." The Sequestration cuts were purposely made to be so clumsily ignorant of any prioritization and so pointlessly painful, that surely Congress would come to its senses and override the Sequestrations by passing sensible budgets in the future. We know how that turned out.

There is an unfortunately common temptation to think that all Congress does is pass regulatory laws which get in the way of the smooth functioning of an economy.[6] But this facile view forgets that among other things, Congress is charged with appropriating money and authorizing some military and some emergency measures. The federal gasoline tax, used to fund the Federal Highway Trust Fund, stands at 18.4 cents per gallon, unchanged since 1993. Because Congress has rejected every call over the last 22 years to increase the tax, funding has not kept pace with inflation and with growing infrastructure needs, including a national road and bridge network that is in severe disrepair. Repair is obviously much more costly than maintenance, so this is not belt-tightening at all, but the opposite. And were Congress more interested in genuinely constructive oversight of federal agencies rather than grandstanding harassment, they might even improve agency performance. But perhaps most importantly, the Congress-can-do-nothing-right view wishfully assumes away the laws already on the books that require agencies to do things to facilitate the transaction of business, like issuing permits. It is spectacularly foolish to celebrate a do-nothing Congress on the grounds that the less Congress does to hamstring an economy, the better.

This über-minimalist view is more tempting in the environmental arena, where it seems more intuitive that Congress can do nothing good for business. But this view is wrong in environmental law as well. Congressional inaction has created uncertainties that have been extremely costly to American

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5. Budget Control Act of 2011, Pub. L. No. 112-25, 125 Stat. 240.

6. S*ee, e.g.,* Barton Hinkle, *Please Congress, Do Much Less*, REAL CLEAR POLITICS (Jan. 2, 2014), http://www.realclearpolitics.com/articles/2014/01/02/please_congress_do_much_less_121109.html; Stephen Moore, Commentary, *What's So Bad About a Do-Nothing Congress?*, CATO INSTITUTE (Oct. 27, 2000), http://www.cato.org/publications/commentary/whats-so-bad-about-donothing-congress.

businesses. For example, the failure to clarify whether greenhouse gases could be regulated under the Clean Air Act necessitated extensive EPA rulemakings and a U.S. Supreme Court decision, all of which could have been avoided with a relatively simple amendment. And if the political atmosphere was more susceptible to compromise (which seems like such a remote scenario now that it seems quaint), Congress could take our environmental laws, the vast majority of which were enacted in the 1970s and 1980s, and improve upon them. The last time that Congress and the White House worked to produce a bipartisan compromise was the last time a significant federal environmental law was enacted—the Clean Air Act Amendments of 1990,[7] which ushered in (among other things) an emissions trading program for sulfur dioxide emissions from power plants.

There is plenty of room for bipartisan improvement. The fact that environmental advocates and the chemical industry agree that reform of the Toxic Substances Control Act (TOSCA)[8] is badly needed suggests that a great deal of wasteful compliance is taking place, to say nothing of the problematic ignorance about the millions of chemical compounds, about which we know very little, that are placed in the stream of commerce in large quantities. TOSCA compromise was tantalizingly close, with one tentatively forged by Senators Vitter and Lautenberg, a Republican representing a state with a large chemical industry, and a Democrat long known as a champion of environmental causes. But then Senator Lautenberg died, and seemed to take with him the prospect of compromise.

In the biodiversity arena, nobody thinks that the Endangered Species Act (ESA) works just fine. Environmental advocacy organizations and most wildlife biologists believe that by the time that the ESA "jeopardy" provisions trigger private and federal duties, it is too often too late to save a species.[9] Industries affected by ESA restrictions believe that the ESA is too blunt of an instrument, protecting species with little or no ecological value.[10] Wildlife biologists, along with a smattering of industry advocates, believe that the ESA is misdirected at saving species rather than

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7. Clean Air Act Amendments of 1990, Publ. L. No. 101-549, 104 Stat. 2468.

8. Toxic Substances Control Act, Pub. L. No. 91-469, 90 Stat. 2003 (1976).

9. *See, e.g.* Timothy H. Tear, J. Michael Scott, Patricia H. Hayward & Brad Griffith, *Status and Prospects for Success of the Endangered Species Act: A Look at Recovery Plans,* 262 SCIENCE 976, 977 (1993).

10. Taylor Smith, Policy Document, *Research & Commentary: Endangered Species Act Repeal and Replace,* THE HEARTLAND INSTITUTE (Sept. 17, 2014), http://heartland.org/policy-documents/research-commentary-endangered-species-act-repeal-and-replace.

protecting habitats.[11] And yet, in the forty-two years since its passage, there has never been a serious attempt to reform the ESA. A cluster of amateur-hour attempts by Congressional Republicans in the mid-1990s to gut the ESA never reached the House floor.[12]

At times, Congress seems to have been able to navigate hyper-partisanship. Congress seemed to be on the verge of passing climate legislation when, in 2009, the House of Representatives passed by a 219-212 vote the American Clean Energy and Security Act, more widely known as Waxman-Markey by the names of its sponsors, Congressmen Henry Waxman and Ed Markey.[13] But the Senate did not pass a version of the bill.[14] A seemingly compelling argument in favor of passage was that the alternative was so much worse: regulation under the Clean Air Act. In an argument reminiscent of the Sequestration cuts, Clean Air Act regulation would be so inefficient and clumsy, so ill-fitted to the modern problem of greenhouse gas emissions, that surely Congress would come to its senses and pass a more efficient alternative. We know how that turned out.[15]

With Congress gridlocked, environmental law must "portage" around the lawmaking "logjam."[16] In thinking about Congress's vacation from environmental law, Don Elliott's analogy to a canoeist picking up her boat and clumsily but necessarily carrying it downstream is apt. Not just EPA, but environmental law generally has adopted at least some portaging strategies, such as greater reliance on state and local law to achieve environmental objectives.

To Elliott's suggested portage strategies, Todd Aagaard adds a new one: carrying out environmental or quasi-environmental mandates in non-environmental statutes. In his contribution to this volume, *Using Non-Environmental Law to Accomplish Environmental Objectives*, Aagaard sees not only potential but

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11. DAVID S. WILCOVE, MICHAEL J. BEAN, ROBERT BONNIE & M. MCMILLAN, REBUILDING THE ARK: TOWARD A MORE EFFECTIVE ENDANGERED SPECIES ACT FOR PRIVATE LAND (Environmental Defense Fund, 1996).

12. For a discussion on several House proposals to weaken the ESA, see Michael J. Bean, *The Gingrich That Saved the ESA*, ENVTL. F., Jan./Feb. 1999, at 26.

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

14. Carl Hulse & David M. Herszenhorn, *Democrats Call Off Climate Bill Effort*, N.Y. TIMES, July 23, 2010, at A15, *available at* http://www.nytimes.com/2010/07/23/us/politics/23cong.html?_r=0.

15. David Leonhardt, *Saving Energy, and Its Cost*, N.Y. TIMES, June 16, 2010, at B1, *available at,* http://www.nytimes.com/2010/06/16/business/economy/16leonhardt.html?_r=0.

16. E. Donald Elliott, *Portage Strategies for Adapting Environmental Law and Policy During A Logjam Era,* 17 N.Y.U. ENVTL. L.J. 24, 27 (2008) (quoting BRUCE ACKERMAN & DAVID GOLOVE, IS NAFTA CONSTITUTIONAL? (Harvard Univ. Press, 1995)).

actual environmental advocacy in such diverse laws as the Plant Protection Act, Securities and Exchange Commission disclosure requirements, Federal Energy Regulatory Demand Response Order, and Federal Trade Commission "Green Guides," that govern marketing claims made by producers that pertain to environmental or health benefits.[17] Under the Plant Protection Act,[18] the Animal and Plant Health Inspection Service has regulated the interstate movement of potentially invasive species, something which Congress has never addressed head-on as a purely environmental matter. The Securities and Exchange Commission (SEC), in carrying out the Securities Act of 1933[19] and the Securities Exchange Act of 1934,[20] mandate the disclosure of "material facts," which is defined as information for which there is "a substantial likelihood that a reasonable investor would attach importance in determining whether to purchase the security."[21] With a series of regulations, the SEC has gradually begun to require an increasingly greater amount of information pertaining to a publicly traded firm's environmental practices and its potential liability. This has extended into the area of climate change, as material facts include consideration of the risks of climate policy and climate change, including:

i. the impact of legislation and regulation;
ii. the impact of international accords;
iii. the indirect consequences of regulation or business trends;
iv. the physical impacts of climate change.[22]

The Federal Trade Commission, in carrying out the Federal Trade Commission Act,[23] polices "unfair or deceptive acts or practices in or affecting commerce."[24] In debunking false claims about the environmental impacts or benefits of products, the FTC has issued a series of "Green Guides"[25] that set out its view of what constitutes unfair or deceptive marketing. Apart from serving a consumer protection function, the FTC has made it its business to

17. Todd S. Aagaard, *Using Non-Environmental Law to Accomplish Environmental Objectives*, 30 J. LAND USE & ENVTL. L. 36 (Fall 2014).
18. 7 U.S.C. §§ 7701-7786 (2000).
19. 15 U.S.C. §§ 77a-77aa.
20. 15 U.S.C. §§ 78a-78pp.
21. *See* Securities Act Rule 405, 17 C.F.R. § 230.405; Exchange Act Rule 12b-2, 17 C.F.R. § 240.12b-2.
22. Commission Guidance on Disclosures, Securities Act Release No. 33-9106, Exchange Act Release No. 34-61469, 75 Fed. Reg. 6289 (Feb. 2, 2010).
23. 15 U.S.C. §§ 41-58 (1914).
24. 15 U.S.C. § 45(a)(1) (2006).
25. 16 C.F.R. §§ 18-260 (1994).

act as the occasional watchdog for environmental claims. Finally, the Federal Energy Regulatory Commission (FERC), in carrying out the Federal Power Act,[26] and regulating the interstate transmission of electricity, has ordered operators to treat "demand response" savings—reductions in electricity demand—on equal footing with actually generated electricity.[27] Again, while the primary purpose is the administration of electricity transmission, when between two options, one environmentally beneficial and one not, the FERC has found a way to choose the environmentally beneficial regulatory path.

In all of these cases described by Aagaard, the core purpose of these statutes and regulations pertain to some non-environmental goal.[28] But in each case there is a sufficient relation between the core objective and some environmental goal such that environmental quality becomes a side benefit of that statute or regulation. Here then, is one way that environmental law has portaged around the Congressional logjam: by using non-environmental law to achieve environmental goals as an objective ancillary to other substantive goals.

Some more general evolutions of environmental lawmaking have taken place. In fact, some of these evolutions pre-date Congress's vacation from environmental law, suggesting that the evolution of environmental law is a much bigger and more complex process than the dominant Congress-centered model. In the 1970s, the regulatory process was opened up to negotiated rulemakings and policies that formalized regulatory negotiations that were undertaken to introduce flexibility in administrative rulemakings.[29] In the 1980s, President Reagan issued Executive Order 12291, a cost-benefit analysis for all rulemakings with a "significant" economic impact, defined back in 1981 as those with at least $100 million in economic impacts.[30] To cope with this new institutionalized practice, a new instrument of the executive was formed: the Office of Information and Regulatory Affairs, or

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26. 16 U.S.C. §§ 791a-828c (1920).

27. Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64,100, 64,101 (Oct. 28, 2008) (to be codified at 18 C.F.R. § 35.28); Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (to be codified at 18 C.F.R. § 35.28). A part of this program was vacated by the United States Court of Appeals for the D.C. Circuit, Electric Power Supply Ass'n v. FERC, 754 F.3d, and awaits appeal to the U.S. Supreme Court.

28. Todd S. Aagaard, *Using Non-Environmental Law to Accomplish Environmental Objectives*, 30 J. LAND USE & ENVTL. L. 36 (Fall 2014).

29. *See, e.g.,* Philip Harter, *Negotiating Regulations: A Cure for Malaise*, 71 GEO. L.J. 1,39-40 (1982).

30. Exec. Order 12,291, 46 Fed. Reg. 13,193 (1981).

"OIRA."[31] As it turned out, this was not a partisan executive move, as both Presidents Clinton and Obama have kept the requirement (albeit in a different form),[32] making cost-benefit analysis into a less binding, "softer" lawmaking principle.[33] The practice of cost-benefit analysis in federal rulemaking and the expansion of the responsibilities of OIRA have grown significantly under both Democratic and Republican presidential administrations, and have become controversial, though not breaking along political party lines.[34]

One should not be surprised that a new agency, with its own incentives, has sowed discontent in the federal agency ranks. William Funk's contribution to this volume, *David and Goliath: Taking on OIRA,* describes an agency that has sometimes thrown its weight around in the executive branch.[35] Apart from providing a wonderfully expert and thorough description of the OIRA review process, Funk helps chronicle the institutional development of this new 800-pound gorilla, and shows that what has been prescribed by the executive order does not necessarily comport with OIRA's actual behavior.[36] In fact, as Professor Funk notes, OIRA has a number of ways of breaching its mandated duties to provide a timely review of agency rulemakings.[37] Delays have become chronic at OIRA, so the mandated ninety-day review period is regularly exceeded.[38] The opaqueness of OIRA's analyses and records of its meetings with stakeholders is regarded, even by those friendly to OIRA, as suspicious.[39] Funk unearths some fairly shocking statements on OIRA power, including former OIRA administrator Cass Sunstein's pronouncements that OIRA can "say no to members of the President's Cabinet," and that it can place proposed rules onto a "shit list" and make sure that they "never s[ee] the light of day."[40]

One might be surprised at such chutzpah, even from a Harvard Law professor. What can agencies do in response? As Funk points

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31. *See, e.g.,* Daniel Farber, *Rethinking the Role of Cost-Benefit Analysis,* 76 U. CHI. L. REV. 1355, 1361 (2009).

32. Exec. Order 12,866, 58 Fed. Reg. 13,193 (1993).

33. Farber, *supra* note 31, at 1361-62.

34. Shi-Ling Hsu, *The Accidental Postmodernists: A New Era of Skepticism in Environmental Policy*, 39 VT. L. REV. 27 (2014).

35. William Funk, *David and Goliath – Taking on OIRA*, 30 J. LAND USE & ENVTL. L. 64 (Fall 2014).

36. *Id.*

37. *Id.*

38. *See, e.g.,* Farber, *supra* note 31, at 1356-57.

39. Farber, *supra* note 31, at 1363-64.

40. William Funk, *David and Goliath – Taking on OIRA*, 30 J. LAND USE & ENVTL. L. 64 (Fall 2014).

out, judicial review is precluded, although that is something that could be changed by executive order.[41] Sometimes, agency heads appeal directly to the President, who ultimately decides. Sometimes, they ignore OIRA's instruction to not publish a rule. These successful "push-backs," as Professor Funk documents, occurred under the Republican presidencies of Reagan and George H.W. Bush.[42] Professor Funk thus leaves us with a question: why not try pushing back against OIRA's administrative bullying? It is an important question as governments navigate environmental law without Congress.

Does Congress even exist? Leave it to the playful J.B. Ruhl, in his contribution to this volume, to ask a political question as if it were a theological one.[43] If one lacked access to media coverage of Congress, and could only "experience" Congress by examining environmental lawmaking (as one might examine scripture), one might reasonably conclude that Congress is dead. It has done almost nothing since 1990. Its dalliances into environmental law have been sporadic enough that one could suspect these were orchestrated events, staged "miracles" to sustain your faith in Congress, but not actually accomplish anything meaningful. Certainly the Endangered Species Act (ESA), Professor Ruhl's lens,[44] is a prime example. Despite a crying need, Congress has not substantially amended the ESA since its passage in 1973. In the meantime, we have found a way to make do with a number of administrative innovations, like Habitat Conservation Planning under section 10 of the ESA.[45] Courts have portaged, also, stepping in to make the ESA, as Professor Ruhl put it, "no less than a national land use and resources management program."[46] Storms have brewed from time to time, like a wave of threatened ESA amendments in the mid-1990s, which the faithful have taken as a sign that Congress does exist and might, should it become displeased, descend and show its wrath by really changing environmental law to the detriment of all us pagan practitioners. In 2004, Congress also excluded U.S. Defense Department lands from critical habitat designation, provided that certain land management provisions were followed.[47] Alas, Congress does exist, and comes forth to provide in the Pentagon's greatest hour of need!

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41. *Id.*
42. *Id.*
43. J.B. Ruhl, *Does Congress Exist?*, 30 J. LAND USE & ENVTL. L. 80 (Fall 2014).
44. *Id.*
45. Endangered Species Act of 1973, 16 U.S.C. § 1539 (2006).
46. J.B. Ruhl, *Does Congress Exist?*, 30 J. LAND USE & ENVTL. L. 80 (Fall 2014).
47. *Id.*

Lest we despair too much, the conference keynote speaker, Richard Lazarus, reminds us that Congress has survived past crises far more emotive than the ones it currently faces.[48] After Massachusetts Senator Charles Sumner delivered a stinging anti-slavery speech on the Senate floor, he was beaten, nearly fatally, by South Carolina Congressman Preston Brooks.[49] Partisan politics runs high in Congress these days, but has not quite risen to the level of physical violence among its members.

Professor Lazarus puts his finger on an inherent problem with environmental politics that is at the heart of the Congressional absence from federal environmental lawmaking: championing environmental quality does not provide political payoffs worth the political costs.[50] Even President Nixon, the penultimate political calculator, retreated from his courtship of environmental voters, eventually learning that the political payoffs never quite justify the political costs. Professor Lazarus cites William Ophuls's *Ecology and the Politics of Scarcity*,[51] which expresses doubt that a democracy can *ever* cope with environmental problems. Scientific uncertainty, inherent in most environmental problems, is too convenient for those resisting regulation. And the distribution of environmental benefits and compliance costs – the latter being a much more concrete political interest – all but guarantees a thumb on the scale of environmental regulation. Finally, as a psychological matter, the costs of environmental regulation are imposed on *identifiable* individuals, groups, and industries, but the environmental benefits redound to the benefit of a much larger, but inchoate and less identifiable mass of people, again guaranteeing that the environmental interest will be relatively under-represented.[52]

What is to be done? Professor Lazarus suggests that political incentives facing Congress somehow have to be aligned with the long-term and disparate interests represented by environmental advocacy.[53] That seems like a tall order requiring a Constitutional amendment. If that were the way to go, then one modest first step might be to address the *Citizens United v. Federal Election*

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48. Richard Lazarus, *Environmental Law Without Congress*, 30 J. LAND USE & ENVTL. L. 16 (Fall 2014).

49. *Id.*

50. *Id.*

51. *Id.* (*citing* WILLIAM OPHULS, ECOLOGY AND THE POLITICS OF SCARCITY (W.H. Freeman & Co. 1977)).

52. Shi-Ling Hsu, *The Identifiability Bias in Environmental Law,* 35 FL. ST. U. L. REV. 433 (2008).

53. Richard Lazarus, *Environmental Law Without Congress*, 30 J. LAND USE & ENVTL. L. 16 (Fall 2014).

Commission[54] case, which unleashed a torrent of private money into political campaigns, federal and state, executive, legislative, and even judicial. Even that appears to be a heavy lift.

Absent a fundamental structural change, the more familiar pathway for environmental advocacy is to change public opinion. Congress responds to public opinion, and on the most pressing matter of climate change, public opinion has been puzzlingly inert. Although public opinion has trended towards greater acceptance of climate change,[55] the amount of skepticism resident in the American population has remained much higher than that among climate scientists.[56] As this public opinion anomaly has persisted, the study of the psychology of climate change has become a mainstream academic endeavor, spawning significant bodies of research at a number of psychology departments and elsewhere in universities. Work that began with a mostly descriptive bent has become highly theoretical and has expanded the boundaries of psychological research,[57] even weaving in sociological concepts[58] in attempting to understand why people believe what they believe about climate change.

In 2011, the American Psychological Association commissioned a report[59] that was a sweepingly comprehensive review of the many ways in which psychologists might have something to say about climate change. This "everything climate change and psychology" report not only explored the psychological determinants of public opinion on climate change, but also the psychological impacts of a climate-changed world.[60] The lead author of that report, Pennsylvania State University Psychology Professor Janet Swim, brings a psychological perspective to this volume. Along with co-authors John Fraser and Nathaniel Geiger, Professor Swim's contribution, *Teaching the Public to Sing: Use of Social Science Information to Promote Public Discourse on Climate*

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54. 558 U.S. 310 (2008).

55. *See, e.g.,* ANTHONY LEISEROWITZ, EDWARD MAIBACH, CONNIE ROSER-RENOUF, GEOFF FEINBERG & PETER HOWE, CLIMATE CHANGE IN THE AMERICAN MIND: AMERICANS' GLOBAL WARMING BELIEFS AND ATTITUDES IN SEPTEMBER 2012 4 (Yale Project on Climate Change Communication, 2012).

56. *Id.* at 7.

57. *See, e.g.,* Dan M. Kahan, *Making Climate-Science Communications* Evidence-*based – All the Way Down, in* CULTURE, POLITICS AND CLIMATE CHANGE (M. Boykoff & D. Crow eds., Routledge Press 2014), available at http://ssrn.com/abstract=2216469.

58. LEISEROWITZ, *supra* note 55 (Classifying climate belief systems into six demographic groups).

59. JANET K. SWIM, PAUL C. STERN, THOMAS J. DOHERTY, SUSAN CLAYTON, JOSEPH P. RESER, ELKE U. WEBER, GIFFORD & GEORGE S. HOWARD, PSYCHOLOGY AND GLOBAL CLIMATE CHANGE: ADDRESSING A MULTIFACETED PHENOMENON AND SET OF CHALLENGES (American Psychological Association, 2009).

60. *Id.* at 42-50.

Change,[61] discusses a key impediment to changing opinions on climate change: the reluctance of people to even discuss climate change in social situations. It would appear that climate change has become so politically loaded that, like religion and politics, it has become a social taboo to bring it up in casual conversation. Taking on such a delicate matter is further hindered by the generally low "self-efficacy" (not knowing enough to discuss climate change intelligently) and "response efficacy" (the perception that talking about climate change is unlikely to be effectual in changing minds) of discussing climate change. Keeping up with the complexity and constantly changing state of climate science is a daunting prospect even for policy experts; for the layperson, it is enough to drive them completely underground. Professor Swim observes that climate change can be and is actually efficaciously discussed in certain arenas such as aquariums and zoos, where the impacts of climate change on species can be naturally discussed without violating a social taboo, and in which climate messages can be delivered with scientific credibility.[62] The larger job, however, of teaching the general public to *sing* requires that those willing to discuss climate change be given the tools and the contexts in which a discussion of climate change can be carried out without fear of violating some social norm.

It is worth taking a step back and seeing how other areas of law have transformed themselves in the face of Congressional inaction. What we commonly find is that second-best solutions emerge, often utilizing new information technologies. Consider the law around social media and electricity transmission lines. The explosion of first, the internet, and subsequently, social media, has taken a technologically overmatched Congress by surprise. Privacy concerns have leapt to the forefront of the policy debate, and yet seem to be incrementally and partially addressed by technology firms themselves. Privacy concerns have been addressed by a variety of half-measures (by some accounts unsatisfactorily), but consumers have not voted with their feet and exited the social media world en masse.

Now consider the need for an upgraded electricity transmission system. Grid reliability in the United States no longer compares favorably with technologically sophisticated countries such as

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61. Janet Swim et al., *Teaching the Public to Sing: Use of Social Science Information to Promote Public Discourse on Climate Change*, 30 J. LAND USE & ENVTL. L. 90 (Fall 2014).

62. *Id.*

Germany.[63] While Congress could clearly step in and provide the mandate and the money to upgrade electricity reliability, saving billions of dollars of dampened economic activity, it has not done so. Familiar "Not-in-My-Backyard" concerns have crippled decentralized, non-Congressional efforts to improve electricity transmission. But in this chaos, several alternatives have emerged. Some frustrated towns and even individual homeowners have simply gone off the grid and installed a combination of alternative energy sources.[64] Energy storage has suddenly become a hot technology. And Google, wading into the energy world with its formidable cache of information and money, has invested in a transmission line that will be buried underground in the North Atlantic seabed, circumventing the notoriously difficult approval processes in New Jersey, which badly needs more transmission capacity.[65]

Perhaps that is the more subtle lesson: that like other areas of law, environmental lawmaking is maturing so that it is not so utterly dependent upon Congress. Over the past twenty-five years, a number of lawmaking institutions have evolved to take Congress's place. A great deal of administrative lawmaking has taken place. Under the Clean Air Act, ozone standards have come and gone and fine particulate matter pollution standards are tightening. Administrative lawmaking has, by necessity, evolved under the Endangered Species Act (ESA), as Habitat Conservation Planning (HCP) has provided some relief from the still-pressing need for reform. Some of the perverse incentives, information gaps, and regulatory pathologies of the ESA have at least been alleviated by a less adversarial, more cooperative and more information-sharing relationship made possible by administrative fiat. Could Congress have done what the U.S. Fish and Wildlife Service did? Although imperfect, and sometimes subject to criticism from environmental advocacy groups, the HCP program has clearly served as an amendment to the ESA, attempting to meet many of the objections made by regulated industries, and

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63. *German Grid Reaches Record Reliability in 2011,* RENEWABLES INT'L. (Sept. 5, 2012), http://www.renewablesinternational.net/german-grid-reaches-record-reliability-in-2011/150/537/56183/.

64. *See, e.g.,* Craig Leisher, *The Pleasures and Pitfalls of Off-the-Grid Solar,* N.Y. TIMES (Jan. 18, 2012, 2:36 PM), http://green.blogs.nytimes.com/2012/01/18/the-pleasures-and-pitfalls-of-off-the-grid-solar/.

65. Ehren Goossens, *Google-Backed Atlantic Offshore Wind Cable Shifts Focus to New Jersey*, RENEWABLEENERGYWORLD.COM (Oct. 29, 2013), http://www.renewableenergyworld.com/rea/news/article/2013/10/google-backed-atlantic-offshore-wind-cable-shifts-focus-to-new-jersey.

even some of the ones made by conservation biologists and environmental advocacy groups.

State and local governments have also stepped into the void left by Congress, and in some cases have accomplished some things that Congress simply could not do. It is worth keeping in mind (without unduly celebrating) that there are some benefits of federalism. The practice of hydraulic fracturing has grown up, mostly unsupervised, with no Congressional input at all. Instead, state and local governments have forged ahead, making their own political choices that have led to the patchwork of fracking activity throughout the United States. Moreover, new technologies have made the United States into a new global energy power. What we have collectively learned from these sometimes prudent, sometimes headlong rushes into fracking is substantial, and quite possibly less tainted than it would be if it had been obtained under the shadow of EPA regulation. On the climate change front, California's Global Warming Solutions Act enacted a cap-and-trade program for greenhouse gas emissions that will reduce the California's carbon footprint to 1990 levels by the year 2020.[66]

While creative work-arounds have been developed that could have been, but were not, obviated by congressional action, it is impossible to elide certain areas that desperately need the intervention of Congress. Reform of the Toxic Substances Control Act is long overdue. Without it, chemical manufacturers face a patchwork of non-federal regulations, and most importantly, so little is known about the tens of thousands of chemicals introduced into commerce regularly. Most importantly, climate change needs Congress. President Obama's plan to reduce greenhouse gas emissions using the Clean Air Act is as credible as it could be, but is clearly only a start. Much can be learned by subnational or extra-governmental initiatives to combat climate change, but ultimately, climate change can only engage the governments of China and India if Congress acts.

Congress remains the first best option. But the second-best options have often been drafted into second-best worlds, and stakeholders in environmental law disputes are normally thrilled to achieve even that. Necessity has proven to be the mother of a number of innovations, in a number of different settings.

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66. California Global Warming Solutions Act of 2006, 2006 Cal. Stat. § 1, ch. 488 (codified as CAL. HEALTH & SAFETY CODE §§ 38,500-38,599 (West 2008)).

ENVIRONMENTAL LAW WITHOUT CONGRESS

RICHARD LAZARUS*

The topic for this essay, environmental lawmaking without Congress, is admittedly a bit depressing. Our nation today faces significant and pressing environmental problems, and Congress is, at least in theory, the lawmaking institution most appropriate for designing a legal regime capable of addressing these problems. Indeed, the pre-eminent role of Congress as the nation's lawmaker is a matter of deliberate design. Of the three branches, only the legislative branch is dominated by democratically-elected leaders directly responsive to the nation's voters. Congress should therefore be the branch making the fundamental policy decisions underlying federal environmental law: determining acceptable levels of risk to public health and welfare, assessing the relevance of scientific uncertainty, and making the distributional tradeoffs implicit in the setting of environmental protection standards.

Yet for the past two decades, our nation has experienced environmental lawmaking *without* Congress. I first wrote about this development in 2006, then contrasting the "ascent" of Congress during modern environmental law's first two decades in the United States to its "descent" ever since.[1] Tragically, we seem no closer today than we were in 2006 to breaking that legislative log-jam. With the passage of eight more years, the political intransigence underlying Congress's abdication of its environmental lawmaking responsibilities appears to have hardened and deepened its roots.

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1. Richard J. Lazarus, *Congressional Descent: The Demise of Deliberative Democracy in Environmental Law*, 94 GEO. L.J. 619 (2006).

This essay, based on a keynote address I delivered at a conference at the Florida State University College of Law, "Environmental Law Without Congress," sets the stage for the remainder of the papers produced from the conference. Rather than purport to offer answers to the fundamental question the proceedings proposed, my aim is to place what we are currently seeing in a broader historical perspective, and to make clear how sharply Congress's current absence over the past two decades contrasts with the role that Congress played in the emergence and evolution of modern environmental law. This historical inquiry reveals that this is not the first time the nation's environmental laws have suffered from a congressional lawmaking vacuum.

This essay is divided into three parts. Part I considers the role of Congress during the nineteenth and the first half of the twentieth century. Part II considers Congress during the second half of the twentieth century. And, finally, Part III focuses on the role of Congress, or the lack thereof, since congressional passage of the Clean Air Act Amendments of 1990.

I. CONGRESSIONAL ENVIRONMENTAL LAWMAKING DURING THE NATION'S FORMATIVE YEARS

During the nation's formative years, Congress played a fundamental part in environmental law.[2] Particularly during the nineteenth century, it had a critical foundational role in establishing the borders that define the nation and in managing the natural resource wealth within those borders. Congress also defined the terms for the disposition of those resources into private and public hands.

The Louisiana Purchase, the Treaty of Guadalupe Hidalgo, the purchase of Florida from Spain, and the purchase of Alaska from Russia dramatically expanded the nation's physical borders and defined its resource potential.[3] After acquiring such lands, in a systematic effort to promote expeditious settlement, Congress passed a significant number of laws designed to dispose of the lands.[4] Land grants to states were a major part of that congressional effort.[5] The thirteen original states retained

2. Today, many routinely equate "environmental law" with pollution control laws; but "environmental law" today, as in the earlier times, can best be understood as embracing both pollution control and the kinds of natural resource management laws that dominated national lawmaking in the 19th century.

3. *See* GARY ALDEN SMITH, STATE AND NATIONAL BOUNDARIES OF THE UNITED STATES (2011).

4. *See* GEORGE C. COGGINS & ROBERT L. GLICKSMAN, PUBLIC NATURAL RESOURCES LAW §§ 2.2–2.9 (2d ed. 2007).

5. *Id.*

ownership over all unsold lands within their borders, but pursuant to state-enabling legislation, Congress granted to new states title to substantial amounts of lands, including for the support and development of public schools, and millions of acres of swamplands, which, notwithstanding that label, included some extremely valuable properties.[6] Congress also granted 175 million acres, or approximately one-tenth of the landmass of the United States at the time, to the railroads.[7] Finally, Congress granted land directly to settlers, beginning with the Preemption Act of 1841, placing hundreds of millions of acres into private hands.[8] Through these actions, Congress sought to promote the settlement and economic development of the nation.

However, even in the midst of this substantial lawmaking, Congress faced significant impasses. In the years leading up to the Civil War, in particular, Congress was increasingly dysfunctional. The issue of slavery dominated the nation and polarized the political parties to such an extent that little could be accomplished.[9] Indeed, our polarization today, no matter its seeming intensity, pales in comparison to that which afflicted the nation in the mid-nineteenth century. The order of magnitude difference is highlighted by one of the most notorious events ever witnessed in the Senate Chamber: on May 22, 1856, House of Representatives member Preston Brooks caned and severely injured Massachusetts Senator Charles Sumner, with whom he vehemently disagreed about the morality of slavery.[10]

Not coincidentally, the legislative log-jam in Congress broke only after the Civil War began in 1861. President Lincoln issued his order authorizing war against the Confederate States in January 1862, and later that year Congress passed three significant environmental and natural resources laws: the Homestead Act of 1862,[11] the Morrill Act of 1862,[12] and the Pacific Railroad Act of 1862.[13] The Homestead Act was, at that time, the still-young nation's most significant natural resource law,

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6. *See id.* § 2.7; ANN VILEISIS, DISCOVERING THE UNKNOWN LANDSCAPE: A HISTORY OF AMERICA'S WETLANDS 76–78 (1997) (describing grants of swamplands to states).

7. DONALD L. FIXICO, BUREAU OF INDIAN AFFAIRS 90 (2012).

8. Preemption Act of 1841, ch. 16, 5 Stat. 453.

9. *See* Keith T. Poole, *The Roots of the Polarization of Modern U.S. Politics* 5 (2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1276025.

10. *The Caning of Senator Charles Sumner*, UNITED STATES SENATE, http://www.senate.gov/artandhistory/history/minute/The_Caning_of_Senator_Charles_Sumner.htm (last visited Sept. 19, 2014).

11. Homestead Act of 1862, Pub. L. No. 37-64, 12 Stat. 392 (repealed 1976).

12. Morrill Act of 1862, Pub. L. No. 37-108, 12 Stat. 503 (codified as amended at 7 U.S.C. §§ 301-305, 307-308 (2012)).

13. Pacific Railroad Act of 1862, 12 Stat. 489 (codified as amended at 43 U.S.C. §§ 942-943 (2012)).

promoting settlement of the west by providing that any adult citizen or intended citizen who had not borne arms against the United States could claim up to 160 acres and, based on activities to improve that land, achieve its ownership.[14] The Morrill Act created the land-grant to colleges by providing each state with 30,000 acres for every member of Congress from that state, with the proceeds from that property used to create colleges and universities.[15] Finally, the Union Pacific Railroad Act was the most significant and most generous of these federal laws, granting land to railroads in exchange for their construction of railways across the western United States. In addition to the land necessary for the railroad itself, the Act granted ten square mile acres of public lands for every mile of track construction.[16]

Congress next faced changing national priorities during the turn of the nineteenth century, when natural resource conservation and preservation grew in importance. Congress responded to these changing priorities by shifting its laws from those that emphasized disposition of natural resources into private hands to laws that fostered natural resource conservation and preservation.[17] These new laws promoted the retention of significant lands as permanent federal "public lands" for economic development, conservation, and preservation. They included the General Revision Act of 1891 (Forests),[18] the Forest Management Act of 1897,[19] the Rivers and Harbors Act of 1899,[20] the Reclamation Act of 1902,[21] the Antiquities Act of 1906,[22] the National Park Service Organic Act of 1916,[23] the Migratory Bird Treaty Act of 1918,[24] the Federal Power Act of 1920,[25] the Mineral Leasing Act of 1920,[26] and the Migratory Bird Conservation Act of 1929.[27]

This policy shift from disposition to retention, conservation, and preservation did not come easily. It disrupted significant

14. Homestead Act of 1862, Pub. L. No. 37-64, 12 Stat. 392; *see also* THE LIBRARY OF CONGRESS CIVIL WAR DESK REFERENCE 677–78 (Margaret E. Wagner et al. eds., 2002).

15. Morrill Act of 1862, Pub. L. No. 37-108, 12 Stat. 503; *see also* THE LIBRARY OF CONGRESS, *supra* note 14, at 149.

16. Pacific Railroad Act of 1862, 12 Stat. 489; *see also* THE LIBRARY OF CONGRESS, *supra* note 14, at 149.

17. *See* COGGINS & GLICKSMAN, *supra* note 4, at §§ 2.10–2.15.

18. 26 Stat. 1095-1103 (1891) (repealed 1976).

19. 30 Stat. 34–36 (1897) (codified as amended at 16 U.S.C. § 473 (2012)).

20. 30 Stat. 1151 (1899).

21. 32 Stat. 388 (1902).

22. 34 Stat. 225 (1906).

23. 39 Stat. 535 (1916).

24. 40 Stat. 755 (1918).

25. 41 Stat. 1063 (1920).

26. 41 Stat. 437 (1920).

27. 45 Stat. 1222 (1929).

settled economic expectations, including those of powerful business interests who were enjoying the benefits of the prior, more generous, federal natural resource laws. The federal government's struggle to develop the right approach to petroleum found on public lands is emblematic of those challenges.

As technological advances rendered petroleum an increasingly important energy resource in the latter half of the nineteenth century, its status under natural resource disposition laws remained at first murky. Eventually, Congress made petroleum available under extremely generous terms, providing that petroleum resources, like other minerals on public lands, were "free and open to occupation, exploration, and purchase by citizens of the United States."[28] The associated costs were relatively minimal compared to the value of the mineral. As a result, a rush of private companies made claims and removed petroleum from federal lands at accelerating and sometimes wasteful amounts.[29]

This came to a head at the beginning of the twentieth century as the federal government began to perceive its own role as more significant, both domestically and on the world stage. In particular, in the early 1900s, the federal government discovered that it had to buy large amounts of costly petroleum for its growing fleet of navy vessels from private companies that had obtained their petroleum from the federal government's own lands at little or effectively no cost. As one government study described, the petroleum had been "practically given away."[30] President William Howard Taft sought to change the law so as to allow the government to retain its ownership in furtherance of national interests, including supporting its navy. To effectuate the change, however, the President needed Congress to act quickly; every day of delay meant the loss of more petroleum lands under the existing disposition laws. Indeed, the government study concluded that at current rates of withdrawals in California, "it would be impossible for the people of the United States to continue ownership of oil lands for more than a few months."[31]

In order to put a halt to the permanent loss of federally owned petroleum resources while waiting for Congress to act, President Taft issued a unilateral executive order "in aid of proposed

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28. An Act to Authorize the Entry and Patenting of Lands Containing Petroleum and Other Mineral Oils under the Placer-Mining Laws of the United States, approved Feb. 11, 1897, 29 Stat. at L. 526, chap. 216, Comp. Stat. 1913, § 4635; *see also* General Mining Law of 1872, 30 U.S.C. §§ 21–54 (1872).

29. *See* COGGINS & GLICKSMAN, *supra* note 4, at § 2.5.

30. United States v. Midwest Oil Co., 236 U.S. 459, 467 (1915); *see also* UNITED STATES CONGRESS, LEASING OF OIL LANDS: HEARING BEFORE THE COMMITTEE ON PUBLIC LANDS (1916).

31. *Midwest Oil Co.*, 236 U.S. at 466 (1915).

legislation."[32] The President ordered an immediate cessation of the withdrawal of petroleum lands from the public domain.[33] The President's authority to take this action, however, was unclear. After all, existing federal statutory law permitted the very withdrawal that the President was now purporting, in effect, to enjoin. The President's action for this reason could be characterized as flouting clear congressional intent, as expressed in a formally enacted and fully applicable federal statute. And the President's reason–a strongly held, sincere belief that the existing law was having unanticipated, disastrous consequences–was, regardless of its strength on the policy merits, at the very least not an obvious one for circumventing the necessity of persuading Congress to enact a new and different statute.

In a major victory upholding the inherent power of the President, the United States Supreme Court upheld President Taft's executive order in *United States v. Midwest Oil* in 1915.[34] The case was argued twice before the Court. The majority stressed that the power of Congress over the public domain is more than that of a "legislature"–that Congress also exercises the authority of a "proprietor"–and in that capacity Congress may grant the Executive Branch, as its agent, the authority to address emergencies that may occur in response to changing conditions.[35] The Court also relied on the fact that Congress appeared to have acquiesced in prior Presidential executive orders, removing some parts of the public domain from private withdrawal, although plainly none of those prior actions were of the same breadth and sweeping character as President Taft's most recent action.[36] This historical precedent was critical to the case's outcome, with the Court emphasizing that it need not say how it would have ruled on the question before the Court, had it been an "original question."[37] *Midwest Oil* remains today one of the Supreme Court's most significant endorsements of the power of the Chief Executive to act in response to national emergencies without clear congressional authority, and even in the presence of congressional intent to the contrary. This ruling is very much rooted in the inherent power of the federal government to address emergencies rooted in the management of the nation's natural resources.

Modern environmental law today is plainly rooted in these early natural resources laws. It can also be fairly traced to the

32. *Id.* at 467.
33. *Id.*
34. *Id.* at 459.
35. *Id.* at 474–507.
36. *Id.* at 469–70.
37. *Midwest Oil Co.*, 236 U.S. at 469 (1915).

urban justice and public health movements of the late nineteenth and early twentieth centuries. For example, Upton Sinclair's celebrated book, *The Jungle,* prompted the passage of the Pure Food and Drug Act of 1906,[38] and dust storms that devastated farmlands in the Midwest and brought harmful high concentrations of particulate pollutants to the eastern United States resulted in the passage of the Taylor Grazing Act of 1934.[39] In the 1940s, air pollution in Donora, Pennsylvania–compounded by a thermal inversion that prevented the polluted air from dissipating–killed twenty people and left thousands more seriously ill.[40] New York City had its own widely publicized episodes of smog, most notably in 1953, which resulted in two hundred deaths.[41] In response to these air pollution events, Congress enacted its first air pollution law in 1955.[42] Although the law did not assert a strong federal presence, it created the precedent for a federal role that was later more fully realized. These public health and pollution laws were clear precursors to the more modern pollution control laws enacted in the 1970s.

II. CONGRESSIONAL ROLE IN ENVIRONMENTAL LAWMAKING DURING THE SECOND HALF OF THE TWENTIETH CENTURY

The 1970s were a remarkable decade for environmental law. The country experienced a statutory and institutional transformation that established the vast majority of the environmental and natural resources laws and environmental administrative agencies that we have today. The social and political activity in the sixties was a direct precursor to this legislative transformation. With the publication of *Silent Spring* in 1962, Rachel Carson spurred fears about environmental contamination due to nuclear fallout and pesticides.[43] Other subsequent publications and events furthered the distrust of technology, industry, and government, fueling fears of no less than the end of life on earth.[44] Satellite television brought striking

38. ROBERT GOTTLIEB, FORCING THE SPRING: THE TRANSFORMATION OF THE AMERICAN ENVIRONMENTAL MOVEMENT 104 (2005).

39. Lee Sharp, *Overview of the Taylor Grazing Act, in* UNITED STATES BUREAU OF LAND MANAGEMENT, THE TAYLOR GRAZING ACT, 1934–1984: 50 YEARS OF PROGRESS 9 (1984).

40. RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 52 (2004).

41. *Id.*

42. Air Pollution Control Act of 1955, Pub. L. No. 84–159, 69 Stat. 322 (1955).

43. RACHEL CARSON, THE SILENT SPRING (1962); *see also* GOTTLIEB, *supra* note 38, at 125–27.

44. LAZARUS, *supra* note 40, at 58.

images, including the images of environmental catastrophes across the country, into people's living rooms. No longer did an event such as the Santa Barbara oil spill only occur in distant places–people could see the environmental disaster unfold in real time, whether wildlife buried in oil or an urban river seemingly on fire.[45] And it was the nation's most celebrated technological achievement of the 1960s that may have done the most to stimulate the emergence of modern environmental law. At the end of the 1960s, the United States put a man on the moon. As the first images of the planet Earth were broadcast, the planet seemed fragile and vulnerable, surrounded only a by a thin protective atmosphere.[46]

In addition, environmentalism offered a message of hope and unity at a time when the nation seemed divided on the polarizing issues of war and race, and when the country was still reeling from the wake of repeated assassinations of highly respected and beloved political leaders. Environmentalism, with its positive, hopeful, and aspirational message about the future, offered an opportunity to bridge those divides and to bridge the emerging generation gap.[47]

Thus, by the end of the 1960s, public sentiment and national priorities were well in place for significant governmental action on the environment. The opportunity to tap into rising public sentiment was not overlooked by politicians, and certainly not by Richard Nixon, one of the consummate politicians of his generation. Thus, soon after his 1968 election, Nixon seized onto environmental issues.[48] Nixon perceived the advantages of associating himself with the environmental movement, primarily the advantage of outflanking then Senator Edmund Muskie, who was Chair of the Senate Subcommittee on Air and Water Pollution and the most likely Democratic candidate for President against Nixon's reelection.[49] Nixon sought, in effect, to deprive Muskie of the environmental issue by taking it on as his own.[50]

In 1970, Nixon did just that, and with historic results. President Nixon began the first day of the year by signing into law the National Environmental Policy Act, sometimes dubbed environmental law's *Magna Carta*.[51] In December of that same year, he created the Environmental Protection Agency (EPA).[52] He

45. *See id.* at 59.
46. *Id.* at 57.
47. *Id.* at 60.
48. J. BROOKS FLIPPEN, NIXON AND THE ENVIRONMENT 50–79 (2000).
49. *Id.*
50. *Id.*
51. *See id.*; 42 U.S.C. §§ 4321–4370 (2012).
52. Reorganization Plan No. 3 of 1970, 3 Fed. Reg. § 15623 (1970) (codified as amended at 5 U.S.C. app. 1 (2012).

closed the year by signing into law the federal Clean Air Act, an enormously ambitious pollution control law.[53]

These actions were the launching pad for a sweeping and ambitious series of laws that Congress enacted during the 1970s. The sheer listing of laws passed during the decade is stunning:[54]

1970	National Environmental Policy Act
1970	Clean Air Act
1972	Federal Water Pollution Control Act
1972	Federal Insecticide, Fungicide, and Rodenticide Act
1972	Noise Control Act
1972	Coastal Zone Management Act
1972	Marine Mammal Protection Act
1973	Endangered Species Act
1974	Safe Drinking Water Act
1974	Forest Rangeland Renewable Resources Planning Act
1975	Federal Coal Leasing Act Amendments
1976	Toxic Substances Control Act
1976	Resources Conservation and Recovery Act
1976	National Forest Management Act
1976	Federal Land Policy and Management Act
1976	Magnuson-Stevenson Fisheries Management Act
1977	Clean Air Act Amendments
1977	Clean Water Act Amendments
1977	Surface Mining Control and Reclamation Act
1978	Outer Continental Shelf Lands Act

These sweeping pollution control and natural resources laws enjoyed significant bipartisan support.[55] Congressional leaders such as Democratic Senator Ed Muskie[56] and Republican Senator Howard Baker[57] played prominent roles in securing their passage, as did leading congressional staffers for both the majority and minority parties (such as Leon Billings and Tom Jorling, respectively).[58]

The historical record, available now decades later in the National Archives, documents House and Senate negotiators ironing out the hard-fought compromises necessary for the passage of these laws.[59] Their negotiations were enormously creative and

53. Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676.

54. Lazarus, *Congressional Descent*, *supra* note 1, at 625.

55. Richard J. Lazarus, *The Tragedy of Distrust in the Implementation of Federal Environmental Law*, 54 LAW & CONTEMP. PROBS. 311, 323 (1991) (noting that the average vote in favor of federal environmental legislation during this decade was "seventy-six to five in the Senate and 331 to thirty in the House.").

56. *See* LAZARUS, *supra* note 40, at 84.

57. Philip Shabecoff, *Compromise on 'Superfund,'* N.Y. TIMES, Nov. 23, 1980, at D9.

58. *See* LAZARUS, *supra* note 40, at 84.

59. *See, e.g.*, S. COMM. ON PUBLIC WORKS, 93D CONG., LEGIS. HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, (1973); S. COMM. ON PUBLIC WORKS, 93D CONG., LEGIS. HISTORY OF THE CLEAN AIR ACT AMENDMENT OF 1970, (1974).

constructive. The development of technology-based standards, the creation of citizen suits, and the selective role of cost-benefit analysis all displayed a shared willingness and good faith to ensure that laws addressing the nation's pressing air and water pollution problems could be achieved. Working tirelessly together, the House and Senate forged the compromises necessary to overcome obstacles that threatened legislative stalemate.[60] Indeed, when industry contacted conservative stalwart Arizona Senator Barry Goldwater, he effectively rebuffed their attempts to have him support an industry effort to block or otherwise weaken tough, new federal air pollution legislation. Senator Goldwater had been the champion of the conservative wing of the Republican Party in the mid-1960s, the same wing ultimately inherited more than a decade later by Ronald Reagan.[61] But, while forwarding industry concerns with the pending air pollution bill, Goldwater made his "position absolutely clear" that "I enthusiastically support our strong Senate version and would ask only that any impractical aspects that have come to light be examined closely."[62]

Although the bipartisan sweep promoting Congress's prominence in environmental lawmaking lasted for two decades, the seeds of its unraveling were planted almost as soon as it began. Immediately after the November 1970 mid-term elections, President Nixon began to second-guess the politics of environmentalism. The archival record of the Nixon Presidency, which famously includes recordings and notes of his meetings with his close advisors, reveal his growing doubts in stark, chronological fashion. In February 1971, in a telephone conversation with his chief of staff, Nixon opined that the environment is "not a good political issue" and "we're catering to the left in all of this."[63] By June of that same year, in White House meetings, Nixon told his staff they should be willing to take on environment: "it's not [a] sacred cow."[64] The President also elaborated on why it is not a good political issue: "our whole line is responsibility–hard to sell"; and he added, "ultimately it is freedom (from big government) that has political legs."[65] And by July, Nixon advised staffers to "reexamine all pollution bills in terms of current economic effect" and to "put

60. *See* PAUL CHARLES MILAZZO, UNLIKELY ENVIRONMENTALISTS: CONGRESS AND CLEAN WATER, 1945-1972 (2006).

61. *See* BRIAN ALLEN DRAKE, LOVING NATURE, FEARING THE STATE: ENVIRONMENTALISM AND ANTIGOVERNMENT POLITICS BEFORE REAGAN 5–6 (2013).

62. Letter from Senator Barry Goldwater to Senator Jennings Randolph (Nov. 23, 1970) (on file with author).

63. FLIPPEN, *supra* note 48, at 135.

64. Personal notes of H.R. Haldeman, Chief of Staff to the President, of meeting with President Nixon (June 27, 1971) (copy from National Archives on file with author).

65. *Id.*

brakes on when we can – w/o getting caught."[66] Such "economics," according to the President, were "more important than cutting Muskie."[67]

Although Nixon clearly had his failings–he was, after all, our only President to have resigned–he knew his politics. Environmental protection is hard to sell, politically; freedom from government is far more palatable. Perhaps somewhat tragically, but no less accurately, President Nixon summarized this fundamental challenge facing environmental lawmaking and prophesized the political dynamic that would ultimately create the legislative stalemate we are facing today. Electoral politics is dominated by the short-term; environmental protection and natural resource conservation is ultimately about the longer term. Electoral politics and environmental protection exist on overlapping but nonetheless very different spatial and temporal dimensions.[68] Nixon understood this early on, decided that the positive political returns for embracing environmentalism were accordingly too elusive, and, within a year or so of aligning himself with the movement's aspirations, retreated. This divide was further expressed during the Presidential campaign of 1980. Jimmy Carter ran on responsibility; Ronald Reagan ran on freedom from big government and targeted environmental protection law as exhibit A.[69] And, of course, Reagan won handedly. Reagan made freedom from government the dominant theme of his first Inaugural Address in 1981,[70] and cutting back on federal environmental laws became a signature effort of his first term.[71]

Congress, however, did not immediately follow suit. In fact, Congress's environmental lawmaking continued unabated for still another decade, defying political odds. In December 1980, only a few weeks after Reagan had defeated Carter for the Presidency, Congress was not only a lame duck; it was arguably a dead duck.[72] Not only was the White House shifting to a Republican standard bearer in January, but the Senate had also switched parties too, with the Republicans taking over its leadership.[73] The December

66. Personal notes of H.R. Haldeman, Chief of Staff to the President, of meeting with President Nixon (July 23, 1971) (copy from National Archives on file with author).

67. *Id.*

68. *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153 (2009).

69. Douglas E. Kneeland, *A Summary of Reagan's Positions on the Major Issues of this Year's Campaign*, N.Y. TIMES, July 16, 1980, at A14.

70. President Ronald Reagan, Inaugural Address (Jan. 20, 1981).

71. LAZARUS, *supra* note 40, at 100.

72. *Id.* at 106–07.

73. *Id.*

Congress, therefore, should accordingly have been incapable of passing any significant new law because the Republican Party should have had every incentive, and ability, to defeat its passage.

Yet, against all odds, in December 1980 Congress passed one of the nation's toughest environmental protection laws and one of its most important natural resources laws: the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)[74] and the Alaska National Interest Lands Conservation Act (ANILCA),[75] respectively. CERCLA imposed expansive, harsh retroactive liability on industry for releases of hazardous substances, which has played a significant role in changing industry behavior.[76] ANILCA added millions of acres to the most protective of federal regulatory regimes for resource conservation and preservation.[77] These stringent environmental protection laws were passed as a result of strong bipartisan support.[78] Republicans, including the rising Republican leadership in the Senate, joined Democrats to secure the votes necessary for passage.[79]

CERCLA and ANILCA were just the beginning of a decade of impressive environmental lawmaking by Congress. Throughout the 1980s, Congress enacted ever more ambitious laws, which were both more prescriptive and more detailed than their predecessors.[80] These laws, including the Hazardous and Solid Waste Act Amendments of 1984,[81] Safe Drinking Water Act Amendments of 1986,[82] Superfund Amendments and Reauthorization Act of 1986,[83] Water Quality Act of 1987,[84] and Medical Waste Tracking Act of 1988,[85] addressed issues such as water pollution, hazardous waste contamination, and drinking water. In the passage of these laws, Democrats and Republicans worked together, and there were no Presidential vetoes.

The environmental lawmaking juggernaut was so irresistible that, in 1988, George H.W. Bush ran for the Presidency claiming

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74. Pub. L. No. 96-510, 94 Stat. 2767 (1980).

75. Pub. L. No. 96-487, 94 Stat. 2374 (1980); *see also* Alaska National Interest Lands Conservation Act Remarks on Signing H.R. 39 into Law, 16 WEEKLY COMP. PRES. DOC., 2756–59 (Dec. 2, 1980).

76. Pub. L. No. 96-510, 94 Stat. 2767 (1980); *see also* Lazarus, *Congressional Descent*, *supra* note 1, at 626-28.

77. *See* Lazarus, *Congressional Descent*, *supra* note 1, at 626-27.

78. *Id.* at 626.

79. *Id.*

80. *See id.*

81. Pub. L. No. 98-616, 98 Stat. 3221 (1984).

82. Pub. L. No. 99-339, 100 Stat. 643 (1986).

83. Pub. L. No. 99-499, 100 Stat. 1613 (1986).

84. Pub. L. No. 100-4, 101 Stat. 7–90 (1987).

85. Pub. L. No. 100–582, 102 Stat. 2951 (1988).

that he would be the first "Environmental President."[86] During his campaign, he criticized his Democratic challenger, Massachusetts Governor Michael Dukakis, for the polluted state of Boston Harbor.[87] When Bush won the election, he initially followed through on his campaign promise.[88] He named William Reilly, an individual of enormously distinguished environmental credentials, as EPA Administrator.[89] The White House and Reilly worked hard to secure passage of the Clean Air Act Amendments of 1990, a far-reaching and demanding law.[90] Finally, in 1990, Congress also responded quickly to an environmental catastrophe, the 1989 *Exxon Valdez* oil spill. It quickly passed the Oil Pollution Act of 1990, legislation designed to minimize the risks of future accidents.[91] What was not and no doubt could not have been fairly anticipated at the time, was that 1990 marked Congress's last hurrah for environmental lawmaking for at least another generation.

III. CONGRESS'S ROLE – OR LACK THEREOF – SINCE 1990

The series of events leading up to 1990 demonstrated Congress doing what it should be doing–learning from experience, taking charge, and answering the tough policy questions underlying the establishment of environmental protection laws. Up until the 1990s, Congress had remained actively engaged with implementing environmental protection laws. However, the Clean Air Act Amendments of 1990 were Congress's last significant successful environmental effort. Since 1990, Congress has not passed any meaningful new environmental statutes, nor has it amended any important legislation.

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86. *See* Richard J. Lazarus, *Environmental Law at the Crossroads*: *Looking Back 25, Looking Forward 25,* 2 MICH. J. ENVTL. & ADMIN. L. 267, 271 (2013); John Holusha, *Bush Pledges Efforts to Clean Up Air and Water*, N.Y. TIMES, Sept. 1, 1988, at B9; Mark Green, *How Dukakis Can Overcome Bush's 'Slur du Jour*,' N.Y. TIMES, Sept. 17, 1988, § 1, at 27.

87. Robin Toner, *Bush, in Enemy Waters, Says Rival Hindered Cleanup of Boston Harbor*, N.Y. TIMES, Sept. 2, 1988, at A16.

88. Philip Shabecoff, *E.P.A. Nominee Says He Will Urge Law to Cut Acid Rain*, N.Y. TIMES, Feb. 1, 1989, at A1.

89. *Id.*

90. *See* EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT FROM 1990 TO 2020, (2011). The number of pages in the *Statutes at Large,* by itself, tells the story: the original Clean Air Act of 1963 was 10 pages long, Pub. L. No. 88-206, 77 Stat. 392–401 (1963); the 1970 and 1977 amendments added 38 and 112 pages, respectively, Pub. L. No. 91-604, 84 Stat. 1676–1713 (1970); Pub. L. No. 95-95, 91 Stat. 685–796 (1977); and the 1990 amendments added 314 more, Pub. L. No. 101-549, 104 Stat. 2399–2712 (1990).

91. Oil Pollution Act of 1990, Pub. L. No. 101-380, 104 Stat. 484.

The executive branch has played a role in this logjam. By 1990, George Bush had learned the same lesson Nixon learned in 1970: there is no, or at least there is too little, political payoff for supporting environmental causes. For Nixon, the 1970 mid-term elections made that clear; for Bush, it was the 1990 mid-term elections.[92] Environmentalists did not support him, and the business base was highly critical of his environmental protection efforts, which were not sufficiently aligned with its short-term economic interests.[93] As a result, Bush changed course mid-Presidency. He asked his Vice President, Dan Quayle, to chair the Competitiveness Council, which he charged with reducing the economic impact of federal regulations, including environmental regulations, on business.[94]

The election of Bill Clinton as President in 1992 resulted in a role reversal of sorts. The executive branch became more environmentally friendly, especially with its environmentally-focused Vice President Al Gore and EPA Administrator Carol Browner, who had previously served as a Gore staffer on the Hill.[95] But, soon thereafter, Congress became more hostile to environmental protection laws. The Contract with America targeted environmental statutes and regulations, and in particular, EPA's operating budget, for regulatory reform and reduction.[96] The Republican legislative agenda sought to enhance protection of private property rights, promote cost-benefit analysis limitations on the setting of environmental protection standards, and cut EPA's budget drastically.[97] The legislative effort was similar to what the executive branch sought to do in the early 1980s during President Reagan's first term, but in the early 1990s, it was Congress leading the regulatory reform charge, and the executive branch resisting.

The confrontations of the mid-1990s confirmed and deepened the partisan divide that remains more than twenty years later. The seeds of that divide had been there since the early 1970s, but in the 1990s, they settled in, took deep root, and have barred any significant legislation ever since. Since the 1990s, Congress has not displayed meaningful lawmaking ability. It has not shaped

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92. LAZARUS, *supra* note 40, at 126–27.

93. *Id.*

94. *Id.* at 127.

95. *See* Editorial, *Bill Clinton's Pragmatists*, N.Y. TIMES, Dec. 12, 1992.

96. John H. Cushman Jr., *Congressional Republicans Take Aim at an Extensive List of Environmental Statutes*, N.Y. TIMES, Feb. 21, 1995, at A14.

97. *Id.*; *see also* John H. Cushman Jr., *House Approves a New Standard for Regulations*, N.Y. TIMES, Mar. 1, 1995, at Al; John H. Cushman Jr., *House Clears More Limits on Environmental Rules*, N.Y. TIMES, Mar. 3, 1995, at A19; Editorial, *The GOP's War on Nature*, N.Y. TIMES, May 31, 1995, at A20.

new statutes to address problems, responded to new priorities, or accounted for new understandings; nor has it amended existing statutory provisions in light of new information, intervening judicial rulings, or the experiences of state governments.[98]

For example, since the Endangered Species Act (ESA) was enacted in 1973, the relevant science has dramatically changed. We are far more aware now of the pitfalls of having the ESA's statutory requirements triggered only once a species becomes endangered and threatened, long after the most effective options for species restoration may be available. Although a statutory update is greatly needed, the ESA has gone largely unchanged for more than forty years.[99] The basic structure of the Clean Water Act, established in 1972, is older still. Its last significant amendment was in 1987, twenty-seven years ago. The Water Act's structure reflects a constitutional architecture regarding Congress's Commerce Clause authority long ago jettisoned. It uses statutory terms invented in 1899, invoking notions of navigability that weigh down the effectiveness of a modern water pollution control law.[100]

In the absence of new environmental legislation that encompasses the latest understandings about the environment, federal agencies are forced to work within the confines of old statutes to address pressing environmental problems. Unsurprisingly, the statutory language, drafted years ago, often does not fit with these new problems. Therefore, agencies must flirt with the border of law to do the best they can.[101]

The EPA's use of the Clean Air Act, the basic architecture of which was established in 1970, and which was last amended in 1990–to address cross-state air pollution and climate change, is a prominent example of these efforts. In the recent case *EPA v. EME Homer LLP*,[102] the Supreme Court examined EPA's efforts to implement the Clean Air Act's Good Neighbor provision, which

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98. See, *e.g.,* Sanne H. Knudsen, *Remedying the Misuse of Nature*, 2012 UTAH L. REV. 141, 174-178 (describing how environmental laws have failed to adapt to evolving information concerning ecosystems and the need in particular "to manage ecosystems on a more holistic basis" (*id.* at 178)); Annecos Wiersema, *A Train Without Tracks: Rethinking the Place of Law and Goals in Environmental and Natural Resources Law,* 38 ENVTL. L. 1239 (2008) ("traditional approaches to environmental law appear insufficiently responsive to science and further, insufficiently flexible even to develop responsiveness to science.").

99. *See, e.g.*, Nancy Kubasek et al., *The Endangered Species Act: Time for a New Approach?*, 24 ENVTL. L. 329 (1994); J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 367 (1998).

100. *See, e.g.*, Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001); Rapanos v. United States, 547 U.S. 715 (2006).

101. For further discussion on this issue, see Jody Freeman & David B. Spence, *Old Statutes, New Problems*, PENN. L. REV. (forthcoming 2014), available *at* http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/RPP_2014_02_Freeman_Spence.pdf.

102. E.P.A. v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014).

was designed to prevent sources of emissions in upwind states from preventing attainment or maintenance of national ambient air quality standards in downwind states.[103] EPA sought to take into account the cost effectiveness of emission reductions in determining the extent to which different sources in different states should have to reduce emissions.[104] The issue was whether the statutory language was sufficiently ambiguous to permit the agency to do so, or whether instead, as industry contended, EPA was required to allocate reductions based on a strictly proportional numerical approach.[105] Ultimately, the Court upheld EPA's rule in a hugely significant Supreme Court ruling. But the victory was far from easy or pre-ordained. *EME Homer* divided the Justices and required several rulemakings, appellate court losses, and years of litigation.

Climate change is perhaps the quintessential example of a new environmental problem that the Clean Air Act did not contemplate. In *Utility Air Regulatory Group v. EPA,*[106] the Supreme Court examined the validity of EPA's first significant rulemaking to address greenhouse gas emissions from major stationary sources.[107] The Court held that the Act does not permit EPA to require a source to obtain a Clean Air Act Prevention of Significant Deterioration or Title V permit based solely on greenhouse gas emissions.[108] However, the Court found that EPA could regulate greenhouse gases from major stationary sources that were already regulated under other provisions of the Act.[109] Although not a total win for the EPA, this holding grants the agency the power to regulate greenhouse gases from many major greenhouse gas emitters. However, as in *EME Homer*, this outcome was far from clear. The litigation surrounding this case illuminates how difficult it is–and will continue to be–for EPA to effectively address climate change using the existing language of the Clean Air Act. A new law is desperately needed in order to address today's most pressing environmental problem.

In 2009, it looked like Congress would pass just such a law.[110] For the first time since the science had become sufficiently settled

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103. *Id.*
104. *Id.* at 1596–97.
105. *Id.* at 1598.
106. Utility Air Regulatory Grp. v. E.P.A., 134 S. Ct. 2427 (2014).
107. *Id.*
108. *Id.* at 2454.
109. *Id.* at 2449.
110. *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1189–93 (2009) (explaining why the prospects of climate legislation in 2009 were good); Ryan Lizza, *As the World Burns: How the Senate and the White House Missed Their Best Chance to Deal with Climate*

to support the necessary legislative enactments, all of the lawmaking pieces seemed firmly in place. The President, the Secretary of Energy, and the EPA Administrator were all committed to the passage of climate legislation as a top Administration priority.[111] To achieve this priority, the President named former EPA Administrator Carol Browner to serve as the Administration's "quarterback," spearheading the effort to work with Congress on getting climate legislation passed.[112]

The table was no less well-set in Congress. Leaders of both chambers–Nancy Pelosi in the House and Harry Reid in the Senate–favored the passage of a climate bill.[113] The leaders of the relevant committees–Barbara Boxer at the Senate Committee on the Environment and Public Works and Henry Waxman at the House Commerce Committee–made the climate bill a, if not *the*, top priority.[114] Highlighting the importance of the effort, placing Waxman as head of the House Commerce Committee had required the removal of John Dingell of Michigan from that position–no small feat given Dingell's stature and formidable character–but important to climate legislation supporters because of concerns about Dingell's longtime allegiance to the auto industry.[115]

Despite this environment, nothing happened. A bill passed the House of Representatives in 2010[116] only as a result of late night machinations and strong-arming hardly suggestive of truly deliberative debate and discussion. But the Senate never voted on the bill at all.[117] And after climate legislation died, both congressional and executive branch leaders left little doubt that they viewed attempts to revive that legislative effort as futile, notwithstanding the increasingly alarming nature of the evidence

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Change, THE NEW YORKER (Oct. 11, 2010), http://www.newyorker.com/reporting/2010/10/11/101 011fa_fact_lizza?currentPage=all.

111. *See* Lazarus, *Super Wicked Problems*, *supra* note 110.

112. John M. Broder, *Title, but Unclear Power, for a New Climate Czar*, N.Y. TIMES, Dec. 12, 2008, at A28.

113. Darren Samuelsohn, *Top Democrats Plan Action on Climate Change Bill by End of Summer*, SCIENTIFIC AMERICAN, Feb. 20, 2009, http://www.scientificamerican.com/article/democrats-plan-climate-bill/.

114. *Id.*

115. John M. Broder, *Democrats Oust Longtime Leader of House Panel*, N.Y. TIMES, Nov. 20, 2008, at A1.

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

117. *See* Darren Samuelsohn, *Democrats Pull Plug on Climate Bill*, POLITICO, July 22, 2010, http://www.politico.com/news/stories/0710/40109.html. The political dynamic at the time is well depicted by a political campaign ad by Joe Manchin, a successful Democratic candidate for the U.S. Senate from West Virginia. In the ad, Manchin pulls out a rifle, shoots, and hits a bulls-eye at a target with a copy of the climate bill – not a subtle message, and from a Democratic candidate to boot. John Collins Rudolf, *Taking Aim, Literally, at a Dead Climate Bill*, N.Y. TIMES, Oct. 11, 2010, http://green.blogs.nytimes.co/2010/10/11/taking -aim-literally-at-a-dead-climate-bill.

of the harm to public health and welfare already being caused by climate change.

Why was there no action on climate change? As I have written elsewhere (albeit at a more optimistic time about the prospects of legislation), the temporal and spatial dimensions of the climate change defy politics.[118] Climate change issues spread cause and effect over time and space; this is inconsistent with the incentives of lawmakers in general and politicians in particular. To address the risks of climate change requires regulation of people and activities in the immediate term for the benefit of people and activities that are far removed. This is a common challenge facing environmental law, but it is particularly true of climate change. Climate change distributes the costs and benefits of mitigation across centuries and around the globe. No lawmaking institution has such a temporal or spatial reach.

While the absence of new legislation to address climate change is undoubtedly the most troubling and serious consequence of the current Congressional logjam, Congress's inaction is not limited to climate issues; it extends to other environmental issues as well. It used to be a central tenet of environmental law that it took a catastrophe to get Congress to pass a law. In the late 1960s, the Santa Barbara oil spill led to congressional action.[119] In the 1970s, Three Mile Island inspired the passage of statutes reorganizing federal oversight of the nuclear power industry;[120] and in the 1980s, the *Exxon Valdez* spill led to laws that regulated activities that risked the spillage of massive amounts of petroleum.[121] But after the 1990s, not even an environmental catastrophe could overcome congressional stalemate.

The best example of this occurred after the 2010 *Deepwater Horizon* oil spill. In the 1990s, deep-water drilling had increased substantially, and the nation was enjoying billions of dollars of increased revenue from the exploration, development, and production in increasingly deeper waters in the Gulf of Mexico.[122] The economic advantages were enormous, but so too were the associated risks.[123] Congress, however, made no meaningful effort to address those increasing risks.[124] It did not update legislation;

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118. Lazarus, *Super Wicked Problems*, *supra* note 110.

119. LAZARUS, *supra* note 40, at 59.

120. J. SAMUEL WALKER, THREE MILE ISLAND: A NUCLEAR CRISIS IN HISTORICAL PERSPECTIVE 209 (2004).

121. *See supra* note 91 and accompanying text.

122. *See* NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, DEEP WATER: THE GULF WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING 72 (2011).

123. *Id.* at 68–72.

124. *Id.* at 72–85.

nor did it increase agency budgets to allow the agencies to do more in response to the increased industry activity.[125] The dereliction of responsibility was bipartisan in nature. And, as the risks increased absent effective governmental oversight, the question was not so much whether an accident would occur, but when. The answer to the question was April 20, 2010, with the blowout of the Macondo Well, hundreds of miles off the U.S. coast in the Gulf of Mexico.[126] The blowout led to the ensuing explosion and destruction of the *Deepwater Horizon* oil rig, the immediate loss of eleven lives on the rig, and the release of millions of gallons of oil over eighty-seven days in the Gulf.[127]

However, the *Deepwater Horizon* explosion and subsequent oil spill generated no new legislation designed to overhaul regulatory oversight to minimize the risks of deep-water drilling in the future.[128] Such oversight, moreover, is low-hanging fruit. Unlike climate change, there is no foreboding temporal or spatial divide between the costs and benefits of the activity to be regulated and the risks to be realized. They are largely commensurate. Effective regulation can make virtually everyone a winner. Yet, again, Congress did nothing.

IV. CONCLUSION

That is why we find ourselves where we are today: environmental law *without* Congress. It is not tenable; it is not sustainable; and it is unsettlingly reminiscent of what William Ophuls wrote in his 1977 book *Ecology and the Politics of Scarcity*, when he questioned whether democracy could effectively address complex environmental problems.[129] Ophuls noted that environmental problems contain a potentially tragic combination of scientific uncertainty and distributional implications;[130] we face the same problems today, perhaps even more so, with the advent of climate change as a major environmental problem.

This is why the conference at Florida State and the papers it produced are so timely. The executive branch and individual states, although they have operated creatively to address climate change, can only do so much unilaterally. Without Congress, the President is limited to existing statutory authorities and the

125. *Id.*
126. *Id.* at 1–19.
127. *Id.* at 1–19, 165.
128. Thomas O. McGarity & Rena I. Steinzor, *The End Game of Deregulation: Myopic Risk Management and the Next Catastrophe*, 23 DUKE ENVTL. L. & POL'Y F. 93, 97 (2012).
129. WILLIAM OPHULS, ECOLOGY AND THE POLITICS OF SCARCITY (1977).
130. *Id.*

bounds of his constitutional authority. States have their own limits, including those presented by the Dormant Commerce Clause, which limits the ability of states to address issues for which the root causes lie outside states' borders.[131]

The pathway to restoring the proper role of Congress is unsettlingly elusive. In order to effectively and comprehensively address climate change, we need to find ways to realign lawmaking incentives to break through the current impasse. Nature spreads incentives over time and space to an extent far outside the reach of the short-term myopia of politicians and lawmakers. Because we cannot change nature, our only available recourse is to redesign our lawmaking processes and institutions to change political and economic incentives as necessary to promote environmental and climate change lawmaking. The nation must restore Congress to its proper role as the first branch for environmental lawmaking.

Such institutional redesign will not be easy, both from a theoretical and practical standpoint. Those challenges, however, only make more, not less, important and timely the topic of this conference and its series of papers. It is hard to imagine a more pressing assignment for those of us who teach, practice, and study environmental law, and care deeply about the environment and human welfare, than to restore Congress's place in addressing one of the most demanding issues of our time.

131. *See, e.g.*, Daniel A. Farber, *State Regulation and the Dormant Commerce Clause*, 18 URB. LAW. 567 (1986).

USING NON-ENVIRONMENTAL LAW TO ACCOMPLISH ENVIRONMENTAL OBJECTIVES

TODD S. AAGAARD*

The current prolonged period of congressional impasse on environmental issues, in which symbolic ideological skirmishes have largely supplanted constructive engagement, makes clear that Congress is unlikely to generate progress on environmental issues any time soon. In response to this legislative stalemate, some environmental law scholars have advocated giving the Environmental Protection Agency enhanced capability to take administrative action under the authority of existing environmental statutes.

Without disagreeing with those arguments, this article contends that we also need strategies for environmental law that transcend, not just adapt, the canonical environmental statutes that have been the field's mainstay since the early 1970s. Some of the more promising prospects for new and innovative environmental law lie outside of its traditional realm, in a variety of other fields—for example, energy law, land use law, agriculture law, consumer protection law, securities regulation—that increasingly incorporate environmental concerns. Moreover, these other fields are not simply borrowing from the environmental law canon; their forays into environmental law utilize quite different models for environmental lawmaking. Policymakers, scholars, and advocates interested in environmental law should pay more

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attention and invest more effort in exploring these alternative venues.

I. BACKGROUND

At the federal level, the United States is in an extended period of legislative impasse on environmental issues.[1] Congress has not enacted a major federal environmental statute since the Clean Air Act Amendments of 1990.[2] This legislative stalemate coincides with increased partisanship as environmental issues have become a proxy for an ideological battle over the appropriate extent of federal regulatory authority.[3] This ideological battle incentivizes symbolism and extreme positions, rather than compromise and reason.[4]

The effects of this partisan, ideological struggle are not limited to the legislative arena. The Environmental Protection Agency ("EPA") has become a political lightning rod,[5] complicating the ability of the agency to substitute new executive branch regulation for new legislation. EPA has some, but only some, insulation from the partisan legislative skirmishing.

Historically, environmental legislation has often fed on disasters. For example, the massive and horrific release of toxic fumes from a Union Carbide chemical plant in Bhopal, India, in 1984, which killed 2500 and injured thousands, led Congress to enact the Emergency Planning and Community Right-to-Know Act (EPCRA).[6] The ecological catastrophe caused when the Exxon Valdez oil tanker ran aground in Prince William Sound, Alaska, in 1989, spilling eleven million gallons of crude oil, led Congress to pass the Oil Pollution Act.[7] But not even crises have broken the

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1. *See, e.g.*, E. Donald Elliott, *Portage Strategies for Adapting Environmental Law and Policy During A Logjam Era*, 17 N.Y.U. ENVTL. L.J. 24, 27-38 (2008); Richard J. Lazarus, *Congressional Descent: The Demise of Deliberative Democracy in Environmental Law*, 94 GEO. L.J. 619, 629-30 (2006); Sandra Zellmer, *Treading Water While Congress Ignores the Nation's Environment*, 88 NOTRE DAME L. REV. 2323, 2366-79 (2013).

2. Pub. L. No. 101-549, 104 Stat. 2399.

3. *See* Richard N.L. Andrews, *The EPA at 40: An Historical Perspective*, 21 DUKE ENVTL. L. & POL'Y F. 223, 255 (2011); Richard J. Lazarus, *A Different Kind of "Republican Moment" in Environmental Law*, 87 MINN. L. REV. 999, 1002, 1004 (2003).

4. *See* Elliott, *supra* note 1, at 31-32.

5. *See, e.g.*, Robin Bravender & Gabriel Nelson, *Republicans Blitz Obama Over EPA's 'Anti-Industrial' Regulations*, N.Y. TIMES, Sept. 28, 2010; John M. Broder, *Bashing E.P.A. Is New Theme in G.O.P. Race*, N.Y. TIMES, Aug. 17, 2011; John M. Broder, *House Votes to Bar E.P.A. From Regulating Industrial Emissions*, N.Y. TIMES, Apr. 7, 2011.

6. 42 U.S.C. §§ 11001-11050; *see* RICHARD N.L. ANDREWS, MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY 273 (2d ed. 2006).

7. 33 U.S.C. §§2701-2761; *see* Lawrence I. Kiern, *Liability, Compensation, and Financial Responsibility Under the Oil Pollution Act of 1990: A Review of the First Decade*,

stalemate spell over Congress, as witnessed by the lack of legislative response to the Deepwater Horizon oil spill in the Gulf of Mexico in 2010.[8]

Several of the speakers at this symposium have referred to the federal legislative impasse that afflicts environmental law as a "logjam," invoking a metaphor most commonly associated with Professors David Schoenbrod, Richard Stewart, and Katrina Wyman's *Breaking the Logjam Project*.[9] One of my favorite pieces from the 2008 *Breaking the Logjam* Symposium was Don Elliott's *Portage Strategies* article.[10] In that article, Elliott compared the situation of environmental law to a canoeist paddling down a river: "[W]e are like the canoeist who is confronted with a really big logjam. . . . There is only one sensible solution: portage; pick up the canoe, go around the logjam, and put the canoe back in the water."[11] Elliott defined "portage strategies" as "law-making techniques for adapting environmental policy to new problems and changing realities without legislation in an era in which Congress is paralyzed."[12]

Although in his article Elliott mentioned four portage strategies,[13] his most interesting proposal was for an enhanced *Chevron* doctrine[14] that would give agencies more flexibility to

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24 TUL. MAR. L.J. 481, 481 (2000); Steven R. Swanson, *The Oil Pollution Act of 1990 After Ten Years*, 32 J. MAR. L. & COM. 135, 137 (2001).

8. *See* NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL & OFFSHORE DRILLING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING (2011).

9. Breaking the Logjam: Environmental Reform for the New Congress and Administration, www.breakingthelogjam.org. This symposium, which explores *Environmental Law Without Congress*, differs somewhat in focus from the *Breaking the Logjam Project*, which identified the problem of the somewhat more broadly as an obstacle composed of "obsolescent statutes and regulatory strategies." Carol A. Casazza Herman et. al., *The Breaking the Logjam Project*, 17 N.Y.U. ENVTL. L.J. 1 (2008).

10. Elliott, *supra* note 1.

11. *Id.* at 40-41.

12. *Id.* at 24.

13. *Id.* at 41-50. Elliott's four portage strategies were as follows:

(1) "Address Environmental Issues More on the State and Local Level"

(2) "Policy-Making by Default by the Courts"

(3) "Use the *Chevron* Doctrine to Develop Innovative Policies Under Existing Statutes"

(4) "Develop Expert Consensus Recommendations and Present the Politicians with a Pre-Packaged Compromise." *Id.*

14. Chevron, U.S.A. v. Natural Res. Def. Council, 467 U.S. 837 (1984). The Court described what has become known as the *Chevron* doctrine as follows:

When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative

apply environmental statutes creatively, in light of the dim likelihood that Congress would be able to enact new legislation.[15] Elliott argued that courts applying the *Chevron* doctrine to review agency regulations should be more willing to find statutory ambiguity, which under *Chevron* would give agencies more deference and flexibility, and thereby more leeway in addressing emerging problems with outdated statutes.[16]

Sandy Zellmer, in a recent article,[17] referenced Elliott's article and advocated her own set of portage strategies: invigorate petitions for rulemaking, make more effective use of executive orders, and engage in ramped-up enforcement efforts.[18]

Both Elliott's and Zellmer's portage strategies make use of the distinction between legislative and administrative lawmaking; they advocate bypassing legislative dysfunction by relying on administrative lawmaking as a substitute. This does seem like a worthwhile strategy for attempting to make progress in environmental policy during periods such as the present when Congress seems unable to act.

This article, however, focuses on a different distinction—not between legislative and administrative lawmaking, but between environmental and non-environmental law. Specifically, we can make progress in environmental policy, despite the legislative logjam in Congress, by making better use of non-environmental law to accomplish environmental objectives. Just as administrative lawmaking can substitute for legislative lawmaking, employing non-environmental statutes to accomplish environmental objectives can substitute for new environmental legislation. Moreover, doing so will broaden the scope of laws and institutions pursuing environmental goals, producing a more pluralistic,

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interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute. *Id.* at 842-43 (footnotes omitted).

15. Elliott also gave substantial pages to his proposal for greater use of expert recommendations to drive legal change. *See* Elliott, *supra* note 1, at 50-52. I am skeptical, however, of this idea. Elliott argues that using expert panels "reduces the potential for demagoguery and political posturing by striking reasonable compromises *before* an issue is presented to the legislature." *Id.* at 50. But, as Elliott himself and others including Richard Lazarus and Richard Andrews have observed, demagoguery and political posturing are not the result of a lack of available reasonable comprises, but rather because political incentives reward demagoguery and political posturing more than compromise. *See generally,* J.B. Ruhl, *Environmental Law Without Congress: An Interdisciplinary Conference on Environmental Law: Does Congress Exist?*, 30 J. LAND USE & ENVTL. L. 79 (Fall 2014).

16. Elliott, *supra* note 1, at 47-49.

17. Zellmer, *supra* note 1.

18. *Id.* at 2384-97.

innovative, and flexible mix of legal approaches to environmental protection.[19]

II. EXAMPLES

To illustrate how non-environmental law can be used to accomplish environmental objectives, this Part offers four diverse examples of non-environmental statutes with potentially important applications to environmental problems: the Plant Protection Act, the Securities and Exchange Commission's environmental disclosure requirements, the Federal Trade Commission's "Green Guides" regarding environmental marketing, and the Federal Energy Regulatory Commission's orders regarding demand response. Although these examples arise in a variety of fields—agricultural law, securities regulation, consumer protection, and energy law—they share common characteristics that form the basis for some generalized observations presented *supra* in Part III.

A. Plant Protection Act

Congress enacted the Plant Protection Act[20] as part of the Agricultural Risk Protection Act of 2000.[21] In addition to the Plant Protection Act, the Agricultural Risk Protection Act also addressed traditional agricultural issues such as crop insurance coverage and agricultural assistance.[22] Congress passed the Act with overwhelming bipartisan support.[23]

The Plant Protection Act expanded prior federal pest and weed statutes,[24] all of which had been aimed at protecting agriculture, to

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19. This article is part of my ongoing scholarly focus on environmental law outside of the traditional environmental law canon that dominates the field. In a recent article, I argued that environmental provisions embedded in larger non-environmental statutes offer an attractive alternative legislative model to the environmental law canon. *See* Todd S. Aagaard, *Environmental Law Outside the Canon*, 89 IND. L.J. 1239 (2014). Here, my focus is not on the possibility of new legislation—even isolated embedded environmental provisions—but on the potential application of existing non-environmental statutes to address environmental harms.

20. 7 U.S.C. §§ 7701-7786 (2000).

21. Pub. L. No. 106–224, 114 Stat. 358.

22. Pub. L. No. 106–224, tit. I, II, 114 Stat. at 360-428.

23. *See* Bill Summary & Status: H.R. 5946, Library Cong., http://thomas.loc.gov/cgi-bin/bdquery/z?d106:HR02559:@@@R|TOM:/bss/d106query.html| (reporting that the House passed the bill on a voice vote and the Senate by a vote of 95-5 on the Senate bill and 91-4 on the conference report).

24. *See, e.g.*, Plant Quarantine Act of 1912, 7 U.S.C. §§ 151-164a (repealed); Federal Plant Pest Act of 1957, 7 U.S.C. §§ 150aa-150jj (repealed); Federal Noxious Weed Act of 1974, 7 U.S.C. §§ 2801-2813 (repealed); *see also* James S. Neal McCubbins, et. al., *Frayed Seams in the "Patchwork Quilt" of American Federalism: An Empirical Analysis of Invasive*

include injury to the environment as well.[25] The Plant Protection Act authorizes the Animal and Plant Health Inspection Service (APHIS), an agency within the Department of Agriculture, to prohibit or restrict the import, entry, export, or interstate movement of plant pests and noxious weeds.[26] Since Congress enacted the Plant Protection Act in 2000, APHIS has regulated invasive species on the basis of their environmental effects,[27] in addition to continuing to act against invasive species that threaten agriculture.[28] For example, APHIS has regulated the importation of solid wood packing material—e.g., wood pallets—citing the effect of plant pests that infest such material on forests.[29] In doing so, APHIS has brought to bear its resources and expertise, which it originally acquired for the purpose of preventing crop damage, to avoid ecological harms. Giving APHIS this dual mission recognizes and takes advantage of the complementarity and interrelatedness of protecting agricultural crops from invasive species and protecting natural resources from invasive species.

This is not to say that the Plant Protection Act has uniformly beneficial environmental consequences. In fact, pursuant to the Plant Protection Act, APHIS has approved the use of genetically engineered, pesticide-tolerant crops, which some environmentalists fear may cause environmental harm by enabling farms to dramatically increase their use of pesticides.[30] Moreover, APHIS

Plant Species Regulation, 43 ENVTL. L. 35, 43-45 (2013) (summarizing the history of federal invasive species laws).

25. *See* 7 U.S.C. § 7702(10) (defining "noxious weed" to include plants that "injure or cause damage to . . . the environment"). The statute assigns regulatory authority to the Secretary, who has in turn delegated that authority to APHIS. *See* Plant Protection Act: Delegation of Authority, 65 Fed. Reg. 49,471 (Aug. 14, 2000).

26. *See* 7 U.S.C. §§ 7711-7714.

27. *See, e.g.*, Noxious Weeds: Old World Climbing Fern and Maidenhair Creeper, 74 Fed. Reg. 53,397, 53,397 (Oct. 19, 2009) (restricting the importation of L. microphyllum, a vine-like fern, on the basis of the environmental damage it has caused to habitats of federally listed threatened and endangered species).

28. *See, e.g.*, Potato Cyst Nematode: Quarantine and Regulations, 72 Fed. Reg. 51,975 (Sept. 12, 2007) (quarantining two counties in Idaho to prevent the spread of a pest infesting potato crops); Importation of Clementines from Spain, 67 Fed. Reg. 64,702 (Oct. 21, 2002) (regulating the importation of clementines from Spain to reduce the risk of introducing Mediterranean fruit flies into the United States).

29. *See* Importation of Wood Packaging Material, 69 Fed. Reg. 55,719, 55,732 (Sept. 16, 2004) (codified at 7 C.F.R. pt. 319) (noting the goal of protecting against invasive pests that could devastate forest ecosystems); APHIS, U.S. DEP'T OF AGRIC., IMPORTATION OF SOLID WOOD PACKING MATERIAL, FINAL ENVIRONMENTAL IMPACT STATEMENT 45-46 (2003) (noting the importance of forests to ecosystems and wildlife), available at http://www.aphis.usda.gov/plant_health/ea/downloads/swpmfeis.pdf.

30. Under APHIS's regulations, certain genetically engineered plants are presumed to be "plant pests" regulated under the Plant Protection Act. *See* 7 C.F.R. § 340.2. APHIS can determine, however, that a genetically engineered plant subject to this presumption nevertheless does not present a risk as a plant pest and therefore should not be regulated under the Act. *See* 7 C.F.R. § 340.6. APHIS has made numerous such determinations. *See, e.g.*, Monsanto Company and KWS SAAT AG: Determination of Non-regulated Status of

has construed the Act to preclude it from considering such adverse environmental consequences in determining how to regulate genetically engineered crops.[31]

In addition, some of APHIS's efforts to protect against invasive pests have themselves generated environmental concerns. The treatment that APHIS required for solid wood packing material, for example, involves the use of methyl bromide, a substance known to contribute to the depletion of the stratospheric ozone layer.[32] When APHIS promulgated its rule for solid wood packing material, the Natural Resources Defense Council brought suit challenging APHIS's rule, arguing that the agency should have required alternatives to methyl bromide fumigation, such as phasing out the use of raw wood packing material.[33] The litigation highlights the potential tension that can arise between the specific objective of protecting against invasive species and the broader aims of environmental protection.

B. SEC Environmental Disclosure Requirements

Congress enacted the Securities Act of 1933[34] and the Securities Exchange Act of 1934[35] to increase the transparency of securities markets by requiring disclosure of key information about securities.[36] In furtherance of this purpose, the statutes

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Sugar Beet Genetically Engineered for Tolerance to the Herbicide Glyphosate, 77 Fed. Reg. 42,693 (July 20, 2012); Pioneer Hi-Bred International, Inc.: Determination of Non-regulated Status for Genetically Engineered High-Oleic Soybeans, 75 Fed. Reg. 32,356 (June 8, 2010); Syngenta Biotechnology, Inc.: Determination of Non-regulated Status for Corn Genetically Engineered for Insect Resistance, 75 Fed. Reg. 20,560 (Apr. 20, 2010).

31. *See* Ctr. for Food Safety v. Vilsack, 718 F.3d 829, 832 (9th Cir. 2013) (affirming APHIS's position that the Plant Protection Act does not regulate these types of environmental harms).

32. APHIS, U.S. DEP'T OF AGRIC., IMPORTATION OF SOLID WOOD PACKING MATERIAL, FINAL ENVIRONMENTAL IMPACT STATEMENT 47 (2003) (noting the importance of forests to ecosystems and wildlife), available at http://www.aphis.usda.gov/plant_health/ea/downloads/swpmfeis.pdf (noting that "the use of methyl bromide in fumigations could result in damage to the stratospheric ozone layer and contribute to increased ultraviolet radiation received over large areas of the earth").

33. Natural Res. Def. Council, Inc. v. U.S. Dep't of Agric., 613 F.3d 76 (2d Cir. 2010) (affirming APHIS's conclusion that either heat treatment or methyl bromide fumigation was the most technically and economically feasible method of protecting against plant pests in solid wood packing materials).

34. 15 U.S.C. §§ 77a-77aa.

35. 15 U.S.C. §§ 78a-78pp.

36. *See, e.g.*, Securities Act of 1933, 48 Stat. 74, 74 ("To provide full and fair disclosure of the character of securities sold in interstate and foreign commerce and through the mails, and to prevent frauds in the sale thereof, and for other purposes."); Securities Exchange Act § 13(a), 15 U.S.C. § 78m (requiring issuers of securities to file information required by the Securities and Exchange Commission "as necessary or appropriate for the proper protection of investors and to insure fair dealing in the security"). The Securities Act regulates public offerings of securities, and the Securities Exchange Act regulates securities trading

prohibit misstatements or omissions of a "material fact" with respect to certain communications regarding federally regulated securities.[37] The Securities and Exchange Commission, the federal agency charged with administering these statutes, defines information as material if "there is a substantial likelihood that a reasonable investor would attach importance in determining whether to purchase the security."[38] The SEC's Regulation S-K delineates reporting requirements, which include descriptions of material information, for publicly traded companies.[39]

Since the early 1970s, the SEC has issued a series of interpretive releases providing guidance regarding what environmental information might be considered material under Regulation S-K.[40] In these releases the SEC has focused on information about how environmental laws directly affect the finances of businesses. In short, the SEC releases note that Regulation S-K requires companies to disclose the business effects—including capital expenditures, earnings, and competitive position—of complying with federal, state, and local environmental laws.[41] Regulation S-K also requires companies to report legal proceedings in which they are involved that arise under a federal, state, or local environmental law.[42]

Such environmental information about the costs of environmental compliance and liabilities unquestionably meets the SEC's general definition of material, at least when those costs are of a magnitude that is significant to the company's overall financial picture. Thus, the SEC's determination that companies

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markets. *See* Stephen J. Schulte, *Corporate Public Disclosure: Primer for the Practitioner*, 15 CARDOZO L. REV. 971, 971 (1994).

37. *See, e.g.*, Securities Act of 1933 ("Securities Act") §§ 11, 12(a)(2), 15, 17, 15 U.S.C. §§ 77k, 77*l* (a)(2), 77o, 77q; Securities Exchange Act of 1934 ("Exchange Act") §§ 10, 14, 15 U.S.C. §§ 78j, 78n.

38. *See* Securities Act Rule 405, 17 C.F.R. § 230.405; Exchange Act Rule 12b-2, 17 C.F.R. § 240.12b-2.

39. 17 C.F.R. § 229 (2014).

40. *See, e.g.*, Environmental Disclosure, 44 Fed. Reg. 56,924 (Oct. 3, 1979) (reporting Release Nos. 33-6130 & 34-16224); Release No. 33-5385, 1 SEC DOCKET 1 (1973); Disclosures Pertaining to Matters Involving the Environment and Civil Rights, 36 Fed. Reg. 13,989 (July 19, 1971) (reporting Release No. 33-5170). These releases were issued in the context of a dispute with the Natural Resources Defense Council and other public interest organizations who petitioned the SEC to issue rules regarding environmental and nondiscrimination policies. *See, e.g.*, Natural Res. Def. Council, Inc. v. SEC, 606 F.2d 1031 (D.C. Cir. 1979); Natural Res. Def. Council, Inc. v. SEC, 389 F. Supp. 689 (D.D.C. 1974). The SEC did not adopt the rules NRDC requested, but NRDC's petition seems at least in part to have motivated the agency to take the actions it did. *See generally* John W. Bagby et al., *How Green Was My Balance Sheet?: Corporate Liability and Environmental Disclosure*, 14 VA. ENVTL. L.J. 225, 266-82 (1995); Gerard A. Caron, *SEC Disclosure Requirements for Contingent Environmental Liability*, 14 B.C. ENVTL. AFF. L. REV. 729, 734 (1987).

41. *See* 17 C.F.R. § 229.101(c)(xii), 229.102(h)(4)(xi) (2014).

42. *See* 17 C.F.R. § 229.103 (Instruction 5) (2014).

must disclose this environmental information seems easily justified.

The effect of requiring disclosure of such information, however, is probably rather limited. This is because the underlying conduct that triggers the disclosure—a company's compliance, or lack thereof, with environmental laws—is already mandated under those environmental laws. At most, requiring companies to report legally mandated business effects such as compliance costs increases the incentives for companies to pay attention to their environmental liabilities and compliance, so that they do not have unfavorable information to disclose to investors. Such an effect may be salutary, but it seems unlikely to be large.

Arguably, however, much more environmentally related information than this is material to a company's financial performance and therefore to investors. Regulation S-K requires companies to disclose, in their Management Discussion and Analysis ("MD&A"), any facts that are reasonably likely to have a material effect on the company's financial condition or operating performance.[43] Regulation S-K also requires companies to disclose risk factors that may affect them.[44]

Environmentally related information may meet this description, even if it does not arise from an environmental law. Take changes to a company's business that involve legally exogenous—that is, not legally mandated or induced—changes in behavior. For example, independent of any environmental requirements imposed by law, over time consumers may demand more or less of a company's product based on perceptions of the product's environmental effects. Companies that sell organic food products may see increased demand.[45] A company that develops a negative reputation for its environmental practices may suffer decreased demand for its products or services.[46] Accordingly, information about such exogenous trends would be relevant to the company's present and future financial performance and therefore material under Regulation S-K.[47]

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43. *See* 17 C.F.R. § 229.303(a)(3)(ii) (2014).

44. *See* 17 C.F.R. § 229.503(c) (2014).

45. *See* Matthew Saltmarsh, *Strong Sales of Organic Foods Attract Investors*, N.Y. TIMES, May 23, 2011, at B8.

46. THE PROCTER & GAMBLE CO., 2013 ANNUAL REPORT 16, 17 (2013) (noting how such a development could damage the value of Procter & Gamble's brands).

47. *See* Management's Discussion and Analysis of Financial Condition and Results of Operations: Certain Investment Company Disclosures, 54 Fed. Reg. 22,427, 22,429 (May 24, 1989) ("A disclosure duty exists where a trend, demand, commitment, event or uncertainty is both presently known to management and reasonably likely to have material effects on the registrant's financial condition or results of operation."). It is curious, however, that even in its general guidance not specifically aimed at environmental information, to the

Requiring disclosure of exogenous changes in consumer demand could result in substantial environmental benefits. This is because—unlike legally mandated business changes such as environmental compliance expenditures—exogenous changes involve conduct not already mandated under environmental law. Thus, these environmental disclosures do not duplicate legal mandates in environmental laws. The SEC's environmental guidance, however, has not addressed the materiality of information about exogenous changes in consumer behavior related to a company's environmental reputation or the environmental attributes of its products, even though such information seems potentially relevant to investors and therefore material under Regulation S-K.[48]

A third category of environmental disclosure would push the boundaries of the SEC's authority with potentially far-reaching environmental impacts. This third category, instead of disclosing business changes, would induce business changes through the disclosure of information about a firm's environmental performance—for example, a requirement that companies report the environmental performance of their supply chain. Some major companies, most famously WalMart, have imposed environmental requirements on their supply chains.[49] Scholars studying the phenomenon have linked companies' decisions to impose environmental standards on their supply chain to pressure from consumers and investors[50]—a fact that, if true, would seem to suggest the materiality of information about supply chain environmental performance.

Although information about the environmental performance of a company's supply chain would extend environmental disclosure requirements significantly beyond anything currently required,

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extent the SEC has addressed environmental information, the information has been linked to legally mandated business factors. Thus, in its 1989 guidance on MD&A disclosures, the SEC offered an example of a company facing potential liability for cleanup costs under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601–9675. *See* Management's Discussion and Analysis of Financial Condition and Results of Operations; Certain Investment Company Disclosures, 54 Fed. Reg. at 22,430. The SEC noted the company would have to disclose its potential CERCLA liability. *Id.*

48. The SEC's 2010 interpretive release on climate change, Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010), is at least susceptible of a reading that would include exogenous environmental factors. The interpretive release refers to changes in demand for a company's products, but is unclear as to whether this refers to legally mandated changes in demand or would also extend to exogenous changes in consumer demand.

49. *Sustainability Index*, WALMART, http://corporate.walmart.com/global-responsibility/environment-sustainability/sustainability-index (last visited Oct. 6, 2014).

50. Michael P. Vandenbergh, *The New Wal-Mart Effect: The Role of Private Contracting in Global Governance*, 54 UCLA L. REV. 913, 947 (2007).

there is precedent for such an extension in at least two analogous SEC rules. In 2003, the SEC issued a rule requiring a company to disclose (1) whether it has an independent financial expert on its audit committee, and if not, then why not; and (2) whether it has adopted a code of ethics that applies to certain financial officers, and if not, then why not.[51] In 2012, the SEC issued a rule requiring a company to disclose its use of any "conflict mineral" originating in the Democratic Republic of the Congo or an adjoining country.[52] The Conflict Minerals Rule essentially requires companies to exercise due diligence in investigating their supply chains and to disclose the results of their investigations.[53]

Both the Audit Committee Financial Expert and Code of Ethics Rule and the Conflict Minerals Rule create incentives for companies to change their conduct, or else face negative repercussions from investors and customers. Although framed in terms of disclosure, they ultimately seem likely to induce companies to alter their behavior—that is, to include independent financial experts on their audit committees, to adopt a code of ethics, and not to use conflict minerals. Requiring disclosure of environmental performance similarly could induce companies to take steps to improve their environmental performance.

But analogizing from the Audit Committee Financial Expert and Code of Ethics Rule and the Conflict Minerals Rule to environmental disclosures presents a problem, in that Congress specifically mandated those rules in the Sarbanes-Oxley Act[54] and Dodd-Frank Act,[55] respectively.[56] One could argue, however, that both rules would be authorized under the Exchange Act as providing transparency regarding issues that investors consider significant. The argument seems easy to make for the Audit Committee Financial Expert and Code of Ethics Rule, which addresses factors that pertain directly to a company's financial performance. And indeed the SEC's preambles to the Proposed Rule and Final Rule contended that the disclosures required under

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51. Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002, 68 Fed. Reg. 5110 (Jan. 31, 2003) (to be codified at 17 C.F.R. pts. 228, 229, 249).

52. Conflict Minerals, 77 Fed. Reg. 56,274 (Sept. 12, 2012) (to be codified at 17 C.F.R. pts. 240, 249b). Armed groups in the Congo are using the exploitation and trade of conflict minerals to finance the conflict in the region, exacerbating the humanitarian catastrophe there. *See id*. at 56,275; Nat'l Ass'n of Mfrs. v. SEC, 748 F.3d 359, 362-63 (D.C. Cir. 2014).

53. *See* 77 Fed. Reg. at 56,275.

54. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified in scattered sections of 11, 15, 18, 28, and 29 U.S.C.).

55. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (to be codified in scattered sections U.S.C.).

56. 15 U.S.C. § 78m(p) (conflict minerals); 15 U.S.C. § 7265 (audit committee financial expert).

the Rule are significant to investors, and that the enhanced transparency will support investor confidence in the financial markets.[57] It is less clear that the disclosures required under the Conflict Minerals Rule, which are not as directly linked to financial performance, are material to investors. Not surprisingly, the SEC's discussion of the rationale for the Conflict Minerals Rule is more equivocal. The SEC cited several purposes of conflicts minerals disclosure, some linked more to underlying humanitarian objectives[58] and some linked more to financial objectives.[59]

The SEC's hesitation to embrace the materiality of conflict minerals disclosures may have less to do with a concern about the significance of the information to investors and more to do with a concern about opening the floodgates of required disclosure to encompass numerous other social causes of potential concern to investors—including environmental performance. The SEC also might be concerned that requirements to disclose very specific information that is not directly financial, such as a firm's adoption of a code of ethics for its financial officers or its use of conflict minerals, begins to look less like a disclosure requirement and more like a substantive mandate intended to shame companies into adopting ethics codes and not using conflict minerals.

Both of these concerns raise legitimate questions about efforts to expand environmental disclosures by, for example, requiring companies to investigate and monitor the environmental performance of their supply chains. To what extent do we want the SEC to pursue social objectives outside of its core mission of protecting the integrity of financial markets? To what extent do we want the SEC to impose substantive requirements that effectively change behavior instead of merely requiring disclosure? There also are legitimate policy concerns about the cost of expansive disclosure requirements, especially those involving supply chain management. The SEC estimates that initial compliance with the

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57. *See, e.g.*, Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002, 60 Fed. Reg. at 5110; Disclosure Required by Sections 404, 406, and 407 of the Sarbanes-Oxley Act of 2002, 67 Fed. Reg. 66,208, 66,210 (Oct. 30, 2002).

58. *See* Conflict Minerals, 77 Fed. Reg. at 56,275 ("Congress chose to use the securities laws disclosure requirements to bring greater public awareness of the source of issuers' conflict minerals and to promote the exercise of due diligence on conflict mineral supply chains.").

59. *See id.* at 56,276 (noting that the disclosures "will 'enhance transparency,' " " 'help American consumers and investors make more informed decisions,' " and "will provide information that is material to an investor's understanding of the risks in an issuer's reputation and supply chain") (quoting and citing statements from members of Congress as well as other commenters).

Conflict Minerals Rule will cost companies between $3 and $4 billion.[60]

In addition to these broad policy questions, the Conflict Minerals Rule raises some difficult legal problems for the agency. On April 14, 2014, a divided panel of the D.C. Circuit held that relevant provisions of the Dodd-Frank Act and the SEC's Rule "violate the First Amendment to the extent the statute and rule require regulated entities to report to the Commission and to state on their website that any of their products have 'not been found to be "DRC conflict free."[61] Judge Sri Srinivasan dissented.[62] The SEC has petitioned for en banc review of the panel decision,[63] citing a related First Amendment issue already under en banc review in another case.[64] Regardless of the resolution of the First Amendment issue, however, the D.C. Circuit upheld the remainder of the Conflict Minerals Rule, which the SEC has continued to implement.[65] The litigation over the Conflict Minerals Rule illustrates how aggressive use of disclosure requirements can push the boundaries of government's authority, although perhaps with significant beneficial consequences.

C. FTC Green Guides

Section 5 of the Federal Trade Commission Act[66] broadly prohibits "unfair or deceptive acts or practices in or affecting commerce."[67] The FTC has issued thirteen "guides" that interpret the FTC Act in various applications.[68] Some guides are aimed at

60. 77 Fed. Reg. at 56,334.

61. Nat'l Ass'n of Mfrs. v. SEC, 748 F.3d 359, 373 (D.C. Cir. 2014).

62. *Id.* at 373-76.

63. Inside Washington Publishers, *Eyeing COOL Case, SEC Asks Court To Revisit Conflict Minerals Ruling*, 2014 WLNR 15342572 (June 6, 2014).

64. Am. Meat Inst. v. USDA, No. 13-5281, 2014 WL 3732697, at *1 (D.C. Cir. 2014).

65. *See* Press Release, SEC Issues Partial Stay of Conflict Minerals Rules, SEC (May 2, 2014) (noting that the SEC stayed the portion of the Rule held invalid by the D.C. Circuit but declined to stay the remainder of the Rule).

66. 15 U.S.C. §§ 41-58 (2000).

67. *Id.* at § 45(a)(1).

68. *See* 16 C.F.R. §§ 18-260 (2000). The Guides, although non-binding, "represent administrative interpretations of laws administered by the Federal Trade Commission for the guidance of the public in conducting its affairs in conformity with legal requirements . . . . The Guides provide the basis for voluntary compliance with the law by members of the industry, and practices inconsistent with these Guides may result in corrective action by the Commission under section 5 of the FTC Act . . . ." *E.g.*, 16 C.F.R. §§ 24.0(b), 254.0(b), 260.1(a).

specific industries,[69] and some are aimed at particular marketing practices.[70]

The FTC's Guides for the Use of Environmental Marketing Claims ("Green Guides")[71] describe the agency's views regarding environmental claims in marketing, so as to "help marketers avoid making environmental marketing claims that are unfair or deceptive under Section 5 of the FTC Act."[72] The Green Guides articulate general principles,[73] warn against "unqualified general environmental benefit claims,"[74] and provide specific guidance regarding matters such as third-party seals of approval and compostability.[75] Since first releasing the Green Guides in 1992,[76] the FTC has taken enforcement actions against numerous companies regarding green marketing claims.[77]

The FTC Act vests enforcement authority exclusively in the FTC and creates no private right of action allowing private

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69. *See, e.g.*, 16 C.F.R. pt. 18 (Guides for the Nursery Industry); 16 C.F.R. pt. 24 (Guides for Select Leather and Imitation Leather Products); 16 C.F.R. pt. 254 (Guides for Private Vocational and Distance Education Schools).

70. *See, e.g.*, 16 C.F.R.pt. 233 (Guide Against Deceptive Pricing); 16 C.F.R. pt. 238 (Guides Against Bait Advertising); 16 C.F.R. pt. 255 (Guides Concerning Use of Endorsements and Testimonials in Advertising).

71. 16 C.F.R. pt.260. In addition to the Green Guides, the FTC also administers several other environmental and energy-related rules and guides. *See* Guide Concerning Fuel Economy Advertising for New Automobiles, 16 C.F.R. § 259; Appliance Labeling Rule, 16 C.F.R. § 305; Fuel Rating Rule, 16 C.F.R. § 306; Alternative Fuels and Alternative Fueled Vehicles Rule, 16 C.F.R. § 309; Recycled Oil Rule, 16 C.F.R. § 311; Labeling and Advertising of Home Insulation Rule, 16 C.F.R. § 460.

72. 16 C.F.R. § 260.1.

73. *See, e.g.*, 16 C.F.R. § 260.3(a) ("To prevent deceptive claims, qualifications and disclosures should be clear, prominent, and understandable.").

74. 16 C.F.R. § 260.4(b)

75. 16 C.F.R. § 260.5-.17.

76. *See* Guides for the Use of Environmental Marketing Claims, 57 Fed. Reg. 36,363 (Aug. 13, 1992) (to be codified at 16 C.F.R. pt. 260); *see also* Petitions for Environmental Marketing and Advertising Guides, 56 Fed. Reg. 24,968 (May 31, 1991) (to be codified at 16 C.F.R. Ch. I) (request for public comment). The FTC subsequently revised the Green Guides in 1996, 1998, and 2012. *See* Guides for the Use of Environmental Marketing Claims, 77 Fed. Reg. 62,122 (Oct. 1, 2012) (to be codified at 16 C.F.R. pt. 260); Guides for the Use of Environmental Marketing Claims, 63 Fed. Reg. 24,240 (May 1, 1998) (to be codified at 16 C.F.R. pt. 260); Guides for the Use of Environmental Marketing Claims, 61 Fed. Reg. 53,311 (Oct. 11, 1996) (to be codified at 16 C.F.R. pt. 260).

77. *See, e.g.*, Pure Bamboo, LLC & Bruce Dear—Consent Order & Complaint, Trade Reg. Rep. (CCH) ¶ 16,347 (2009) (summarizing complaint and consent decree alleging that company deceptively advertised rayon product as biodegradable bamboo manufactured using an environmentally friendly process); In re Benckiser Consumer Products, Inc., 121 F.T.C. 644 (1996) (alleging in consent decree that company falsely represented that it donates a portion of its revenue to non-profit environmental organizations); Nationwide Industries, Inc.—Complaint and Proposed Consent Order, Trade Reg. Rep. (CCH) ¶ 23,407 (1993) (noting FTC complaint alleging that company falsely advertised and labeled its aerosol tire inflator as "environment friendly" and containing "no CFC's"); *see also* Julie Brill, *FTC Advertising Enforcement*, SR040 ALI-ABA 259 , 313-15 (2010) (summarizing other FTC enforcement actions against environmental marketing claims).

individuals to bring suits to enforce the Act's provisions.[78] The lack of a private right of action and the resulting dependence on the FTC, with its limited resources for enforcement, constrain the FTC Act's effectiveness.[79] State consumer protection statutes, by contrast, almost universally provide a private right of action for damages for violations of their provisions.[80] Moreover, these "little FTC Acts" also often incorporate by reference the substantive law of the federal FTC Act,[81] and sometimes specifically the FTC's Guides, including the Green Guides.[82] This creates a synergistic relationship between the federal FTC Act and state little FTC Acts, whereby "the federal authorities would provide the substantive guidelines while state authorities would provide enforcement and remedies."[83] In addition, private self-regulatory bodies such as the National Advertising Division of the Better Business Bureau also apply the FTC's Guides.[84]

Consumer protection statutes supplement conventional environmental standards by providing incentives for environmental protection that go beyond what environmental statutes and regulations require. For example, the Green Guides state that it is deceptive for a company to claim environmental benefits that merely reflect compliance with mandatory legal standards.[85] Thus, to claim an environmental benefit from its product, a company must go beyond the level of environmental performance required by the applicable environmental laws.

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78. *See* Alfred Dunhill Ltd. v. Interstate Cigar Co., 499 F.2d 232, 237 (2d Cir. 1974); Holloway v. Bristol-Myers Corp., 485 F.2d 986, 988-989 (D.C. Cir. 1973); Carlson v. Cola-Cola Co., 483 F.2d 279, 280 (9th Cir. 1973).

79. *See* Kathleen S. Morris, *Expanding Local Enforcement of State and Federal Consumer Protection Laws*, 40 FORDHAM URB. L.J. 1903, 1910 (2013); *see also* Victor E. Schwartz & Cary Silverman, *Common-Sense Construction of Consumer Protection Acts*, 54 U. KAN. L. REV. 1, 3 (2005) (listing some of the advantages, as compared with the FTC Act, of state consumer protection statutes that do provide a private right of action).

80. Sheila B. Scheuerman, *The Consumer Fraud Class Action: Reining in Abuse by Requiring Plaintiffs to Allege Reliance as an Essential Element*, 43 HARV. J. ON LEGIS. 1, 23 (2006). The FTC actually urged states during the 1960s to enact state consumer protection statutes that provided a private right of action. *See* D. Matthew Allen, et. al., *The Federal Character of Florida's Deceptive and Unfair Trade Practices Act*, 65 U. MIAMI L. REV. 1083, 1085-86 (2011).

81. *See* J.R. Franke & D.A. Ballum, *New Applications of Consumer Protection Law: Judicial Activism or Legislative Directive?*, 32 SANTA CLARA L. REV. 347, 357 (1992).

82. *See, e.g.*, Cal. Pub. Res. Code § 42357.6; Minn. Stat. § 325E.41; R.I. Gen. Laws § 6-13.3-1(2).

83. J.R. Franke & D.A. Ballum, *New Applications of Consumer Protection Law: Judicial Activism or Legislative Directive?*, 32 SANTA CLARA L. REV. 347, 357 (1992).

84. *See National Advertising Division*, Council of Better Business Bureaus, http://www.bbb.org/council/the-national-partner-program/national-advertising-review-services/national-advertising-division/ (last visited Oct. 10, 2014).

85. *See, e.g.*, 16 C.F.R. § 260.5(c) (2012).

Consumer protection statutes also empower consumers to act on their environmental preferences with confidence that they will not be deceived with false marketing regarding environmental attributes. This, in turn, creates market incentives for businesses to respond to consumer environmental preferences with products to meet that demand.

The substance of the FTC Green Guides in combination with the private enforcement under state little FTC Acts provides important legal protection against deceptive environmental marketing. There is potential, however, to extend enforcement against deceptive marketing to additional categories of environmental claims not reached by existing enforcement. It appears that, to date, enforcement actions have only been taken against misleading claims about the environmental attributes of specific products—for example, a claim that a product was biodegradable when it was not.[86] It does not appear that public or private enforcement actions have been taken against deceptive statements about the overall environmental performance of a company, not linked to a specific product.[87]

General principles and precedent, however, support a claim against deceptive marketing based on misrepresentations about a company's overall environmental commitment and performance, provided that the deceptive information is sufficiently specific and significant that it would mislead reasonable consumers.[88] Information about a firm's environmental commitment and performance is considered significant, as evidenced by the fact that more than seventy-five percent of S&P 100 companies publicize their environmental policies and performance on their web sites.[89] Given the significance of this information, misleading information about environmental performance must violate the FTC Act.

In 1996, for example, the FTC took action against Benckiser Consumer Products, a Connecticut-based company, for misrepresenting that a portion of the revenue from the sale of its household cleaning product was donated to non-profit environmental organizations.[90] Although the Benckiser Consumer Products case involved environmental claims about a specific

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86. *See* FED. TRADE COMM'N, THE FTC IN 2010: FEDERAL TRADE COMMISSION ANNUAL REPORT 45 (2010).

87. *See* Miriam A. Cherry & Judd F. Sneirson, Chevron*, Greenwashing, and the Myth of "Green Oil Companies,"* 3 WASH. & LEE J. ENERGY, CLIMATE & ENV'T 133, 144 (2012).

88. Victor E. Schwartz & Cary Silverman, *Common-Sense Construction of Consumer Protection Acts*, 54 U. KAN. L. REV. 1, 19 (2005).

89. *See* Igor Alves, *Green Spin Everywhere: How Greenwashing Reveals the Limits of the CSR Paradigm*, 2 J. GOVERNANCE 1, 8 (2009).

90. In re Benckiser Consumer Products, Inc., 121 F.T.C. 644 (1996).

product rather than the company generally, it would seem a small step—given the right facts—to apply the same general principle to a case in which a company had misrepresented its overall environmental commitment and performance.

The problem with general, as opposed to product-specific, representations about corporate environmental commitments and performance, is that they are often framed in broad and vague terms that may be difficult to prove deceptive.[91] Can one prove, for example, that an energy company does not actually make environmental protection "the highest priority"?[92] It also is possible that scrutinizing environmental claims more closely would merely induce companies to make fewer environmental claims altogether, preventing consumers from acting on their environmental preferences.

D. FERC Demand Response Orders

The Federal Power Act[93] charges the Federal Energy Regulatory Commission (FERC) with regulating "the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce."[94] The Federal Power Act further directs FERC to ensure rates in wholesale electricity markets are "just and reasonable."[95] In recent orders, FERC applied the "just and reasonable" standard to determine that wholesale electricity markets needed to allow greater participation by what are known as demand response resources.[96]

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91. *See, e.g.*, Hill v. Roll Int'l Corp., 128 Cal. Rptr. 3d 109, 116 (Cal. App. 2011) (holding that use of green drop of water and "Every drop is green" slogan by Fiji bottled water would not mislead a reasonable consumer).

92. *See* Cherry & Sneirson, *supra* note 877, at 136 (" 'We place the highest priority on the health and safety of our workforce and protection of our assets and the environment.' ") (quoting a Chevron website).

93. 16 U.S.C. §§ 791a-828c.

94. 16 U.S.C. § 824(a).

95. *See, e.g.*, 16 U.S.C. § 824d(a) ("All rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy subject to the jurisdiction of the Commission, and all rules and regulations affecting or pertaining to such rates or charges shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful."); 16 U.S.C. § 824e(a) (directing FERC, when it has found a public utility rate to be "unjust, unreasonable, unduly discriminatory or preferential," to "determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force, and shall fix the same by order").

96. *See, e.g.*, Demand Response Supporters v. N.Y. Indep. Sys. Operator, 145 FERC ¶ 61162 (Nov. 22, 2013); Midwest Indep. Transmission Sys. Operator, Inc., 137 FERC ¶ 61212 (Dec. 15, 2011); Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (to be codified at 18 C.F.R. § 35.28) [Order 745]; Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64,100 (Oct. 28, 2008) (to be codified at 18 C.F.R. § 35.28) [Order 719].

Demand response refers to reductions in electric energy consumption—nicknamed "negawatts"[97]—in response to an increase in price or to incentive payments.[98] These demand reductions can substitute, sometimes at a lower cost, for additional electricity generation that otherwise would be required to meet peaking demand. In two recent orders, Order 719 [99] and Order 745,[100] FERC essentially ordered wholesale market system operators to treat demand response resources more like electricity generators—that is, to treat negawatts like megawatts.

Because demand response reduces or redistributes consumption (and therefore generation) of electric power, it has potentially significant environmental effects. The magnitude and perhaps even direction of those environmental effects, however, are unclear. Several nonprofit environmental organizations commenting on FERC's proposed rules argued that demand response creates important environmental benefits by displacing fossil fuel-combusting electricity generation.[101] Some energy law scholars have similarly argued that demand response can "reduc[e] greenhouse gas emissions and the need for constructing new power plants."[102]

Generator-affiliated commenters on Order 745, on the other hand, argued that incentivizing demand response would lead to increased off-grid power, such as the use of on-site diesel generators, that produces more emissions than grid power generation.[103] And some environmental and energy law scholars have expressed a similar concern that demand response may actually increase carbon emissions by shifting electricity use from high-cost peak load periods, when more generation comes from

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97. *See, e.g.*, Joel B. Eisen, *Who Regulates the Smart Grid?: FERC's Authority over Demand Response Compensation in Wholesale Electricity Markets*, 4 SAN DIEGO J. CLIMATE & ENERGY L. 69, 76 (2013); Michael P. Vandenbergh & Jim Rossi, *Good for You, Bad for Us: The Financial Disincentive for Net Demand Reduction*, 65 VAND. L. REV. 1527, 1560 (2012). Armory Levins, cofounder of the Rocky Mountain Institute, apparently originated the term "negawatt" in a presentation at the 1984 Annual Meeting of the National Association of Regulatory Utility Commissioners. *See* Michael T. Burr, *Turning Energy Inside Out*, PUB. UTIL. FORT., Mar. 1, 2013, at 28, 33; *see also* Armory Lovins, *Saving Gigabucks with Negawatts*, PUB. UTIL. FORT., Mar. 21, 1985, at 19 (using the term for the first time in print, in an article based on his remarks at the 1984 NARUC meeting).

98. 18 C.F.R. § 35.28(b)(4).

99. Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64,100, 64,101 (Oct. 28, 2008) (to be codified at 18 C.F.R. § 35.28).

100. Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (to be codified at 18 C.F.R. § 35.28).

101. 76 Fed. Reg. at 16,664 (citing comments by the Environmental Defense Fund and the American Clean Skies Foundation).

102. Eisen, *supra* note 977, at 102-03.

103. 76 Fed. Reg. at 16,664 (citing the comment of the Electric Power Supply Association).

expensive but relatively low-emission natural gas plants, to lower-cost off-peak periods, when more generation comes from cheaper coal-fired power plants.[104]

FERC's own analysis has been cautious, referring to "possible environmental benefits" from demand response.[105] FERC notes that "[d]emand response may provide environmental benefits by reducing generation plants' emissions during peak periods," but also that "[r]eductions during peak periods should be balanced against possible emissions increases during off-peak hours, as well as from increased use of on-site generation."[106] FERC's Orders 719 and 745 do not ascribe any environmental benefits to demand response.

It is apparent from this debate that whether demand response results in environmental benefits depends on how it is managed. The Federal Power Act gives FERC little if any authority to regulate energy transactions, including demand response, for the direct purpose of accomplishing environmental objectives. Other federal, state, and local regulators, however, do have that authority. Pursuant to its authority under the Clean Air Act, for example, EPA regulates diesel generators that are sometimes used for on-site generation as part of demand response.[107] Included in these regulations are specific limits on the operation of such generators for demand response.[108] Ultimately, demand response appears to have significant potential to reduce air pollutant emissions, if energy policies governing the grid incentivize demand response and environmental policies governing emissions channel demand response toward environmentally beneficial energy usage.

FERC's efforts to expand demand response recently hit a significant legal snag. Five energy industry associations[109] petitioned for review of Order 745 in the D.C. Circuit, and on May 23, 2014, a divided panel of that court vacated Order 745, holding that it exceeded FERC's jurisdiction over wholesale

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104. Vandenbergh & Rossi, *supra* note 977, at 1541-43.

105. FERC, ASSESSMENT OF DEMAND RESPONSE & ADVANCED METERING 6 (2006), available at http://www.ferc.gov/legal/staff-reports/demand-response.pdf.

106. *Id.*

107. National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, New Source Performance Standards for Stationary Internal Combustion Engines, 78 Fed. Reg. 6674 (Jan. 30, 2013) (to be codified at 40 C.F.R. pts. 60, 63).

108. *Id.* at 6679-81.

109. The five petitioners, aligned with the interests of electric power generators who under Order 745 faced competition from demand response resources bidding into wholesale electric power markets, were the Electric Power Supply Association, American Public Power Association, National Rural Electric Cooperative Association, Old Dominion Electric Cooperative, and Edison Electric Institute.

electric power markets under the Federal Power Act.[110] The panel majority held that demand response, because it involves end users of electricity who are customers in the retail market, is inherently a phenomenon of the retail market and therefore outside of FERC's jurisdiction.[111] The effect of the D.C. Circuit's decision on FERC's attempts to incentivize demand response remains to be seen. FERC may seek certiorari in the Supreme Court, which could reinstate Order 745, or find ways to extend or preserve other demand response initiatives.

II. OBSERVATIONS

The title of this article refers to accomplishing environmental objectives with "non-environmental laws," and in many respects that characterization is accurate. The four illustrative laws described in Part II—the Plant Protection Act, SEC environmental disclosure requirements, FTC Green Guides, and FERC's demand response orders—have different objectives than environmental laws; they arise under statutes not primarily aimed at environmental concerns. They are administered by agencies—APHIS, SEC, FTC, FERC—that do not specialize in environmental law. They employ different regulatory mechanisms—import limits, financial disclosures, marketing restrictions, and economic regulation—than canonical environmental regulation, which more directly regulates environmental emissions and discharges. They are associated with, and have the primary attributes of, legal fields other than environmental law—agricultural law, securities law, consumer protection law, and energy law.

And yet, despite these characteristics that differentiate them from what is generally regarded as environmental law, as Part II showed, these non-environmental laws are being used to accomplish environmental objectives. Moreover, Part II also showed that these non-environmental laws exhibit potential for significant expansions of their environmental applications. The Plant Protection Act can be used to strengthen import controls against the movement of invasive species into the country.[112] The SEC can clarify the breadth of environmental information that companies must disclose, recognizing that information about a firm's environmental performance is important to its financial

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110. Elec. Power Supply Ass'n v. FERC, No. 11-1486, 2014 WL 2142113 (D.C. Cir. May 23, 2014).

111. *Id.* at *4.

112. *See* National Environmental Coalition on Invasive Species, Invasive Species Solutions, necis.net (urging more aggressive regulation of imported plant species).

outlook and therefore material to investors.[113] The FTC can pursue enforcement actions against companies that make deceptive claims about their environmental performance and commitments.[114] FERC can continue to develop programs that incentivize energy efficiency.[115] None of these initiatives involves environmental statutes or environmental agencies, and none would require new legislation from Congress.

Any particular expanded use of non-environmental laws to pursue environmental objectives will require more substantial consideration and analysis than is possible in this exploratory article. It is important not to allow dissatisfaction with the familiar realm of environmental law to lead us to idealize unfamiliar alternatives. Specific proposals necessitate thorough consideration and balancing of advantages and disadvantages. That being said, thinking generally about environmental applications of non-environmental laws, and drawing on the examples from Part II, we can identify likely upsides and downsides.

A. Potential Upsides

The characteristics that differentiate non-environmental laws from environmental laws potentially give them certain advantages over relying solely on environmental statutes to address environmental problems. Using non-environmental laws to pursue environmental objectives can leverage these advantages.

Parallelism and Synergy. Non-environmental laws applied to environmental concerns can work independently of, but synergistically with, environmental statutes. Effective use of the Plant Protection Act to exclude invasive weeds and plant pests could substantially reduce pesticide use, supporting the goals of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).[116] The SEC's environmental disclosure requirements, by requiring a company to disclose any environmental enforcement action taken

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113. *See supra* note 50 and accompanying text.

114. *See supra* notes 86-90 and accompanying text.

115. *See supra* notes 107-108 and accompanying text. Even if the D.C. Circuit's decision remains intact and hinders FERC's ability to promote demand response, the agency has other policy avenues it can employ to facilitate energy efficiency and clean energy. *See, e.g.*, Illinois Commerce Comm'n v. FERC, 721 F.3d 764 (7th Cir. 2013) (affirming FERC's approval of regional transmission organization's rate design for transmission project that facilitated development of renewable energy resources).

116. 7 U.S.C. §§ 136-136y. Approximately $500 million of pesticides are used each year against invasive pest insects. *See* David Pimentel et al., *Update on the Environmental and Economic Costs Associated with Alien-Invasive Species in the United States*, 52 ECOLOGICAL ECON. 273, 281 (2005).

against it,[117] incentivize compliance with environmental regulations. The FTC's Green Guides, by precluding companies from environmental marketing that highlights attributes required by law,[118] may motivate companies to go beyond what is legally mandated. Finally, FERC demand response orders work with environmental regulations, such as EPA regulations governing the use of diesel generators,[119] to induce environmentally beneficial demand response measures.

Institutional and Policy Pluralism. Although designated environmental expert agencies such as EPA and Fish and Wildlife Service will always be responsible for the lion's share of environmental regulation, there are important advantages to including other agencies in the effort as well. Non-environmental agencies and laws apply different perspectives and policy instruments than typical environmental standards. The FTC's Green Guides and the SEC's environmental disclosure requirements, for example, leverage exogenous consumer and investor demand for environmentally beneficial products and companies. This approach is decidedly different from environmental emissions standards that operate in a way that largely obscures both their benefits and burdens from the view of the public. Adding non-environmental laws to the mix of legal responses to environmental problems thus diversifies and expands the field of environmental law. As long as these additions do not lead to wasteful duplication or work at cross-purposes, environmental policy benefits from having a diversity of agencies addressing environmental problems through various policy mechanisms.

Non-Environmental Attributes. Relying on non-environmental law to accomplish environmental objectives recognizes the connections and relationships that environmental issues have with other, non-environmental issues. These non-environmental connections may be at least as strong as their connections with other environmental issues. Environmental marketing claims, for example, arguably have more in common with other marketing claims than they do with air pollutant emissions. Indeed, the very act of categorizing a problem or policy as environmental deemphasizes its other important aspects, obscuring important connections with other fields.[120]

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117. *See* 17 C.F.R. § 229.103 (Instruction 5); *see also supra* text accompanying note 42.

118. 16 C.F.R. § 260.5(c); *see also supra* text accompanying note 85.

119. *See* 78 Fed. Reg. 6674; *see also supra* text accompanying note 107.

120. *Cf.* Todd S. Aagaard, *Environmental Law As A Legal Field: An Inquiry in Legal Taxonomy*, 95 CORNELL L. REV. 221, 234 (2010) ("Fields of law focus attention on particular aspects of the law only by intentionally obscuring other aspects.").

Finding environmental applications of policies in legal fields outside of environmental law—such as agricultural law, securities law, consumer protection law, and energy law—therefore allows environmental policy to benefit from non-environmental connections. It is telling, for example, that the legal questions raised by the examples of environmental applications of non-environmental laws described in Part II implicate issues fundamental to their respective fields—for example, what information is material to an investor, what marketing misleads a consumer, or the distinction between wholesale and retail electric power markets. Environmental policy benefits from the application of the existing frameworks in these fields to these questions.

In addition, these fields may benefit from application to the environmental context. Applying their existing frameworks to environmental problems may raise important questions for the field.[121] If, for example, information about a firm's overall environmental performance appears likely to be significant to investors, and therefore would meet the existing definition of materiality under the securities laws, but there are legitimate concerns about broadening the definition of materiality to encompass factors not directly related to financial performance,[122] then this raises an important problem for securities regulation generally. Both environmental law and other fields—in this example, securities regulation—thus can benefit from applying doctrine and analytical methods from these other fields to environmental problems.

Political Dynamics. Non-environmental laws also create different, and perhaps more constructive, political dynamics than laws more specifically focused on environmental protection. During times like the present in which environmental policies trigger such visceral and ideological debate, it is beneficial to have areas, such as securities regulation and consumer protection, in which policies can be developed and implemented in a more productive environment. Non-environmental laws may offer more fruitful political dynamics than environmental laws can offer, for several reasons.

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121. *See, e.g.*, Douglas A. Kysar, *What Climate Change Can Do About Tort Law*, 41 ENVTL. L. 1 (2011) (arguing that climate change litigation asserting common law causes of action raise questions regarding harm, causation, and responsibility that could lead to important innovations in tort law). The Supreme Court's subsequent decision in *Am. Elec. Power Co. v. Conn.*, 131 S. Ct. 2527 (2011), holding that the Clean Air Act preempted climate change causes of action under federal common law, foreclosed many opportunities for the innovations Kysar envisioned.

122. *See* text accompanying *supra* note 60.

Non-environmental laws disrupt the contentious and entrenched environmentalist-industry interest group alignments that pervade environmental law. Because they aim at goals other than environmental protection, non-environmental laws may create a broader coalition of support. Farmers concerned about plant pests and noxious weeds that threaten their crops may support the Plant Protection Act's regulation of invasive species. Investors concerned about a company's business risks may support strong disclosure requirements that include environmental information. Consumers concerned about confusing and deceitful marketing may support strict enforcement against misleading and unsupported claims that include claims about environmental benefits. Consumers of electric power may support efforts to create a more efficient and reliable grid that include environmentally beneficial demand response measures.

Non-environmental laws also may elicit weaker anti-regulatory political opposition, because the institutions and regulatory mechanisms they employ are considered less intrusive than environmental regulation. As far as agencies go, the FTC, for example, is not the bogeyman for conservatives that the EPA is. As for policy instruments, whereas conventional environmental regulation—often termed "command and control" regulation[123]—is perceived as contrary to free market principles,[124] non-environmental laws often arguably facilitate free markets—for example, by creating more informed investors and consumers rather than mandating certain levels of environmental protection, or by incorporating demand response resources into wholesale electricity markets.

Finally, non-environmental laws may be overall less politically volatile than environmental laws, because the economic and political costs of regulation are generally lower outside of environmental law. With reduced stakes, there may be less of a rush to symbolic ideological battles. EPA rules are, compared to other agencies' regulations, extremely costly.[125] They generate

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123. *See, e.g.*, Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1235-36 (1995) (describing command-and-control environmental regulation); Michael P. Vandenbergh, *From Smokestack to SUV: The Individual As Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 526 (2004) (same).

124. *See, e.g.*, Thomas W. Merrill, *Explaining Market Mechanisms*, 2000 U. ILL. L. REV. 275 (2000) (contrasting command-and-control regulation and market-based regulation).

125. OFFICE OF MANAGEMENT & BUDGET, 2012 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 15 (2012) (noting that "the rules with the highest benefits and the highest costs, by far, come from the Environmental Protection Agency").

huge benefits as well,[126] but the regulated industries for the most part do not experience those benefits as directly as the costs. Because the economic and political stakes of non-environmental regulation are generally lower than for environmental regulation, fewer resources are expended opposing them.

B. Potential Downsides

Despite these advantages of using non-environmental law to pursue environmental objectives, there are potential downsides. These potential causes for concern can be categorized as legal risks, efficacy risks, and political risks.

Legal risks. The example statutes described in Part II aptly illustrate that using non-environmental laws to accomplish environmental objectives does not rid environmental policy of legal risks, but rather substitutes one set of legal risks for another. Every agency's and statute's regulatory authority, whether it be EPA's authority under the Clean Water Act or the FTC's authority under the FTC Act, has limits. Laws also tend to induce the broadest consequences when applied the most expansively, which explains why agencies are sometimes tempted to push the boundaries of their authority. When agencies apply their authority expansively, as several of the potential applications discussed in Part II entail, this increases the legal risks. Agencies are more likely to get sued, and more likely to lose when they are sued. Indeed, as noted in Part II, both the SEC and FERC recently lost key challenges in the D.C. Circuit,[127] evidencing the legal risks to agencies of pursuing innovative policies for which there is little established precedent.

Efficacy risks. Although using non-environmental laws to pursue environmental objectives has the potential to result in significant additional environmental benefits beyond what can be accomplished with environmental statutes alone, the efficacy of environmental applications of non-environmental laws is best regarded as potential and contingent for several reasons.

First, because environmental concerns are not a primary purpose of these non-environmental laws, pursuit of their core objectives may at times actually impede environmental protection. Some environmentalists think this is true for APHIS's approval of genetically modified crops and methyl bromide treatments under

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126. *Id.* at 12 (noting that 30 major EPA rules issued between 2001 and 2011 generated between $84.8-565.0 billion in benefits, compared with $22.3-28.5 billion in costs).

127. *See supra* notes 61-65 and 109-111 and accompanying text.

the Plant Protection Act.[128] It also may be true of demand response measures that use diesel generators.[129] Environmental concerns can be addressed if they are considered, but these examples highlight the dangers of assuming that non-environmental laws will result in environmental benefits simply because such benefits are possible.[130]

Second, because of the type of policy instruments used in environmental applications of non-environmental laws, there is significantly more uncertainty about the environmental benefits they will obtain. For example, the extent to which using the FTC Act to prevent deception in environmental marketing actually leads markets to develop and sell more environmentally beneficial goods and services is unknown and very difficult to predict or determine. Unlike the EPA, the FTC and the SEC do not—and indeed cannot—regulate directly environmentally harmful behavior. To the extent that regulatory tools such as import limits, sanctions against deceptive advertising, investor disclosure, or compensation for demand response affect environmental quality, that effect is quite indirect and difficult to ascertain. The potential for environmental benefits exists, but realization of that potential is uncertain.

Third, institutional factors also may limit the effectiveness of entrusting environmental objectives to non-environmental agencies. When environmental objectives are not the primary focus of a program or agency, they may be disregarded or at least diluted in strength. The SEC, for example, faces overwhelming challenges in maintaining the integrity of financial markets, and as a consequence, understandably may not prioritize using securities laws to pursue environmental objectives. Non-environmental agencies also may lack the expertise to understand environmental issues.

Political risks. Despite the potential political advantages of using non-environmental law to accomplish environmental objectives, there are significant political risks. Environmental advocates may find it more difficult to monitor and participate in policymaking outside of environmental law's conventional boundaries, although several of the examples in Part II illustrate

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128. *See supra* notes 30-31 and accompanying text.

129. *See supra* note 103 and accompanying text.

130. *Cf.* David Zaring, *Op-Ed: Although Lacking in Potency, 'Minerals' Rule Empowers SEC*, NAT'L L.J., June 16, 2014 (acknowledging that the Conflict Minerals Rule involves areas that "are not a core competency" for the SEC). *But see id.* (Applauding the Conflict Minerals Rule, which "adds a role for a financial regulator to do something about human rights," as "reflect[ing] a particular American vision about what transparent governance requires").

instances in which environmental groups participated effectively in proceedings before non-environmental agencies.[131] More difficult to assess, but arguably more dangerous, is the possibility that efforts to infuse environmental objectives into other areas of law will infect those other areas with environmental law's poisonous politics. Political posturing can arise in unlikely places, as evidenced by the controversies over light bulb efficiency standards[132] and Lacey Act enforcement against the Gibson Guitar Company.[133]

III. CONCLUSION

Some day—hopefully—Congress will return to constructive engagement with environmental issues. In the indefinite meantime, however, the legislative impasse presents a significant obstacle to progress against environmental problems. But, consistent with the old adage that necessity is the mother of invention, that obstacle also can be an impetus for forward movement, insofar as it can drive environmental policymaking to consider underutilized and unexplored alternatives to the environmental law canon.

Efforts to use law and policy to protect the environment should look beyond just environmental statutes. As the examples in Part II illustrate, a variety of non-environmental statutes demonstrate an ability to apply effectively to environmental problems. They do so, moreover, in ways that complement environmental statutes,

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131. *See, e.g.*, *supra* note 40 (noting that NRDC's petition to the SEC seems at least in part to have motivated the agency to issue its interpretive releases regarding environmental disclosures).

132. The Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492, included efficiency standards of light bulbs that will phase out many traditional incandescent light bulbs. *See id.* § 321, 121 Stat. at 1573-87. Despite the significant environmental and economic benefits of the legislation, it generated a substantial backlash from conservatives. *Compare Facts About the Incandescent Light Bulb Law*, GE LIGHTING, http://www.gelighting.com/LightingWeb/na/consumer/inspire-and-learn/lighting-legislation (last visited Oct. 10, 2014) (referring to federal legislation that will "replace energy-wasting incandescent light bulbs with more efficient options," which will "reduce energy usage, save billions of dollars, and protect the environment"), *with* Sen. Paul Rails Against the Collective (Apr. 12, 2011) (accusing the legislation of "taking away people's freedom").

133. In 2012, the Justice Department entered into a criminal enforcement agreement with the Gibson Guitar Company arising out of allegations that Gibson illegally procured imported ebony and rosewood from Madagascar and India in violation of the Lacey Act, 16 U.S.C. §§ 3371-3378. *See* Letter from Jerry E. Martin, United States Attorney, to Donald A. Carr (June 27, 2012), available at http://legaltimes.typepad.com/files/gibson.pdf. The enforcement action precipitated a backlash from some conservatives. *See* Editorial, *Gibson Axed Up by Lacey Act*, WASH. TIMES, Aug. 14, 2012 (characterizing law enforcement officers as "armed thugs" and accusing the Lacey Act of "sabotage[ing] American businesses and hav[ing] created a malaise of high unemployment and low growth"); Henry Juszkiewicz, *Gibson's Fight Against Criminalizing Capitalism*, WALL ST. J., July 20, 2012.

creating a synergistic combined effect. More can and should be done to consider expanding environmental applications of non-environmental statutes to take advantage of the opportunities they present.

Each legal field has its own distinctive perspectives, institutions, and policy instruments, as well as recurring controversies. Broadening our thinking about environmental policy tools to include more non-environmental laws diversifies the options available to policymakers and ultimately can make environmental policy more nimble, adaptive, and resilient to the vexing challenges it faces.

DAVID AND GOLIATH – TAKING ON OIRA

WILLIAM FUNK*

Since the Democrats lost their filibuster proof super majority in the Senate, much less their majority in the House of Representatives, the possibility of meaningful environmental legislation seems remote. The President, although pledging to work with Congress, presumably recognizes this reality and consequently announced, in his State of the Union Address in January, 2014, that "wherever and whenever I can take steps without legislation to expand opportunity for more American families, that's what I'm going to do."[1] But what about the environment? He said, "My administration will keep working with the industry to sustain production and jobs growth while strengthening protection of our air, our water, our communities. And while we're at it, I'll use my authority to protect more of our pristine federal lands for future generations." With respect to climate change, he said, "[w]e have to act with more urgency because a changing climate is already harming western communities struggling with drought and coastal cities dealing with floods. That's why I directed my administration to work with states, utilities and others to set new standards on the amount of carbon pollution our power plants are allowed to dump into the air."[2]

If the President is really serious about giving a high priority to protecting the environment, then it is relatively clear that he can do much under existing statutory authorities. For example, while the current Clean Air Act may not provide the best way to deal with climate change, it seems in light of *Massachusetts v. EPA*[3] that it certainly provides the authority to deal with it. However, the main thrust of his State of the Union speech was about growing the economy and creating new jobs, not protecting the environment. Moreover, the past five years also put in question

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1. President Barack Obama's State of the Union Address, THE WHITE HOUSE, (Jan. 28, 2014), http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address (last visited Sep. 27, 2014).

2. *Id.*

3. *Id.*

President Obama's commitment to valuing environmental protection when that protection is thought to threaten either the economy or his and other Democrats' political fortunes. During that period, many of the rules the Environmental Protection Agency (EPA) wished to adopt, as well as many environmental or public safety rules from other agencies, were delayed, altered, or completely blocked by the Office of Information and Regulatory Affairs (OIRA) as a result of its review process under Executive Order 12866.[4] This process was vividly described by Lisa Heinzerling in her article, *Inside EPA: A Former Insider's Reflections on the Relationship Between the Obama EPA and the Obama White House*.[5] The Administrative Conference of the United States also has catalogued and, by implication, criticized OIRA's delay of rules beyond the deadlines established in Executive Order 12866 and the lack of transparency involved in the reasons for the delays.[6] Whether OIRA's interference with EPA and other agencies' rules to protect the environment and the public's health and safety will continue is unclear, but as of this writing the delays at OIRA continue with no apparent relief.

The purpose of this article is to address what EPA and other agencies can do when faced with OIRA obstruction. It begins by describing the OIRA review process under E.O. 12866 and the nature of the OIRA's interference with agencies' rulemaking. It then suggests how agencies might respond to that interference and what the likely consequences of those responses might be.

I. OIRA REVIEW UNDER E.O. 12866

A. The Order

The history and details of OIRA review under E.O. 12866 have been described at length in a number of other articles,[7] so what will be included here is just a summary. Issued by President Clinton upon taking office, E.O. 12866 replaced a similar order

4. Exec. Order No. 12,866, 58 Fed. Reg. 51735 (1993), available at http://www.archives.gov/federal-register/executive-orders/pdf/12866.pdf. E.O. 12866 was amended by Exec. Order No. 13,563, 76 Fed. Reg. 3821 (2011), but the latter Order does not make any substantive or procedural change to E.O. 12866, so this article will reference only E.O. 12866.

5. Lisa Heinzerling, Inside EPA: A Former Insider's Reflections on the Relationship Between the Obama EPA and the Obama White House, 31 PACE ENV. L. REV. 325 (2014).

6. See Curtis A. Copeland, Improving the Timeliness of OIRA Regulatory Review (Dec. 3, 2013), available at http://acus.gov/report/oira-review-report. See also Administrative Conference Statement #18, Improving the Timeliness of OIRA Regulatory Review (Dec. 6, 2013), available at http://acus.gov/sites/default/files/documents/OIRA%20Statement%20FINAL%20POSTED%2012-9-13.pdf.

7. See, e.g., Heinzerling, supra note 5, at 2-7.

issued by President Reagan in 1981.[8] E.O. 12866 requires that agencies, before they publish a proposed rule for public comment or a final rule, submit it to OIRA for review if the rule is "significant."[9] A number of features might make a rule significant, whether it: interferes with an action taken or planned by another agency; materially alters the budgetary impact of entitlements, grants, fees, or loan programs or the rights or obligations of recipients; raises novel legal or policy issues; or has an annual effect on the economy of $100 million or more, adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state or local governments or tribal governments.[10] If the rule is significant because of this last criterion—the $100 million impact or adverse effect on the economy—then the proposed or final rule must be accompanied with a cost-benefit analysis.[11] OIRA has the authority to determine if a rule is "significant."[12] By its terms, the Order explicitly excludes from OIRA review agency guidance documents such as interpretive rules and policy statements.[13]

Once OIRA receives a proposed or final agency rule for review, the Order states that OIRA shall provide the agency with the results of its review within 90 calendar days,[14] but this period may be extended once, by no more than 30 calendar days, "upon written approval of the Director and at the request of the agency head."[15] If OIRA fails to respond to the agency within the required time frame, the agency may then publish the rule.[16] If OIRA returns a rule to an agency for further consideration, the Order requires OIRA to provide a written explanation for the return.[17] If the agency head disagrees with that explanation, the Order states that he shall inform the Administrator of OIRA in writing.[18] If there are disagreements between the agency and OIRA that cannot be resolved at that level, the Order provides that the President, or Vice President acting at the President's request, will resolve the dispute.[19] Presidential and Vice Presidential consideration can be

8. Exec. Order No. 12,291, 3 C.F.R. (1981), available at http://www.archives.gov/federal-register/codification/executive-order/12291.html.

9. Exec. Order No. 12,866, § 6(a)(3)(B), 3 C.F.R. 638 (1993).

10. *Id.* § 3(f).

11. *Id.* § 6(a)(3)(C).

12. *Id.* § 6(a)(3)(A).

13. *Id.* § 3(d) (defining rules only to include those rules the agency intends to have legal effect).

14. *Id.* § 6(b)(2)(B).

15. Exec. Order No. 12,866, § 6(b)(2)(C) 3 C.F.R. 638 (1993).

16. *Id.* § 8.

17. *Id.* § 6(b)(3).

18. *Id.*

19. *Id.* § 7.

initiated by the Director of the Office of Management and Budget, where OIRA is located, by the head of the agency issuing the rule, or by the head of an agency with a significant interest in the rule.[20] Finally, when the rule is finally issued or the agency has decided not to publish the rule, the Order requires OIRA to make public "all documents exchanged between OIRA and the agency."[21]

Substantively, the Order states clearly that "[n]othing in this order shall be construed as displacing the agencies' authority or responsibilities, as authorized by law."[22]

President George W. Bush issued two executive orders slightly modifying E.O. 12866.[23] The latter of the two specifically required agency notification and consultation with OIRA before issuing significant guidance documents. President Obama, upon taking office, rescinded both Bush executive orders[24] and directed the Director of OMB to revoke any policies based on either of those two orders[25] and "in consultation with representatives of regulatory agencies, as appropriate, to produce within 100 days a set of recommendations for a new Executive Order on Federal regulatory review."[26] Nothing public occurred within 100 days, but a new Executive Order on Improving Regulation and Regulatory Review was issued in January 2011.[27] It contained no substantive change to E.O. 12866 and instead "reaffirm[ed] the principles, structures, and definitions governing contemporary regulatory review that were established in [that] Executive Order."[28] It also restated E.O. 12866's caveat that nothing in the order "shall be construed to impair or otherwise affect[] [the] authority granted by law to a department or agency, or the head thereof."[29] In other words, President Obama reinstated the text and reaffirmed the principles of E.O. 12866 without reservation.

But what that Order provides, as Lisa Heinzerling has demonstrated[30] and ACUS has confirmed, is not what happens.

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20. *Id.*
21. Exec. Order No. 12,866, § 6(b)(5) 3 C.F.R. 638 (1993).
22. *Id.* § 9.
23. See Executive Order No. 13,258, 67 Fed. Reg. 9385 (Feb. 26, 2002); Executive Order No. 13,422, 72 Fed. Reg. 2763 (Jan. 18, 2007).
24. See Executive Order No. 13,497, 74 Fed. Reg. 6113 (Jan. 30, 2009).
25. *Id.* § 2.
26. Regulatory Review: Memorandum for the Heads of Executive Departments and Agencies, 74 Fed. Reg. 5977 (Jan. 30, 2009).
27. Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011).
28. *Id.* § 1(b).
29. *Id.* § 7(b).
30. See Heinzerling, supra note 5, at 2-7.

B. The Practice

First, as to the substance, despite the unequivocal provision in the Order that nothing in the Order displaces the agency's authorities under law, Cass Sunstein, the former Administrator of OIRA, maintains that OIRA has the power to "say no to members of the President's Cabinet," to place "rules . . . onto the shit list," to make sure that certain rules "never s[ee] the light of day," and to transform cost-benefit analysis from an analytical tool into a rule of decision, so that agencies would be precluded from issuing a rule that failed the cost-benefit test.[31] Consequently, it is not surprising that OIRA routinely directs agencies to make changes to rules that are submitted, to withdraw rules that have been submitted, not to submit rules to OIRA in the first place, and not to issue a rule at all.[32] While OIRA may be the one that holds the whip hand, Sunstein suggests that the reason and justification for OIRA's action may stem from concerns raised by other offices within the White House.[33] He identifies a wide range of offices involved in the process: Chief of Staff of the White House, the Council of Economic Advisors, the Counsel on Environmental Quality, the Domestic Policy Council, the National Economic Council, the National Security Council, the Office of Legislative Affairs, the Office of Management and Budget, the Office of Science and Technology Policy, the Office of the Vice President, the United States Trade Representative, and the White House Counsel.[34] In Sunstein's words, "the White House is emphatically a 'they,' not an 'it.'"[35] Moreover, other departments and agencies in the Executive Branch,[36] as well as members of Congress,[37] may be the motivating force for OIRA's action. But ultimately, it is OIRA that decides, so as Sunstein says, "[a]s a general rule, no significant rule can be issued by any of the nation's Cabinet departments . . . unless OIRA says so."[38]

The actual procedure involved in OIRA review likewise differs dramatically from the text of E.O. 12866. First, as noted earlier, the Order by its terms does not apply to policy statements and interpretive rules. Indeed, President Obama's Order reinstating

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31. CASS R. SUNSTEIN, SIMPLER: THE FUTURE OF GOVERNMENT (2013), at 3, 6-8, 161 (2013).

32. See Heinzerling, supra note 5, at 2-7.

33. Cass R. Sunstein, The Office of Information and Regulatory Affairs: Myths and Realities, 126 HARV. L. REV. 1838, 1854-1855 (2013).

34. *Id.*

35. *Id.* at 1840.

36. *Id.* at 1841.

37. *Id.* at 1873.

38. See SIMPLER, supra note 31, at 3.

President Clinton's original Order[39] rescinded the Bush Order subjecting such guidance documents to OIRA review.[40] Nevertheless, less than two months after President Obama's reinstatement of the Clinton Order's language and his direction to the Director of OMB to revoke any guidance based on the Bush Orders, Peter Orszag, the Director of OMB, instead issued a memorandum to heads of executive departments and agencies directing them to submit significant guidance documents to OIRA for review,[41] effectively reinstating one of the major aspects of one of President Bush's Orders.

Second, the 90-day plus one 30-day extension time limit for OIRA review is regularly ignored. As of this writing, more than half of the rules under review have been under review for longer than 90 days.[42] Of 113 total actions under review, 48 exceed the 120-day maximum review period, and only five of these are deemed "economically significant," *e.g.*, having more than $100 million in impact, and therefore requiring a cost-benefit analysis under the Order.[43] Twenty-two of the actions have been under review for longer than one year, and only one of them is deemed "economically significant."[44] EPA is particularly hard-hit with only three of its fourteen actions within the 120-day maximum review period.[45] Three have languished over a year; three have remained for over two years; and one has been at OIRA for over three years.[46] And these dates understate the delay problem. As both Heinzerling and the study performed for ACUS confirm, OIRA has used a number of other methods to put off its review of agency regulatory actions or mask the actual time under its review. First, OIRA often requires agencies to submit a draft of a proposed rule prior to submitting it formally, and the draft is itself subject to review before an actual, formal submission is made.[47] Second, OIRA sometimes directs agencies not to submit a rule at all, perhaps as a result of OIRA's impression of the rule based on the

39. Exec. Order No. 13,497, 74 Fed. Reg. 6113 (2009).

40. See Exec. Order No. 13,422, 72 Fed. Reg. 2763 (2007).

41. Guidance for Regulatory Review, Memorandum from Peter R. Orszag to the Heads and Acting Heads of Executive Departments and Agencies (Mar. 4, 2009), available at http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_fy2009/m09-13.pdf.

42. See Office of Information and Regulatory Affairs: Office of Management and Budget, Agencies with the most Regulatory Actions Currently Under Review (Feb. 20, 2014), available at http://www.reginfo.gov/public/.

43. EO 12866 REGULATORY REVIEW, http://www.reginfo.gov/public/do/eoReviewSearch (last visited Feb. 20, 2014).

44. See *id*.

45. See *id*.

46. See *id*.

47. See, e.g., Copeland, supra note 6, at 35-38.

prior, informal review of a draft.[48] Third, OIRA may not log in an agency's submission of a regulatory action when OIRA receives it.[49] Such delays can add from as little as a few days to as much as a few months to the total delay involved in the OIRA review.[50] Fourth, OIRA sometimes suggests to an agency that the agency request an extension of the review period.[51] OIRA interprets an agency-initiated request for an extension to toll the review deadline, so that if the agency requests the extension, the review can be extended without limit.[52] Fifth, OIRA also sometimes suggests that an agency withdraw the rule from review altogether, thereby ending the review period but effectively starting the clock anew on any re-submission, if indeed there is any resubmission.[53] Agencies view these OIRA "suggestions" as directions.[54] In short, the idea communicated in the Order that there will be a submission to and a timely review by OIRA is completely misleading.

II. POSSIBLE AGENCY RESPONSES

The above description of what the Order provides and what OIRA actually does, reveals that both the substance and procedure of the OIRA review in practice is without any legal authority. Rather, it is contrary to law, contrary to statutes that vest regulatory decisions in the heads of agencies,[55] and contrary to E.O. 12866, which reaffirms the regulatory authority of agency heads. Instead, OIRA purports to have the power to direct agencies' decisions on rules and to overrule the agency's determinations as to what a rule should provide and whether the rule should be issued at all. Former OMB Director Orszag's memo to heads of departments and agencies that guidance documents are to be treated as "regulatory actions" despite the Order's definition that excludes them is likewise without legal authority. Neither the Order nor any statute authorizes the head of OMB to direct heads of agencies to submit guidance documents to OIRA for review. Similarly, OIRA's delay of rules is unauthorized, and OIRA is not authorized under the Order to direct agencies to withdraw rules

48. See *id*. at 38-39.
49. See *id*. at 40.
50. See *id*.
51. See *id*. at 49.
52. See, Copeland, supra note 6, at 49
53. See *id*. at 50.
54. See Copeland, supra note 6, at 48.
55. See infra note 64 (discussing the ability of the President to direct agency heads in the exercise of their statutory authorities).

from review. Viewed in any light, OIRA's repeated actions would seem to be unlawful.

If what OIRA is doing is so clearly unlawful, why is it that OIRA is able to continue this unlawful activity? As an initial matter, judicial review of OIRA's actions is precluded. The Order specifically provides that:

> This Executive order is intended only to improve the internal management of the Federal Government and does not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.[56]

If a regulation has a statutory deadline that has been exceeded, then a proper plaintiff may sue the responsible agency, and OIRA review cannot be used as a justification for exceeding the deadline.[57] Most regulations, however, do not have statutory deadlines, and even if they do, unless the agency that is sued claims that it would issue the rule but for the fact that the rule is at OIRA under review pursuant to E.O. 12866, courts are likely merely to set a feasible new deadline for the rule.

Even if OIRA's actions can escape judicial review, why do agencies comply with unlawful demands from OIRA? Former Administrator Sunstein would deny that OIRA acts unlawfully. He would point out that OIRA "suggests" and "requests" that agencies take or not take various actions. Thus, he would say, OIRA does not "direct" an agency to withdraw a rule from review, ask for an extension of the review period, or make specific changes in a rule; it merely requests or suggests such actions. He would agree, despite his remarks quoted earlier, that OIRA does not have the legal authority to direct agencies to do anything other than comply with the terms of the Order.[58] If an agency chooses to comply with OIRA's requests and suggestions, that is the agency's decision.

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56. Exec. Order No. 12,866, § 10, 3 C.F.R. 638 (1994).

57. See, e.g., In re Paralyzed Veterans of Am., 392 Fed. Appx. 858 (Fed. Cir. 2010); Envtl. Def. Fund v. Thomas, 627 F. Supp. 566 (D.D.C. 1986).

58. Actually, Sunstein does state that Director Orszag could require agencies to submit significant guidance documents for OIRA review notwithstanding their omission from the Executive Order, see Myths and Realities, supra note 33, at 1853 n. 60, but he cites no authority, merely stating that the memo found "broad support for such review within the Executive Office of the President." *Id*. Undoubtedly, the President could create such a requirement, as President Bush did in E.O. 13422, pursuant to Article II's provision that he may require the opinion in writing of the principal officers in each executive department upon any subject relating their duties. U.S. CONST., art. II, § 2, cl.1. But the Director of OMB is not the President, and nothing in Director Orszag's memo suggested that the President had directed him to issue the memo.

And undoubtedly that is true. The question is whether the agency complies because it is convinced on the merits of the suggestion or request or whether the agency complies because of express or implied political pressure. Sunstein suggests the former,[59] whereas agency personnel suggest the latter.[60] One might ask, what's the difference? In either case, the agency is deciding to go along with OIRA's "request" or "suggestion."

First, we must unpack the difference between political considerations and political pressure. Today, no one imagines that agency rulemaking is devoid of political considerations. The agency head is keen to political considerations, whether communicated from the Hill, the White House, regulated interests, or regulatory beneficiaries. In issuing any significant rule, the agency head will factor those considerations together with the technical merits of the rule, and so long as her ultimate decision is supportable on the record, we generally and courts uniformly should uphold her decision. To the extent that OIRA convinces the agency head regarding the political considerations, then indeed the agency head is making the ultimate decision, even if her initial calculus of the relative importance of the political considerations were changed. And again, so long as the ultimate decision is supportable on the record, it should be upheld.

Political pressure is different.[61] A naked threat to have the agency head fired if she does not accede to OIRA's wishes is different. She has not been convinced by OIRA either as to its view of the technical merits or as to its view of the political considerations. Of course, a threat to have someone fired is not the only political pressure that might be brought. Threats to punish the agency with respect to budget issues, harass it with respect to subsequent regulatory actions, badmouth it in the inner sanctums of the White House, poison the agency head's chances of future employment, and the like would all be political pressure designed to override the agency head's considered opinion on the technical merits and political considerations involved in the rule. It is doubtful whether explicit threats are ever made, although they

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59. See Sunstein, supra note 33, at 1873.

60. See generally Copeland, supra note 6 (remarks of interviewed agency personnel); Heinzerling, supra note 5, at 17.

61. This distinction was addressed in Sierra Club v. Costle, 657 F.2d 298, 408-410 (D.C. Cir. 1981), in which it distinguished D.C. Federation of Civil Associations v. Volpe, 459 F.2d 1231 (D.C. Cir. 1971). In both cases, the political pressure was brought by Congressmen rather than OIRA, but the principle remains the same—that it is improper to bring pressure in the form of threats to an agency as opposed to strongly pressing political considerations. See also Earth Island Inst. v. Hogarth, 484 F.3d 1123, 1134-35 (9th Cir. 2007) (agency's finding of no significant impact was arbitrary and capricious because it was made on the basis of political pressure, not the best available science).

may be. But former Administrator Sunstein's comments, quoted earlier from his book *Simpler: The Future of Government*, to the effect that he could ensure that certain rules "never saw the light of day" and that he could "say no to members of the president's Cabinet,"[62] imply less his capacity to convince than his capacity to pressure. Certainly, the iron fist inside the velvet glove was the perception in the agencies. Lisa Heinzerling has said on more than one occasion, when asked why the Administrator of EPA, for whom she worked, did not simply issue rules that were being held up at OIRA, that if the Administrator did, it would have been the last rule she issued.[63]

Would it be different if it were the President making the demand? There has been an active debate being carried on in the academy as to whether the President can lawfully direct agency heads with respect to regulatory actions that by statute are vested in the agency head. It can be summarized rather shortly. Those who argue for the strongest view of the unitary executive believe that the executive power vested in the President by the Constitution authorizes him to direct subordinate officials, notwithstanding the fact that a statute places the particular responsibility in the agency head.[64] Elena Kagan, while she was still a law professor, suggested that when Congress provides that principal officers can only be removed for cause that indicates that the President cannot direct them. However, when Congress does not so provide such protection in office, then as a matter of statutory interpretation, the President should be deemed authorized to direct the officer, even if the statute on its face places responsibility for regulatory actions in the officer.[65] Others have maintained that if a statute places responsibility for regulatory actions in an officer, then the President simply may not direct that person how to act.[66] All of the writers agree, however, that in the absence of a "for cause" restriction on the President's removal power, the President may remove an officer who acts inconsistently with the President's wishes. The distinction between the President being able to direct an officer, who may be removed

62. See SIMPLER, supra note 31.

63. E.g., Lisa Heinzerling, Response to a question asked from the floor at a panel on The White House Role in the Agency Rulemaking Process, Administrative Law Conference, Washington, D.C. (Nov. 7, 2013).

64. See, e.g., Steven G. Calabresi & Saikrishna B. Prakash, The President's Power to Execute the Laws, 104 YALE L.J. 541 (1994).

65. See Elena Kagan, Presidential Administration, 114 HARV. L. REV. 2245 (2001).

66. See, e.g., Peter L. Strauss, Overseer, Or "The Decider"? The President in Administrative Law, 75 GEO. WASH. L. REV. 696 (2007); Thomas O. Sargentich, The Emphasis on the Presidency in U.S. Public Law: An Essay Critiquing Presidential Administration, 59 ADMIN. L. REV. 1 (2007).

if he does not comply with the direction, and the ability of the President to indicate his preferred course of action to an officer, who may be removed if he acts inconsistently with the President's preference, is a subtle one, and one likely to remain at issue only in the academy. For purposes here, however, we need not decide between these different theories of Presidential administration, because only on the rarest of occasions does the President actually publicly direct or communicate his wishes to an agency head with respect to a regulatory action. This has happened only once in the Obama administration, involving EPA's proposed revised Ozone Rule.[67] When OMB directs agency heads to submit guidance documents to OIRA for review, or OIRA "suggests" that an agency withdraw a rule submitted for review, seek an extension of the review period, make changes to a rule, or withhold from publication a rule whose review period has expired, OMB and OIRA are not acting pursuant to any authority the President has granted to them in E.O. 12866 or any other public document. And neither OIRA nor OMB is the President. The "White House" may be a "they," not an "it," but the White House is also not the President. Only the President is the President.

In addition, OIRA is not always even the Administrator of OIRA. Desk officers in OIRA are the most frequent persons interacting with agencies, and agency complaints about the review process often focus on their OIRA desk officers.[68] That is, it is often desk officers who make demands on agencies. For example, when agencies submit draft rules for informal review, desk officers may return them heavily edited with the requirement that the changes be made before the agency could submit the rule for formal review.[69] Moreover, it is the desk officer who requires agencies to provide additional information or to undertake additional studies.[70] Sometimes clearance to submit a rule for formal review is made by the desk officer, but sometimes it involves a meeting with an OIRA official above the desk officer, but below the Administrator of OIRA.[71] If it is a rule that captures the attention of another White House office or another agency, persons higher than the desk officer will be involved, and decisions to "request" the agency to ask for an extension of or for a withdrawal from

67. See Letter from Cass R. Sunstein, Adm'r, Office of Info. & Regulatory Affairs, to Lisa P. Jackson, Adm'r, Envtl. Prot. Agency (Sept. 2, 2011), available at www.reginfo.gov/public/return/EPA_Return_Letter_9-2-2011.pdf; Statement of the President, http://www.whitehouse.gov/the-press-office/2011/09/02/statement-president-ozone-national-ambient-air-quality-standards.

68. See Copeland, supra note 6, at 42-44.

69. See id. at 36.

70. See id. at 42-43.

71. See id. at 38.

review apparently are made above the desk officer level, but not necessarily at the Administrator level.

The question now is: is there a way for the agency to respond to pressure from OIRA? Just as the previous paragraph describes how "OIRA" consists of various levels, each one of which may apply pressure, an agency likewise consists of various levels, each one of which may receive pressure. Responses to OIRA pressure may depend upon where in OIRA the pressure is coming from. Curtis Copeland's report for ACUS reveals that some agencies have pushed back and have been successful. For example, some agencies refuse to comply with OIRA's requirement that they engage in informal reviews before submitting a rule for formal review.[72] Most of what transpires in the give-and-take between agencies and OIRA is shrouded in confidentiality. Instances of push-back against OIRA come to light only occasionally and usually in a manner impossible to corroborate. Nevertheless, personal communications with senior agency personnel by this author indicate that when agencies do push back, they are often successful. Deputy Secretaries have gone to the Director of OMB to get OIRA to release rules that were being held up for long periods.[73] Similarly, when OIRA refused to clear the Department of Transportation's tire pressure monitoring rule, high officials in the Department pushed back and were successful in getting the rule approved for publication.[74]

Of course, not all push-back to OIRA is successful. The Administrator of the Federal Aviation Administration met with Administrator Sunstein to try to reverse OIRA's rejection of the FAA's pilot fatigue rules with respect to cargo carriers, but he was unsuccessful.[75] Lack of success at OIRA is not necessarily the end of the line. While George Herbert Walker Bush was President, OMB and the Department of Agriculture objected to a rule the Food and Drug Administration was prepared to issue that required the labeling of the fat content of foods pursuant to the Nutrition Labeling and Education Act of 1990.[76] David Kessler, the Commissioner of the FDA, and Louis Sullivan, the Secretary of Health and Human Services, appealed to the President, who was largely convinced by their arguments.[77] Also in the Bush

72. See *id*. at 35-36.

73. Telephone Interview with Anonymous Source 1 (Jan. 2014).

74. Telephone Interview with Anonymous Source 2 (Jan. 2014).

75. *Id*.

76. See DAVID KESSLER, A QUESTION OF INTENT: A GREAT AMERICAN BATTLE WITH A DEADLY INDUSTRY 56-57, 67-71 (2001), recounted in Robert Percival, Presidential Management of the Administrative State: the Not-so-Unitary Executive, 51 DUKE L. J. 994-995 (2001).

77. A QUESTION OF INTENT, supra note 76, at 56-57, 67-71.

administration, the Secretary of Transportation and the Administrator of the FAA went to the White House Counsel, Boyden Gray, when OIRA would not clear the FAA's rule on Nondiscrimination on the Basis of Handicap in Air Travel.[78] Shortly thereafter OIRA cleared the rule.[79] In the Reagan administration, Secretary of Transportation, Elizabeth Dole, appealed OIRA's rejection of the Department's airbag rule to the President after the Supreme Court's decision in *Motor Vehicle Manufacturers Ass'n of the U.S. v. State Farm Mutual Auto. Ins. Co.*[80] Here too the President sided with the agency against OIRA and OMB.[81] Apparently, also during the Reagan administration the Secretary of Agriculture simply ignored OIRA's directive not to publish a rule.[82] As a result he received a letter from the President which chastised him, but that was the extent of his punishment.

What the foregoing suggests is that when agencies will not take "no" for an answer, they often prevail. What it also suggests is that agencies may be acceding to OIRA's wishes too easily. Of course, not every OIRA desk officer decision can be raised first within the agency and then to OIRA or higher. As Lisa Heinzerling put it, "OIRA career staff simply trumped EPA career staff when it came to rules that were neither insignificant enough, from OIRA's perspective, to pass up the opportunity for review, or significant enough, from EPA's perspective, to elevate the issue beyond OIRA."[83] Nevertheless, if an agency's higher officials create a culture of push back, if not encouraging, at least not discouraging agency staff from raising matters within the agency, it may be OIRA desk officers who over time retreat rather than get questioned at higher levels on a regular basis.

Undoubtedly there is a perception that OIRA is the proverbial 500 pound gorilla in the room. Partly this is due to the belief that OIRA has the support of the White House and to thwart OIRA will incur the wrath of the White House. Again, however, the "White House" is not the President, and an agency head answers not to the White House but to the President. One should not assume that the White House, much less OIRA, speaks for the President. Partly the perception of the all-powerful OIRA stems from the fact that OIRA has been largely getting away with its extra-legal actions.

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78. Nondiscrimination on the Basis of Disability in Air Travel, 55 Fed. Reg. 8008 (proposed 1990), codified at 14 C.F.R. § 382 (2003).

79. Telephone Interview with Anonymous Source 2 (Jan. 2014).

80. 463 U.S. 29 (1983).

81. Telephone Interview with Anonymous Source 2 (Jan. 2014).

82. Telephone Interview with Anonymous Source 3 (Jan. 2014).

83. See Heinzerling, supra note 5, at 22.

As indicated above, however, push back can have positive results for the agency, and there is no evidence that pushing back results in retribution against the agency. Elevation above OIRA also has had positive results for agencies and again without evidence of retribution. The fact that the particular elevation procedure provided in E.O. 12866 [84] has not been utilized should be of little concern. Heads of agencies have the means by which to go over OIRA's head. As a last resort, the agency's head can merely inform OIRA that she will comply with the terms of the Order unless and until the President directs her otherwise. For example, at the time of this writing, EPA has a draft proposed rule to define "waters of the United States" under review at OIRA.[85] This is an important rule and one deemed economically significant under the Order, but it has been at OIRA for over 150 days. The Order, however, says that OIRA's review of such a proposed rule should not exceed 90 days; neither OIRA nor the EPA has requested an extension.[86] It is entirely possible that EPA has no objection to the delay in proposing the rule caused by this extra-legal length of review.[87] For purposes here, however, let us assume that EPA is ready, willing, and desires to issue the proposed rule as soon as possible, and the only stumbling block is OIRA's failure to conclude its review. Because this is an important rule, elevating the matter to the Administrator of the EPA would be in order. The Administrator of EPA could communicate with the Administrator of OIRA, first to ask whether the review can be completed within some short, definite period. If the OIRA Administrator responds that the review will not be completed in short order, the Administrator of EPA could inform the Administrator of OIRA that EPA intends to issue the proposed rule on a date certain, whether or not the OIRA review is complete, relying upon Section 8 of the Executive Order that explicitly provides for publication upon the expiration of the time limit set in the Order. The EPA Administrator could offer in lieu of such a fiat, that she would be happy to meet with the Director of OMB to discuss the matter. If after any such meeting OMB and OIRA remain adamant and the

84. See Exec. Order No. 12,866, § 7, 3 C.F.R. 638 (1993).

85. See Definition of "Waters of the United States" Under the Clean Water Act, 79 Fed. Reg. 76 (proposed Apr. 21, 2014), available at http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf; see also OFFICE OF MGMT. & BUDGET, DEFINITION OF "WATERS OF THE UNITED STATES" UNDER THE CLEAN WATER ACT, available at http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201404&RIN=2040-AF30#.

86. See *id*. (stating that when there is an extension, there is a note "Review Extended").

87. The proposed rule is based upon a draft science report that is being reviewed by EPA's Science Advisory Board, see http://www2.epa.gov/uswaters/documents-related-proposed-definition-waters-united-states-under-clean-water-act. EPA may well wish to see the results of that review before proposing the rule based on that report.

EPA Administrator is not convinced on the merits (either technical or political) that the rule should be delayed further, the EPA Administrator could either call upon the President to resolve the dispute or place the onus on OMB and OIRA to involve the President in light of EPA's intent to publish the proposed rule absent a direction from the President. If the EPA Administrator is unable to convince the President to allow her to publish the proposed rule, she may accede to his wishes, publish the proposed rule anyway (and wait for the repercussions), or resign as a matter of principle.

Lisa Heinzerling has opined that if the EPA Administrator insists upon following the terms of the Executive Order, at least until the President directly tells her differently, OIRA and the White House will subsequently punish EPA.[88] She may be right, but it is not a foregone conclusion. We know that agency heads have appealed to the White House and won and not been punished. We know that agency heads have pushed back against OIRA and not been punished. Moreover, if OIRA or some White House office attempts to punish EPA for involving the President or for following the terms of the Executive Order, the administration will suffer politically. The President loses political capital when there is a scandal in his administration, and punishing an agency head for following the terms of the President's explicit Order rather than some underling's extra-legal demand will inevitably become a scandal. Knowing this, OIRA or White House offices that may have lost the fight are likely to lose quietly, as they have in the past, and learn from it. And what they should learn is precisely what the Executive Order states is one of its objectives: "to reaffirm the primacy of Federal agencies in the regulatory decision-making process."[89] All it requires is David to take up the stone.

An alternative to such a confrontational tactic could involve a request to the Office of Legal Counsel in the Department of Justice to determine whether OMB and OIRA can do the things they are doing. The Office of Legal Counsel (OLC) provides written opinions in response to requests from agencies in the Executive Branch when there are disagreements between agencies, and these opinions are binding on the agencies.[90] All executive orders are submitted to OLC for review as to form and legality prior to their announcement,[91] but the legal question that would be presented

88. Lisa Heinzerling, Response to a question asked from the floor at a panel on The White House Role in the Agency Rulemaking Process, Administrative Law Conference, Washington, D.C. (Nov. 7, 2013).

89. Exec. Order No. 12,866.

90. See U.S. Dep't of Justice, http://www.justice.gov/olc (last visited Oct. 24, 2014).

91. *Id.*

here would not be to the terms of the Order but to the actions of OMB and OIRA that conflict with the terms of the Order. As suggested above, given the terms of the Order, OLC's conclusion would seem to be a foregone conclusion. However, there is a strong possibility that OLC would essentially duck the issue, by characterizing all of the actions of OMB and OIRA as recommendatory, not directive, and by abjuring to determine what political pressure is in fact brought to bear. Nevertheless, it is also possible that even in this circumstance, the language of the opinion might make clear that OMB and OIRA do not have the legal authority to order what the agencies perceive them as ordering. Even if this did not stop OMB and OIRA from using political pressure as they do now, it could provide an additional stone for David's sling.

DOES CONGRESS EXIST?

J.B. RUHL*

Giving the last presentation on the Friday afternoon of what has been a great conference is like taking the last bite of a fine French meal: either you savor it or you realize you've eaten too much. I'll try to make you feel the former, not the latter.

Let me first thank Shi-Ling Hsu for putting this event together. This has been a fabulous conference and it's really great to be back at FSU. It's such an impressive program, so kudos to Donna Christie, Dave Markell, Hanna Wiseman, and Shi-Ling for the academic momentum they have maintained at FSU.

Richard Lazarus gave us an absolutely fabulous keynote address this morning. It was one of the best hours I've spent in a long time, and it was a wonderful way to have begun this conference. My discussion will circle back to it with an applied example of some of the lessons Richard offered us. I'll also refer back to Todd Aagaard's presentation on "portaging," the idea Don Elliott developed some years ago about how to accomplish regulatory reform without Congress.[1] Thus is the advantage of going last!

When Shi-Ling asked for topics I decided to have a little fun. I thought about the theme—Environmental Law without Congress—and it reminded me of deism. Deism is "the belief, based solely on reason, in a God who created the universe and then

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1. E. Donald Elliott, *Portage Strategies for Adapting Environmental Law and Policy During a Logjam Era*, 17 N.Y.U. ENVTL. L.J. 24 (2008).

abandoned it, assuming no control over life, exerting no influence on natural phenomena, and giving no supernatural revelation."[2] I thought, "That's environmental law!" Congress created our universe from 1970 to 1990, abandoned it in 1990, and has assumed no control or influence since then.[3] Since 1990, it has been up to agencies, courts, practitioners, and scholars to divine the existence of Congress in environmental law purely from reason. But I had a nagging thought: Congress throws us (more accurately, only some of us) a small miracle now and then. Maybe evidence that Congress exists is found in supernatural revelation after all.

I'm going to use the Endangered Species Act (ESA) as case study to test my theory of environmental law deism.[4] The history of the ESA sure has the feel of deism at work. We had the big creation moment—the first day, if you will—in 1973. Some unhappiness ensued later, so Congress made some adjustments, and then just let it ride. Since 1982, the year of the last significant amendments to the statute, agencies, courts, practitioners, and scholars have been piloting the ship with only the scripture, so to speak, as the guide.

I. THE SCRIPTURE

The ESA is a relatively lean statute compared to other environmental laws.[5] There are four core programs. First, the Fish and Wildlife Service or the National Marine Fisheries Services, depending on the kind of species, identifies and "lists" a species as endangered or threatened and designates its "critical habitat."[6]

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2. Deism Definition, thefreedictionary.com, http://www.thefreedictionary.com/deism (last visited Aug. 1, 2014).

3. Environmental law scholars generally identify 1990 as the last year of meaningful congressional activity in the field. See, e.g., Michael Vandenbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129, 131-140 (2013).

4. Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006). This Essay is not intended to provide a comprehensive overview of the ESA. For thorough treatments of the ESA, see generally MICHAEL J. BEAN & MELANIE J. ROWLAND, THE EVOLUTION OF NATIONAL WILDLIFE LAW 193–276 (3d ed. 1997); ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES (Donald C. Baur & Wm. Robert Irvin eds., 2d ed., 2010) [hereinafter LAW, POLICY, AND PERSPECTIVES]; ERIC T. FREYFOGLE & DALE D. GOBLE, WILDLIFE LAW: A PRIMER 233–77 (2009); LAWRENCE R. LIEBESMAN & RAFE PETERSEN, ENDANGERED SPECIES DESKBOOK (2d ed. 2010); JOHN COPELAND NAGLE ET AL., THE LAW OF BIODIVERSITY AND ECOSYSTEM MANAGEMENT 144-319 (3d ed. 2013); STANFORD ENVIRONMENTAL LAW SOCIETY, THE ENDANGERED SPECIES ACT (2001); SAM KALEN & MURRAY FELDMAN, ESA: ENDANGERED SPECIES ACT (2nd ed. 2012).

5. For example, in a leading academic statutory supplement of environmental laws, the ESA measures 32 pages compared to the Clean Air Act's 319 pages. *See* WEST ACADEMIC PUBLISHING, SELECTED ENVIRONMENTAL LAW STATUTES (2012).

6. 16 U.S.C. § 1533 (2012).

When a species is listed, all federal agencies must coordinate with the listing agency to ensure actions they fund, carry out, and authorize do not endanger the continued existence of the species or impair its critical habitat.[7] Also, all persons—public, private, state, and local—are prohibited from "taking" endangered species,[8] which, through a series of court opinions and regulations, includes destroying any habitat (not just critical habitat) in a way that actually injures or kills species.[9] Yet, as is the case for many environmental laws, where there is a prohibition, there is also a permit provision. So you can obtain what is known as incidental take authorization to take a species if you get a permit from the listing agency.[10] That is the structure that has been in place since 1982. On either side of that date one finds completely different stories of congressional existence.

II. CREATION

As Richard alluded to in his keynote address, the creation story for the ESA, like many of the other environmental laws, isn't that Congress just pulled it out of a hat. The concept of take goes back to early British common law—if you hunted and killed a deer in the woods, you took the Crown's property and that was a crime.[11] That word is used in the ESA hundreds of years later. And well before the ESA, we had the Lacey Act of 1900 and the Migratory Bird Treaty Act of 1918, both of which regulated on behalf of species conservation,[12] and later a series of federal agency planning and public land management laws that used the term endangered species.[13] So there was a slow creep towards the ESA. The catalyst came in 1973. As the U.S. entered the Convention on International Trade in Endangered Species, or CITES,[14] both President Nixon and Congress were competing for public acclaim as the most environmental branch.[15] Congress passed the

7. 16 U.S.C. § 1536 (2012).

8. 16 U.S.C. § 1538(a) (2012).

9. *See* Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or., 515 U.S. 687 (1995); *See generally* LIEBESMAN & PETERSEN, *supra* note 4, at 63–72; STANFORD ENVTL. LAW SOC'Y, *supra* note 4, at 104–12; Alan M. Glen & Craig M. Douglas, *Taking Species: Difficult Questions of Proximity and Degree*, 16 NAT. RESOURCES & ENV'T 65 (2001); Patrick Parenteau, *The Take Prohibition*, *in* LAW, POLICY, AND PERSPECTIVES, *supra* note 4, at 146.

10. 16 U.S.C. §§ 1536, 1539 (2012). For a description of the incidental take authorization procedures, *see* LIEBESMAN & PETERSEN, *supra* note 4, at 73–81.

11. *See* BEAN & ROWLAND, *supra* note 4, at 193-276.

12. *See* STANFORD ENVTL. LAW SOC'Y, *supra* note 4, at 14-16.

13. *See id.* at 17-19.

14. *See id.* at 20.

15. *See id.* at 20-21.

Endangered Species Act of 1973 with overwhelming majorities.[16] President Nixon signed with a big celebration.[17]

It quickly became clear that nobody in the White House or Congress had a clue about what they had just done. Of course, accomplishing major reform does not necessarily lead to smooth sailing, but the ESA is an especially compelling example. Shortly after the ESA's creation moment, some unhappiness ensued, like that little problem Adam and Eve had. There was this project in Tennessee called the Tellico Dam, which the Tennessee Valley Authority dearly wanted to build. Zyg Plater, then a professor at the University of Tennessee College of Law, teamed up with some local farmers, read the ESA, got a little fish called the snail darter listed as an endangered species, and pointed out that the dam's planned spillway was right on top of the snail darter's critical habitat.[18] Suffice it to say that the case arrived in the Supreme Court notwithstanding relentless efforts of the TVA, the Tennessee congressional delegation, the lower courts, and influential members of the Carter Administration.[19] TVA kept building the dam, but then the Court ruled that the statute means what it says—federal agencies cannot jeopardize a listed species—and refused to exercise its equitable powers to let TVA off the hook.[20] The case remains one of the iconic judicial decisions of environmental law.[21]

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16. *See id*. at 21.

17. *See* STANFORD ENVTL. LAW SOC'Y, *supra* note 4, at 21

18. *See generally* ZYGMUNT J.B. PLATER, THE SNAIL DARTER AND THE DAM: HOW PORK-BARREL POLITICS ENDANGERED A LITTLE FISH AND KILLED A RIVER (2013).

19. *See* Holly Doremus, *The Story of* TVA v. Hill*: A Narrow Escape for a Broad New Law*, *in* ENVIRONMENTAL LAW STORIES 120–26 (Richard J. Lazarus & Oliver A. Houck eds., 2005).

20. Tenn. Valley Auth. v. Hill, 437 U.S. 153 (1978). Having found that the operative language of section 7 "admits of no exception," 437 U.S. at 173, the Court rejected the government's argument that the courts' equitable powers justified denial of the plaintiffs' requested injunction. *See id*. at 193–95. After quoting Sir Thomas More, the Court closed with the stern observation that "in our constitutional system the commitment to the separation of powers is too fundamental for us to pre-empt congressional action by judicially decreeing what accords with 'common sense and the public weal." *Id*. at 195. For concise legal histories of the case, including the events leading up to it, the Court's internal deliberations, and the decision's aftermath, see Doremus, *supra* note 19, at 109-40; Zygmunt J.B. Plater, *In the Wake of the Snail Darter: An Environmental Law Paradigm and Its Consequences*, 19 U. MICH. J.L. REFORM 805 (1986).

21. Daniel A. Farber, *A Tale of Two Cases*, 20 VA. ENVTL. L.J. 33, 34 (2001) (noting that *Hill* may be the best-known case in environmental law); James Salzman & J.B. Ruhl, *Who's Number One?*, THE ENVTL. F., Nov.-Dec. 2009, at 36, 37–39 (*Hill* ranked first in 2001 and fourth in 2009 in surveys of environmental lawyers asking which cases are the most significant in the history of environmental law). *Hill* also was selected for inclusion in an anthology published in 2005 collecting chapters discussing the most important cases in the history of environmental law. *See* Doremus, *supra* note 19, at 109.

Congress was not pleased.[22] It handed down from on high the 1978 amendments, which most notably included the so-called God Squad amendment, allowing federal agencies to seek exemption from the jeopardy prohibition.[23] But it turned out that the committee of Cabinet and other officials that make the exemption decision decided that the Tellico Dam was not really that important, so exemption denied.[24] Congress blew another gasket and eventually passed a rider to an appropriations bill that allowed the TVA dam to be built notwithstanding the ESA.[25]

Congress came back to the ESA in a meaningful way only one more time. The 1982 amendments required that listing of species be based solely on science and also added the incidental take provisions, both of which have had significant impacts on how the statute has played out.[26] The 1988 amendments, while of interest to an ESA wonk like me, weren't really that structurally dynamic.[27] So I'd count Congress' involvement in the Endangered Species Act as ending in 1982.

III. ABANDONMENT

Of course, it's not unusual for Congress to go dormant on a particular legislative program for considerable periods of time. We should not lose faith in Congress' existence just because it is not in perpetual motion. But the ESA, like many environmental laws, soon entered deep space as far as congressional action is concerned. By 1995, it's fair to say that Congress was not merely distracted from the ESA by other work—it had entered the abandonment phase as a result of political gridlock.

The Spotted Owl controversy of 1986 to 1992 was really the beginning of the logjam era for the ESA.[28] It was one of those instances where you might reasonably have expected Congress to step back in and do something, but instead the controversy polarized Congress, and the White House (through two

22. For Congress' reaction, see Doremus, *supra* note 19, at 132–34. Justice Powell predicted "[t]here will be little sentiment to leave this dam standing before an empty reservoir, serving no purpose other than a conversation piece for incredulous tourists." 437 U.S. at 210 (Powell, J., dissenting). The Wall Street Journal quipped that "the Endangered Species Act is pretty silly." *Scopes Prosecution Vindicated*, WALL ST. J., June 16, 1978, at 16.

23. 16 U.S.C. § 1536(e) (2012); *see* STANFORD ENVIRONMENTAL LAW SOCIETY, *supra* note 4, at 22–24 (discussing the 1978 amendments to the ESA).

24. *See* STANFORD ENVIRONMENTAL LAW SOCIETY, *supra* note 4, at 22.

25. *See id*. at 23.

26. *See id*.

27. *See id*. at 24-25.

28. *See id*. at 25-26.

administrations) took over control of the flare-up.[29] The ESA quickly became one of the third rails of politics in Congress. In 1994, Newt Gingrich's Contract with America targeted the ESA as one of its top reform agenda items, but even with all the political stars aligned in favor of reform, nothing happened in the end.[30] Instead Bruce Babbitt, then Secretary of the Interior, initiated a series of administrative reforms to stave off congressional ire. The strategy worked.

IV. PORTAGING

What Babbitt did was classic Don Elliott style portaging around a congressional logjam. They say only Nixon could go to China; likewise, only Babbitt could have done what he did on the ESA. As a Democrat he instituted a series of pro-landowner reforms that largely diffused Republican congressional criticism.[31] The agencies ramped up the incidental take permitting program, issued permitting handbooks, developed new programs for safe harbors and conservation agreements, and so on, all while Congress sat on the sidelines.[32] Administrations since then have added habitat banking (which is like the wetlands mitigation banking program), recovery crediting (which allows agencies to get credit in advance for doing good things for species when they need to enter into consultations about jeopardy later), and a line of similar reforms going to the present.[33] The ESA is, in short, the

29. *See* STANFORD ENVIRONMENTAL LAW SOCIETY, *supra* note 4, at 26-39.

30. *See id*. at 29-30.

31. The most evident example of his strategy is the so called No Surprises Policy, which protects ESA permittees from bearing the costs of responding to unforeseen circumstances threatening a species covered in the permit. *See* 69 Fed. Reg. 71723-01, 71724 (Dec. 10, 2004) (codified at 50 C.F.R. §§ 17.22, 17.32(b)(5), and 222.307(g)). To say the least, the policy was controversial, taking over a decade to move from an informal guidance statement to an agency rule endorsed by the courts. *See* Spirit of the Sage Council v. Kempthorne, 511 F. Supp. 2d 31 (D.D.C. 2007) (upholding the No Surprises regulation over a litany of substantive challenges over a decade after the agencies first announced the policy). For a brief history of this litigation, see Douglas P. Wheeler & Ryan M. Rowberry, *Habitat Conservation Plans and the Endangered Species Act*, *in* ENDANGERED SPECIES ACT: LAW, POLICY AND PERSPECTIVES, at 221, 225–27.

32. For a detailed contemporaneous review of the reform agenda items and implementation, see J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 367, 374–87 (1998). For comprehensive and thoughtful "insider" accounts of Secretary Babbitt's vision and implementation of this phase of ESA reform, see John D. Leshy, *The Babbitt Legacy at the Department of Interior: A Preliminary View*, 31 ENVTL. L. 199 (2001); Joseph L. Sax, *Environmental Law at the Turn of the Century; A Reportorial Fragment of Contemporary History*, 88 CAL. L. REV. 2375 (2000).

33. *See* U.S. Fish & Wildlife Serv., *Improving ESA Implementation – Regulatory Reform*, http://www.fws.gov/endangered/improving_esa/reg_reform.html (last visited Aug. 1, 2014) (describing various agency reform initiatives during the Obama administration).

poster child for administrative portaging—agencies working behind Congress' back, using *Chevron* as their path around the congressional logjam.

The ESA has had a slightly different portaging story in the courts. In the Supreme Court, the ESA started out with a bang in *TVA v. Hill*. In retrospect, many ESA followers are sure Justice Burger didn't really mean everything he said in the majority opinion,[34] but the flowery phrases are in print.[35] Slowly but surely, however, the Court has reduced the ESA to looking more like just a plain vanilla permitting statue.[36] The Court's most recent ESA opinion, *National Association of Home Builders v. Defenders of Wildlife*,[37] declared if an agency is engaging in a non-discretionary act the ESA doesn't apply. Before that, in *Bennett v. Spear*, a unanimous Court had surmised the ESA's requirement that agencies use "best science" in their ESA decisions is actually there to protect landowners from overzealous agency officials.[38] So the court has a very different view of the ESA today from what is on paper in *TVA v. Hill*.

The lower courts have not quite caught up with the Court's shift in sentiment, continuing to apply the words of *TVA v. Hill* for what they say rather than what Justice Burger may have intended.[39] The courts have had a tremendous role in making the ESA no less than a national land use and resources management program.[40] For example, we now have many major river systems in the nation that are for all intents and purposes run by courts under the auspices of the ESA.[41] So the courts have portaged as well, filling a vacuum left by congressional abandonment. You can debate whether that's good or bad, but the courts clearly have stepped up to the plate.

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34. *See, e.g.*, Doremus, *supra* note 19, at 131; Jonathan Cannon, *Environmentalism and the Supreme Court: A Cultural Analysis*, 33 ECOLOGY L.Q. 363, 413–18 (2006).

35. For examples of some of Justice Burger's sweeping prose, see J.B. Ruhl, *The Endangered Species Act's Fall from Grace in the Supreme Court*, 36 HARV. ENVTL. L. REV. 487, 497-99 (2012).

36. *See id*. at 496-505 (tracing the ESA's history in the Court).

37. Nat'l Ass'n of Home Builders v. Defenders of Wildlife, 551 U.S. 644, 661-73 (2007).

38. Bennett v. Spear, 520 U.S. 154, 176-77 (1997).

39. Westlaw's "citing references" results for *Hill* shows hundreds of cases "examining" and "discussing" the case, with hundreds more citing it.

40. Litigation under the ESA is active and contentious, as documented annually in a summary of litigation developments I have authored each of the past 15 years for the American Bar Association's Section on Environment, Energy, and Resources. *See generally* J.B. Ruhl, *Endangered Species Annual Report*, 2010 A.B.A. ENV'T. ENERGY & RESOURCES L.: YEAR REV. 52 (2010).

41. *See* Robin Kundis Craig, *Does the Endangered Species Act Preempt State Water Law?*, 62 KAN. L. REV. 851, 859-61, 865-75 (2014).

V. MIRACLES

By contrast, to put it bluntly, there is nothing going on these days in Congress regarding the ESA worth your attention. To be sure, major reform bills are periodically floated, and some even get far into the process, but they are all dead on arrival and everyone knows it.[42] It's purely rhetorical, a political sport of introducing a bill to please a constituency, to rattle a sword and call someone from the FWS down to a hearing. It's not that the proponents of these reform bills don't believe in the proposals, it's that they have to know no major ESA reform is going to get over the finish line. I have had reporters call and ask me what I think about this bill or that bill being proposed to overhaul and "improve" the ESA, and I tell them I haven't read it and never will; it's not worth my time because it's not going to happen.

There have been miracles, however, that suggest Congress actually is working on the ESA, and thus must exist. First, there was a little endangered squirrel—the Mt. Graham squirrel—that was posing some ESA problems for the construction of an observatory, and Congress passed legislation in 1988 commanding that the observatory be built notwithstanding the ESA.[43] Then, there is the complex story of the 1995 listing moratorium funding rider, lifted several years later, which Congress intended as an ESA "time out" but which only created more problems down the road as species worthy of listing backed up in the process.[44] These actions, however, came before (in the case of the squirrel) or on the brink of (in the case of the moratorium) the entrenchment of the abandonment phase. Pre-miracles, we might call them.

The real miracles began a decade later. First, in 2004, Congress exempted the Defense Department from the critical habitat provisions provided that military operations comply with specified land management provisions for lands under the Defense Department's jurisdiction.[45] That's a lot of land! Then the ESA

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42. Even while editing these remarks, the House of Representatives passed an ESA reform bill, with great fanfare, which anyone cognizant of ESA politics knows is dead in the Senate and White House. *See* Marianne Levine, *House Approves Changes to Endangered Species Act Despite Veto Threat*, L.A. TIMES, http://www.latimes.com/nation/la-na-house-vote-endangered-species-act-20140729-story.html (last visited on July 29, 2014).

43. This ESA miracle is covered comprehensively in Stephen W. Owens, Recent Development, *Congressional Action Exempts Observatory from the Endangered Species Act*, 13 J. ENERGY, NAT. RESOURCES & ENVTL. L. 314 (1993).

44. This ESA miracle is covered comprehensively in Jason M. Patlis, *Riders on the Storm, Or Navigating the Crosswinds of Appropriations and Administration of the Endangered Species Act: A Play in Five Acts*, 16 TUL. ENVTL. L.J. 257, 287-99 (2003).

45. This ESA miracle is covered comprehensively in William E. Sitzabee et al., *An Evaluation of Endangered Species Act Exemptions in the Department of Defense and the*

equivalent of Our Lady of Lourdes happened. In 2011, following years of work with states on management of a distinct population of the grey wolf, the FWS moved to delist the wolf from a couple of states but not others.[46] The courts said it's all or nothing—delist the entire population or none of it.[47] But Congress stepped in and by legislation ordered FWS to implement the delisting rule,[48] which courts later ruled was well within congressional authority.[49] Now that's some kind of miracle!

So Congress seems to be there, working on the ESA, but only now and then and always in very strange ways. These are (amazingly) bipartisan, tactical measures targeted to intervene in the normal operations of the program and address a special problem or special interest. You might not agree that these miracles are saving the worthiest interests, but they are happening—they are evidence Congress exists! But which is better—would you like Congress to exist, or not?

VI. THE UNFAITHFUL

Here's a secret: there are many interests, from both "sides" of the ESA battleground, that don't want Congress to exist. I know this because they told me so.

In 2005 a bipartisan group of Senators asked the Keystone Center to convene a task force to address the ESA reform problem.[50] I was happy to be included in task force, a gathering of 24 ESA policy wonks representing a wide array of perspectives and interests affected by and involved in the ESA. It was a great gig—we met in Keystone, Colorado, over a snowy winter weekend. Work continued after that through other sessions and subcommittees. Many of us felt we were within reach of achieving a meaningful

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U.S. Air Force, 15 FED. FACILITIES ENVTL. J. 19 (2004), available at http://onlinelibrary.wiley.com/doi/10.1002/ffej.20021/pdf. Such exemptions for the military are widespread throughout environmental laws. *See* DAVID M. BEARDEN, EXEMPTIONS FROM ENVIRONMENTAL LAW FOR THE DEPARTMENT OF DEFENSE: BACKGROUND AND ISSUES FOR CONGRESS, CONG. RES. SERV. REP. RS22149, at 4 (2007), *available at* http://fas.org/sgp/crs/natsec/RS22149.pdf.

46. This ESA miracle is covered comprehensively in Edward A. Fitzgerald, *Alliance for Wild Rockies v. Salazar: Congress Behaving Badly*, 25 VILL. ENVTL. L.J. 351, 351-52 (2014).

47. *See id.* at 368.

48. *See id.* at 370-72.

49. *See id.* at 372-73.

50. *See* THE KEYSTONE CENTER WORKING GROUP ON ENDANGERED SPECIES ACT HABITAT ISSUES, FINAL REPORT 5 (2006), *available at* https://www.keystone.org/images/keystone-center/spp-documents/Environment/ESA-Report-FINAL-4-25-06.pdf.

proposal to Congress on reform of the ESA, and then the process blew up.

I was a little naïve. I thought we were going to get somewhere, but eventually someone who knew better pulled me aside and said, to paraphrase:

> The reason the process is blowing up, J.B., is some of the interests represented on the Task Force don't want ESA reform. All you people in the middle, you're deluded. After decades of litigation, we all get what the words in the statute mean, so if Congress reforms and throws out "critical habitat" and replaces it with something like "recovery habitat" then no one knows what that means. And we're going to go through 10 or 15 years of agency rulemaking, and courts interpreting, and we don't know what we'll get. We'd rather live with this broken down, kind of wacky statute, because we've got case law this high, and agency rules this high, which we can understand and have learned to work with. Even though we don't always like how it turns out for us, we think opening Pandora's box is worse.[51]

So, I have to wonder, is it really just that Congress is ineffective and paralyzed? Or, are there strong and significant interest groups—from both "sides"—that don't want Congress to open up major reform in environmental law unless they have it all on their terms?

VII. LOOKING FORWARD

How much longer can this logjam go on? How much space is left for agency portaging behind the *Chevron* shield? What remains in the scriptures for the courts to interpret? Are we out of capacity to innovate? At some point, more innovation, more portaging, might simply be rewriting the statute and be struck down in the courts. I also wonder how long Congress and the White House—the twenty-five year olds in the White House—will tolerate the courts using the ESA to manage so much of our nation's land and resources.

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51. This is, of course, not a quote, but rather the strong composite impression I gained from conversations with several Task Force members. It would not be appropriate to attribute these sentiments by name. Take my word for it.

Also, how generalizable is this story of ESA miracles? This stalemate in Congress has built up over a long time and we now have a deep history of court implementation and agency implementation. We have seen similar dynamics with other environmental statutes beginning to reach the limits of portage space.[52] But then think about a challenge like climate change adaptation, and you have to ask whether Congress can handle it with more tiny miracles. How will agencies and courts portage *at all* without a comprehensive statute in place? At least we have the ESA. But if we think that Congress won't even act on new problems, what scripture would we interpret?

And I'll close by suggesting that there's an untapped potential that has yet to materialize in the ESA, but which I think we're starting to see on other issues, in the form of private governance—private institutions stepping in and filling the void.[53] We might see continued congressional inertia on old and new issues opening the door to private institutions we really haven't seen weighing in on environmental governance. Insurance companies, for example, have a stake in climate change, and if Congress isn't going to act and the bottom-up process from the state and local legislatures takes too long, we might let them step in to use their private market power to impose adaptation measures on property owners.

VIII. MY EXPRESSION OF FAITH

If Congress does come back into the life of environmental law, will it be bipartisan or one-sided? Who knows? What would come out of that process? Who knows? Would the pulse of reform lead to yet another long period of sticky inertia, or would it kick start a continuous series of adaptive legislative actions? Who knows? Whatever you believe, I think we all have to concede that all we have to go on is our faith.

If Congress does not exist, I think we will continue to get more of the same: interest groups turn to agencies and courts with proposed portaging strategies; reform bills floated as rhetorical rallying points; narrow, rare, ad hoc miracles continuing to

52. *See generally* J.B. Ruhl, *Ecosystem Services and the Clean Water Act: Strategies for Fitting New Science into Old Law*, 40 ENVTL. L. 1381 (2010) (discussing the limits of administrative discretion to integrate the economics of ecosystem services into the Clean Water Act program); *but see Massachusetts v. EPA*, 549 U.S. 497 (2007) (a majority of the Court found that the EPA had erred in denying a citizen rulemaking petition to regulate greenhouse gas emissions from motor vehicles under the Clean Air Act).

53. *See* Vandenbergh, *supra* note 3, *passim*.

happen, keeping us somewhat in wonder that maybe Congress does exist.

So, do I think Congress exists? Maybe. Do I want it to exist? Maybe. When the logjam finally bursts, though, I might throw myself in with the unfaithful! I'll leave it at that. Thank you.

TEACHING THE CHOIR TO SING: USE OF SOCIAL SCIENCE INFORMATION TO PROMOTE PUBLIC DISCOURSE ON CLIMATE CHANGE

JANET K. SWIM, JOHN FRASER, AND NATHANIEL GEIGER

I. ABSTRACT

Reasons for lack of public engagement in climate change are reviewed with a particular focus on the lack of discourse about climate change. Discourse is important because it is through discussions that the public comes to understand climate change and it is a core component to the development of both laws and policies. In the case of climate change, a core challenge is to encourage public discussion grounded in scientific knowledge in order to develop publically acceptable laws and policies that are significant enough to address the scale and root causes of the problem. We review previous research, collect survey data to identify areas of knowledge where public education is most needed, and examine the role of climate change concern, perceived ability to discuss the issue, and social norms on the public's reluctance to talk about climate change. After discussing the public's knowledge and these psychological barriers that influence the content and likelihood of discourse on climate change, we describe a program designed to encourage scientifically grounded discussions about climate change at informal science learning centers such as zoos and aquariums.

II. INTRODUCTION

The Intergovernmental Panel on Climate Change report provides clear and consistent information of the negative impacts on human and other biological life systems that can be anticipated as a result of anthropogenic contributions to climate change.[1] These findings have been confirmed and endorsed by many major scientific societies and academies, and have achieved near unanimity among climate scientists.[2] Given these facts, many professionals are seeking ways to mitigate and adapt to climate change, such as physical scientists and engineers who are developing means of increasing our use of renewable energy, and developing infrastructure that can better adapt to the anticipated effects of climate change.[3]

Unfortunately, while scientists and engineers are urging and aiding action, the public is barely discussing climate change. Only about one-third of the public often or occasionally talk about climate change with family and friends, and frequency of discussion has decreased since 2008.[4] Even fewer use other means of communicating concern about climate change. Less than 10% of the public share information about global warming on Facebook or Twitter, post a comment online in response to a news story, blog about global warming, or ask someone to sign a petition about global warming.

Discussions allow the public to develop an understanding of climate change. Although the existence of anthropogenic climate change is well documented in the scientific arena, public understanding of climate change and connection of facts to what people value, prioritize, or find meaningful is socially constructed, with interpersonal discussions serving as one of the most dominant means by which this construction occurs.[5] Discussions have the potential to both amplify and attenuate perceptions of

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1. Intergovernmental Panel on Climate Change, *Summary for Policymakers*, *in* CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY 1-34 (2014).

2. Nat'l Aeronautics & Space Admin., *Global Climate Change Vital Signs of the Planet*, climate.nasa.gov/scientific-consensus (last visited June 23, 2014); Peter T. Doran & Maggie K. Zimmerman, *Examining the Scientific Consensus on Climate Change*, 90 EOS Transactions Am. Geophysical Union, no. 3, Jan. 20, 2009 at 22-23.

3. HANDBOOK OF CLIMATE CHANGE MITIGATION 909-1401 (Wei-Yin Chen et al. eds., 2012); Royal Acad. of Eng'g, *Infrastructure, Engineering & Climate Change Adaptation: Ensuring Services in an Uncertain Future* 13-33 (2014), *available at* http://www.raeng.org.uk/publications/reports/engineering-the-future.

4. Leiserowitz et al., *How Americans Communicate About Global Warming in April 2013*, YALE PROJECT ON CLIMATE CHANGE COMMC'NS 5 (2013).

5. KARI MARIE NORGAARD, LIVING IN DENIAL: CLIMATE CHANGE, EMOTIONS, & EVERYDAY LIFE 97-98 (The MIT Press ed., 2011).

risks.[6] When risks are generally agreed to exist, discussion can provide an optimal condition for the development and promotion of solutions. When solutions prescribe action to redress the risks, public commitment to these solutions can increase the likelihood that actions will be followed.

Discourse is a core component to the development of laws and policies. According to Castro and Mouro, policy adoption goes through four stages, all of which involve some form of discourse.[7] First, there is an emergence of concern, where a small proportion of the population voice new values and create discourse on a topic and, potentially, cultural shifts in world views. An example of this shift occurred in the U.S. in the 1960's and 1970's with the development of the "New Environmental Paradigm."[8] This new paradigm represented a global shift in the face of unprecedented evidence of environmental decline. The impact of this shift is illustrated by, "The Tibilisi Declaration", at the first Intergovernmental Conference on Environmental Education, which defined criteria, goals, and principles of environmental education.[9] This shift represented a migration from the belief that people have the right to dominate nature to a new conception of humans' relationship with nature. The latter include the belief that people are part of earth's web of life, are dependent upon nature, and have a responsibility to care for, not just use, the earth's limited resources.[10] The second step in Castro and Mouro's policy adoption model is the institutionalization of the new values via the translation of the new discourses into laws, legal policies, and institutional policies.[11] For example, the passing of the National Environmental Policy Act and formation and early development of the Environmental Protection Agency were prompted and supported by public opinion and activities, such as the beginning of Earth Day celebrations in the 1970's. The third step is implementing those plans as legal practices or policies, which require discussion with those impacted by these rules.[12] The final step is the stabilization of the policies when actions, derived from the laws and policy, and discourse are combined and emerge

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6. Daniel J. Isenberg, *Group Polarization: A Critical Review and Meta-analysis*. 50(6) J. OF PERSONALITY & SOC. PSYCHOL. 1141-51 (1986).

7. Paula Castro & Carla Mouro, *Psycho-Social Processes in Dealing With Legal Innovation in The Community: Insights From Biodiversity Conservation*, 47 AM. J. CMTY. PSYCHOL. 362-73 (2011).

8. Riley E. Dunlap & Kent D. Van Liere, *The "New Environmental Paradigm": A Proposed Measuring Instrument & Preliminary Results*, 9 J. ENVTL. EDUC. 10-19 (1978).

9. Intergovernmental Conf. on Envtl. Educ., The Tibilisi Declaration (1977), *available at* http://www.gdrc.org/uem/ee/tbilisi.html.

10. Dunlap & Van Liere, *supra* note 8.

11. Paula Castro & Carla Mouro, *supra* note 7.

12. *Id.*

as commonly accepted codes of conduct.[13] These steps are consistent with the view that deliberation is the "soul of democracy" because discussions provide opportunities for solution development, promotion, and implementation despite the political realities.[14]

In the case of climate change, a core challenge is to encourage public discussion grounded in scientific knowledge. Such discussions can facilitate the development of publically acceptable laws. Further, grounding the discussions in science can help create policies that are significant enough to address the scale and root causes of the problem. In order to promote these scientifically grounded discussions it is important to understand the public's current knowledge about climate change. In order for the conversations to occur, the public must overcome psychological and situational barriers to talking about climate change.[15] Psychological barriers include lack of concern about climate change, and lack of perceived ability to talk about climate change. Situational barriers include social contexts that are unsupportive of conversations. After discussing the public's knowledge and these psychological and situational barriers that influence the content and likelihood of discourse on climate change, respectively, we describe a program designed to encourage scientifically grounded discussions about climate change.

III. KNOWLEDGE

Climate scientists have clearly defined critical principles and terms needed for climate literacy (e.g., United States Global Change Research Council), yet much of the public does not fully understand basic knowledge about climate change. Many confuse climate change with holes in the ozone layer, and are unaware of ocean acidification and its impacts on life in the ocean.[16] Further, many mistake the efforts for responsible management of waste with efforts to address climate change.[17]

We conducted research to assess knowledge among key domains of climate science, climate change, and energy awareness

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13. *Id.*

14. JOHN DRYZEK, DELIBERATIVE DEMOCRACY & BEYOND: LIBERALS, CRITICS, CONTESTATIONS 162-65 (Oxford Univ. Press ed., 2000).

15. Janet K. Swim et al., *Psychology & Energy-Use Reduction Policies: Policy Insights From The Behavioral & Brian Sciences*, 1-9 (2014)(unpublished manuscript).

16. Leiserowitz et al., *American's Knowledge of Climate Change*, YALE PROJECT ON CLIMATE CHANGE COMMC'NS 7-12 (2013), *available at* http://environment.yale.edu/climate-communication/files/ClimateChangeKnowledge2010.pdf; ANDREW VOLMERT ET AL., JUST THE EARTH DOING ITS OWN THING (FrameWorks Inst. ed., 2013).

17. *Id.*

in order to better understand the types of information the public may need to be taught. Survey respondents answered questions that represent seven different descriptors of climate change developed by CLEAN (2014), plus evidence used to support human caused climate change (see Table 1). We modified questions used by Leiserowitz, et al., and added additional questions to fill in areas not covered by their survey.[18] Nearly all the questions were true/false with the option to indicate "don't know."

We recruited a convenience sample of seventy-eight U.S. adults to complete an on-line survey testing knowledge about climate change. We analyzed data from seventy-two respondents who completed the full survey. Respondents signed-up via Mechanical Turk (MTURK), a website where the public can earn money for doing on-line work that can include participating in survey research. Many social science researchers are turning to these samples and Internet methods of recruitment in order to obtain a more diverse sample than a typical subject pool.[19] Our sample consisted of mostly Whites/Caucasians (79%). About half the respondents were women (46%). Most had completed a college degree (high school: 14%, some college: 37%, 2-year degree: 14%, 4-year degree: 38%, post graduate work: 11%). Their ages ranged from eighteen to seventy-one (Mean = 33). Respondents described themselves as being moderate to liberal (very liberal/progressive: 24%, liberal: 35%, moderate: 24%, conservative: 12%, very conservative: 4%).[20] Thus, the sample was composed of about an equal number of women and men, the proportion of Whites was similar to the proportion for the U.S. (78%), and the age was close to the median for the U.S. population (Median = 37.2)[21], but respondents had more formal education and were more liberal than the general population.[22]

The data from this study point to strengths and weaknesses in the public's knowledge about climate change. Respondents' understood that climate change is caused by fossil fuels and

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18. *Id.*

19. Michael Buhrmester et al., *Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data?*, 6 PERSPECTIVES IN PSYCHOLOGICAL SCIENCE 3-5 (2011), *available at* http://personal.stevens.edu/~ysakamot/creativity/turk%20 perspectives.pdf.

20. Lydia Saad, *Conservatives Remain the Largest Ideological Group in the U.S.* GALLUP POLITICS, http://www.gallup.com/poll/152021/conservatives-remain-largest-ideological-group.aspx (last visited July 29, 2014).

21. U.S. CENSUS BUREAU, *Educational Attainment in the United States: 2013 – Detailed Tables,* UNITED STATES CENSUS BUREAU, (last visited June 29, 2014), https:// www.census.gov/hhes/socdemo/education/data/cps/2013/tables.html

22. U.S. CENSUS BUREAU, *National Characteristics: Vintage 2013*, UNITED STATES CENSUS BUREAU (last visited June 29, 2014), https://www.census.gov/hhes/socdemo/ education/data/cps/2013/tables.html.

deforestation, and were able to differentiate fossil fuels from non-fossil fuels. However, as noted by Leiserowitz, et al., and researchers from Frameworks Institute, many confuse causes of climate change with problems caused by holes in the ozone and toxic waste, and are not aware that ruminant animals, specifically cows, are significant contributors to climate change.[23] As a result, their understanding of mitigation was accurate when solutions were tied to fossil fuels and deforestation, but not when tied to cattle (the need to address livestock producing methane) and causes of holes in the ozone (banning aerosol spray cans). Most understood some of the more popularized impacts of climate change (weather, oceans, impacts on water and food, and plant and animal extinction). However, many were unaware of the less publicized impacts of climate change, including negative repercussions for human health, emigration from island nations, and increased access to oil in the Arctic Circle.

Respondents were relatively unfamiliar with scientific methods used to understand climate change. Most understood that instruments across the globe measured temperature, but many were unaware of other sources of data—tree rings and ice cores—used by climate scientists. They also did not have a broad sense of the evidence scientists use to identify humans as the cause of climate change.[24] Many understood that there has been an increase in CO_2, and that there have been more extreme weather events. However, it could be argued that an increase in the frequency of extreme weather is not strong evidence because there are multiple factors affecting weather, and changes in weather patterns could be considered evidence of the impacts of climate change rather than evidence that humans have caused climate change. Stronger evidence would be research indicating that CO_2 is from fossil fuels rather than other sources, but fewer endorsed this than extreme weather. Further, only half the respondents correctly indicated that climate change would lead to a decrease in atmospheric oxygen (which would occur due to the binding with carbon to create CO_2). Given the true/false nature of the questions, a 50% correct rate on questions would be expected due to chance, suggesting that respondents may have been unfamiliar with the subject material and guessed the answer.

On the other hand, many appeared (especially liberals, as will be discussed below) to have a good sense of the *nature of science.*

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23. Leiserowitz, *supra* note 16; VOLMERT, *supra* note 16.

24. *See The Human Fingerprint in Global Warming*, SKEPTICAL SCIENCE, http://www.skepticalscience.com/its-not-us.htm (last visited July 28, 2004) (reviewing scientific evidence of humans as the cause of climate change over the last 25 years).

That is, many noted that one study rarely establishes findings, most accurate information is from peer reviewed journals, and news sources are not more likely to attend to study qualifications that are more common in journal reports. Many thought uncertainty-undermined scientist's ability to prove anything. We suggest that this may not be a function of lack of understanding of uncertainty in science given the answers to the other nature of science questions, but more likely a result of lack of understanding about what constitutes proof in science.

In addition to actual knowledge, we assessed confidence in knowledge about different domains of climate science (using a 0 "not at all", 1 "some", 2 "moderate", 3 "very" scale). They indicated moderate confidence in their knowledge about climate change (M = 1.80, 95% CI = 1.65 to 1.96), its causes (M = 1.84, 95% CI = 1.67 to 1.99), its effects (M = 1.78, 95% CI = 1.61 to 1.94), and how to reduce global climate change (M = 1.85, 95% CI = 1.69 to 2.01). They were slightly less confident in their knowledge about how to cope with upcoming impacts (M = 1.65, 95% CI = 1.81) and the nature of how scientific knowledge develops (M = 1.64, 95% CI = 1.45 to 1.84). Last, consistent with their actual knowledge, they were least confident in climate scientists' research methods (M = 1.27, 95% CI = 1.07 to 1.47).

We tested whether political ideology was related to knowledge about climate change, and if so, whether there were particular domains of knowledge where this association was strongest. Political ideology is associated with different interpretations of climate change information.[25] If this is the case, then political ideology should influence answers to knowledge questions about climate change. Given the questions we asked and the association between political ideology and climate change disbelief, we anticipated that those self-identifying as conservative would score poorly on items measuring knowledge about the existence of anthropogenic climate change existence and its impacts and solutions.

In our study, those who self-classified as conservative scored poorer on the overall assessment of knowledge than those self-classifying as liberal (an average of the responses to eight different domains (Cronbach α = .74), $r(71)$ = -.32, p < .01, but the lower scores were topic specific (see italicized items in Table 1). Consistent with conservatives' lack of conviction that humans are causing climate to change, more conservative individuals were less

25. Dan M. Kahan et al., *Cultural Cognition of Scientific Consensus*, 14 J. RISK RESEARCH 147-74, (2011); Donald Braman et al., *The Polarizing Impact of Science Literacy & Numeracy on Perceived Climate Change Risks*, 2 NATURE CLIMATE CHANGE 732-35 (2012).

likely to indicate that human behaviors were a source of climate change, and less likely to indicate that mitigation strategies, which address human causes, would influence the climate. There are two additional interesting points to note with regard to causes of and human responses to climate change. Most did not identify specific natural causes of climate change. The natural cause most likely to be endorsed by conservatives was sunspots, yet only half of the conservatives identified this as a cause. The lack of identification of natural causes could be because of a lack of knowledge about what constitutes natural causes, or we did not ask about the natural causes they endorsed, or only half of all conservatives acknowledge that the climate is changing.[26] However, despite only about half of conservatives acknowledging human causes of climate change, a majority of conservatives indicated that changes in fossil fuel use and planting trees would be effective mitigation responses.

As noted, political ideology was related to understanding the nature of science and scientific methods. Consistent with other findings related to the political leanings of climate science skeptics,[27] conservatives were less likely than liberals to indicate that peer reviewed journals were accurate, less likely to indicate that there was sufficient evidence to conclude that climate change was problematic, and more likely to indicate that models were too variable for scientists to make predictions. Other questions indicate that their incorrect answers go beyond rejection of the consistency of scientific evidence. Conservatives were less likely than liberals to know climate scientists study bubbles in ice cores and patterns in tree rings. Yet, it should be acknowledged that only a slight majority of liberals were aware of this as well.

Liberals may have done better on the test than conservatives partly because of their greater tendency to believe that human activities were modifying the climate. This belief may have led to an increased tendency for liberals to inaccurately identify aerosol spray cans as a cause of climate change and to be more supportive of banning spray cans as a solution. Further, conservatives were *not* more likely to incorrectly answer questions about the impacts

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26. PEW RESEARCH CENTER, *GOP Deeply Divided Over Climate Change,* PEW RESEARCH CENTER FOR THE PEOPLE & THE PRESS (last visited Nov. 01, 2013), *available at* http://www.people-press.org/2013/11/01/gop-deeply-divided-over-climate-change; John A. Krosnick et al., *American Opinion on Global Warming*, 133 RESOURCES FOR THE FUTURE 5-9 (1998), *available at* https://pprg.stanford.edu/wp-content/uploads/1998-american-opinion-on-global-warming.pdf.

27. Aaron M. McCright & Riley E. Dunlap, *Challenging Global Warming as a Social Problem: An Analysis of The Conservative Movement's Counter-Claims*, 47 SOC'Y FOR THE STUDY OF SOCIAL PROBLEMS 499-522 (2000); CHRIS MOONEY, THE REPUBLICAN WAR ON SCIENCE 65-102 (Perseus Book Group ed., 2006).

of climate change (other than impacts of climate change on coral reefs). Plus, there were few differences between liberals and conservatives in their identification of sources of evidence that climate change is human caused. Considering responses to questions about the causes and impacts of climate change, the results suggest that conservative political ideology was more aligned with a lack of acceptance of the science behind the human causes of climate change, rather than a rejection of the existence of climate change.[28]

Our data contradicts national survey data indicating that conservatives are more knowledgeable about climate change than liberals.[29] These Gallop findings are based upon self-perceived knowledge rather than actual knowledge. As noted, we find that conservatives are less knowledgeable about climate change. We also find no association between confidence in knowledge and political ideology, perhaps because we ask about confidence across different domains and not overall self-reported knowledge about climate change. There are problems with basing conclusions about knowledge of climate change from self-reported knowledge.[30] For one, people may not know what they do not know. Other research indicates that confidence in knowledge and actual knowledge is weakest among those who perform the poorest on knowledge tests, including knowledge about climate change.[31] We suggest that the negative association between knowledge about climate change and belief in climate change reported by others is a result of belief driving self-perceived knowledge rather than beliefs driving actual knowledge or actual knowledge driving beliefs.[32]

There appears to be consistency between our results and other research findings that assess actual knowledge. Together, our findings and these other findings indicate that the general public needs to know more about the human impacts of climate change, the methods climate scientist use to study climate change, and the scientific evidence that supports humans as the cause of climate change. It is possible that our assessment of the public's knowledge is overly optimistic because the sample is more

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28. PEW RESEARCH CENTER, *supra* note 26; Krosnick, *supra* note 26.

29. Lydia Saad, *A Steady 57% in U.S. Blame Humans For Global Warming*, GALLUP POLITICS, *available at* http://www.gallup.com/poll/167972/steady-blame-humans -global-warming.aspx (last visited July 29, 2014).

30. *See generally* Sophie Guy et al., *Investigating the Effects of Knowledge & Ideology on Climate Change Beliefs*, 44 EUR. J. SOC. PSYCHOL. 421-29 (2014).

31. DAVID DUNNING, SELF-INSIGHT: ROADBLOCKS AND DETOURS ON THE PATH TO KNOWING THYSELF 11-31 (Psychology Press eds., Jan. 30, 2005); Eva-Lotta Sundblad et al., *Knowledge and Confidence in Knowledge About Climate Change Among Experts, Journalists, Politicians, and Laypersons*, 41 ENV'T. & BEHAVIOR 281-302 (2009), *available at* http://eab.sagepub.com/content/41/2/281.full.pdf+html.

32. Saad, *supra* note 29.

educated than the general public. Yet, our findings indicated that, even among a generally more educated and liberal group of people, information about these topics is needed and it would seem likely that this need would exist for a more representative sample.

IV. BARRIERS TO DISCUSSIONS

In this next section we present information on the role of motivation, ability, and social context on talking about climate change. After describing general findings, we will present specific data we have collected that address their role in influencing public discourse about climate change.

A. Concern About Climate Change

National poll data suggests little public concern about climate change; few worry about climate change relative to other topics, or prioritize climate change as an issue for the president and congress.[33] Social scientists highlight characteristics of climate change that make it difficult to raise concern. These characteristics include the perception that climate change impacts are geographically and temporarily distant.[34] Even if people are concerned about climate change, they have a "finite pool of worry" such that they can only worry about a limited number of things both personally (e.g., one's employment and family) and politically (e.g., war, economics, health care) and, instead of focusing on global climate change, they focus on more proximal concerns.[35]

Yet it would be a mistake to conclude that the majority of the public is unconcerned about climate change. First, survey data indicates that most of the public acknowledges the existence of human caused climate change. About two-thirds believe that the planet has been warming, and they have believed this since at least 1997.[36] There has also been a fairly steady tendency for about 60% of the population to point to human activity as the source of climate change and, in contrast, 33% to 40% point to natural causes of climate change.[37] Second, combining responses to several

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33. Rebecca Riffkin, *Climate Change Not a Top Worry in U.S.*, GALLUP POLITICS, http://www.gallup.com/poll/167843/climate-change-not-top-worry.aspx. (last visited July 28, 2014).

34. *See generally* Gifford et al., *Temporal Pessimism & Spatial Optimism in Environmental Assessments*, 29 J. ENVTL. PSYCHOL. 1-12 (2009).

35. Elke U. Weber, *Experience-Based and Description-Based Perceptions of Long-Term Risk: Why Global Warming Does Not Scare Us (Yet)*, 77 CENTER FOR RESEARCH ON ENVTL. DECISIONS, COLUM. U. 103-20 (2006).

36. PEW RESEARCH CENTER, *supra* note 26; Krosnick, *supra* note 26.

37. *Id.*

climate change relevant survey questions, poll data indicate that a majority of Americans are at least cautiously concerned about climate change. Researchers at Yale and George Mason University have combined responses to thirty-six questions, assessing beliefs about climate change, psychological and behavioral involvement in the topic, and preferences for social responses to climate change. Their data indicate that the U.S. population can be divided into six distinct groups ranging from the most alarmed to the most dismissive, deemed the "Six Americas" (Alarmed (16%), Concerned (27%), Cautious (23%), Disengaged (5%), Doubtful (12%) and Dismissive (15%).[38] The percent of the public in these six different groups have remained relatively stable over the last five years. Summing across these categories, about two-thirds of the U.S. public is at least cautious about climate change. Third, also reflective of motivation to address climate change, these same researchers indicate that from 2008 to 2013, about 70% of the U.S. public indicates that global warming should be a medium, high, or very high priority and 90% indicate that developing clean energy sources should be a medium, high, or very high priority for the President and Congress.[39]

People within the six different groups of Americans differ substantially in the likelihood that they discuss climate change. For instance, a majority of the "Alarmed" public "occasionally" (67%) or "often" (20%) talk about climate change, compared to about half the "concerned" public who "occasionally" (45%) or often (0%) talk about climate change.[40] The majority of the other "Six Americas" groups rarely or never talk about climate change. We have also found that the public differs in the topics they choose to discuss. When they talk about climate change, they are most likely to talk about impacts, the science, or personal actions to address climate change and least likely to talk about ocean acidification and group efforts.[41] Thus, those who are alarmed do not need much encouragement to talk about climate change, but the rest need assistance, and all need assistance in broadening the topics of their discussions.

This research suggests that one could increase discussions about climate change by increasing public concern about climate change. Yet there are limits to the effectiveness of this approach. Some interventions can create backlash or reactance, particularly

38. Leiserowitz et al., *Climate change in the American mind: Americans' global warming beliefs and attitudes in November 2013,* YALE PROJECT ON CLIMATE CHANGE COMMC'NS (2014).

39. *Id.*

40. Leiserowitz et al., *supra* note 4.

41. Janet K. Swim, John Fraser & Nathaniel Gieger, (unpublished data).

among the doubters and dismissives.[42] Individuals could also become desensitized or psychically numbed to negative emotions if they are repeatedly overwhelmed with fear-related climate change messaging.[43] Further, a hypothetically successful intervention using this method might need to decrease concerns about other topics (such as the economy, health care, immigration, and taxes), and this decrease is not likely to be successful because many of these other topics are more temporally relevant and concrete.

We argue that it is important and potentially more effective to attend to perceived ability to talk about climate change and social norms than to increase concern about climate change. Thus, we propose that it is important "to teach the choir to sing"; that is, to encourage those who are already concerned to become engaged by participating in scientifically grounded discussions that can lead to meaningful action on climate change rather than protracted debate about whether climate change is a serious enough problem to be addressed.

B. Ability to Talk About Climate Change

The likelihood that one engages in a specific behavior is a function of whether the person expects that they can do the behavior, known as self-efficacy. Then, once self-efficacy is achieved, the desired response to the behavior will occur.[44] Related to this distinction, political scientists have differentiated internal efficacy (the ability to participate in politics) and external efficacy (the likelihood that participating in politics will be effective).[45] Thus, in the context of talking about climate change, one must believe that one is capable of talking about climate change and that talking will make a difference (aka response-efficacy or outcome-efficacy).

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42. Matthew Feinberg & Robb Willer, *Apocalypse Soon?: Dire Messages Reduce Belief in Global Warming by Contradicting Just-World Beliefs*, 34-38 (2011), *available at* http://pss.sagepub.com/content/22/1/34.

43. Ezra M. Markowitz et al., *Compassion Fade and the Challenge of Environmental Conservation*, 8 SOCIETY FOR JUDGMENT AND DECISION MAKING 397-406 (July 2013), *available at* http://journal.sjdm.org/13/13321a/jdm13321a.pdf.

44. Alberta Bandura, *Self-efficacy: Toward a Unifying Theory of Behavioral Change*, 84 PSYCHOL. REV. 191-215 (1977), *available at* http://www.uky.edu/~eushe2/Bandura/Bandura1977PR.pdf.

45. Steven E. Finkel, *Reciprocal Effects of Participation and Political Affiacy: A Panel Analysis.* 29 AM. J. OF POL. SCI. 891-913 (1985), *available at* http://www.stevenfinkel.com/files/Finkel%201985.pdf; John Gastil & Michael Xenos, *Of Attitudes and Engagement: Clarifying the Reciprocal Relationship Between Civic Attitudes and Political Participation*, 60 J. OF COMM. 318-343 (2010), *available at* http://www.la1.psu.edu/cas/jurydem/OfAttitudesAndEngagement.pdf.

A reason that individuals may lack efficacy about their ability to talk about climate change would be that they may feel uncertain about scientific evidence regarding climate change or strength of proposed solutions. As noted above, people in our survey reported being moderately confident in their knowledge about many topics related to climate change and relatively unconfident in their knowledge about the scientific research. Other data indicate that, the more people anticipate feeling incompetent during a discussion about climate change, the less willing they are to talk about it.[46] Thus, it can be important to increase people's knowledge about climate change to increase their confidence in their knowledge about what to say. But increasing confidence in the material may not be enough.

Another reason for low efficacy is that people may not believe they know *how* to talk about climate change. The politicization and increasing polarization of beliefs about climate change suggest that it will be difficult to engage in conversations about climate change. We have found, for instance, when reflecting on talking about climate change, the concern most often raised by educators at zoos and aquariums is that they would appear too political to the visitors to these institutions.[47] Further, educators who reported holding back what they wanted to say about climate change were not only less confident about their ability to talk about climate change (low self-efficacy), but were also more likely to anticipate that visitors to their institutions would be disinterested in the topic (low response efficacy).

C. Social Context

Although knowledge and efficacy beliefs likely predict behaviors, research also points to the importance of the social context for predicting behaviors. Norgard observed that there are few social spaces where discussions about climate change is considered relevant because conversational rules dictate that community political discussions should be about local issues and casual conversations should be "light."[48] Social norms can also silence educators, including educators at informal science learning centers. For instance, there are implicit and explicit norms at zoos and aquariums that indicate that difficult topics such as climate

46. Janet K. Swim & John Fraser, *Fostering Hope in Climate Change Educators*, 38 J. OF MUSEUM EDUC. 286-97 (2013).

47. *Id.*

48. Norgaard, *supra* note 5, at 52-56.

change should be avoided.[49] The power of these social norms is revealed in the distress that many educators at these institutions report because of the lack of support they perceive for these conversations at their institutions and in their personal social networks.[50]

D. Survey Research

We conducted a survey to test the effects of concern about climate change, self-efficacy, response efficacy, and perceived social norms on people's willingness to talk about climate change with their friends and family and to engage with politicians. The sample (N = 76) was recruited from MTURK and had similar demographics as the previous sample. This sample consisted of mostly Whites/Caucasians (81%). About half the respondents were women (48%). Most had completed a college degree (high school: 9%, some college: 29%, 2-year degree: 11%, 4-year degree: 30%, post graduate work: 14%). Their ages ranged from eighteen to respondents in their seventies (mean = 37). Respondents described themselves as being mostly moderate to liberal (very liberal/progressive: 14%, liberal: 35%, moderate: 31%, conservative: 19%, very conservative: 1%). Thus, like the previous survey, the sample was composed of about equal number of women and men, the proportion of whites was similar to the proportion for the U.S., and the age was close to the median for the U.S. population, but respondents had more formal education and were more liberal than the general population.[51]

Most people indicated that they had talked to friends and family about climate change (73%) yet the average frequency was only between about once or twice a year and a little under half (47%) used various forms of electronic forms of communication to exchange information about climate change (e.g., email, blogs, Facebook, Twitter) with the average frequency being less than twice a year. Thus, while they do talk about these topics within their personal social networks, it is not frequent. Similarly, few (29%) indicated engaging with government officials about climate

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49. Janet K. Swim & John Fraser, *Zoo and Aquarium Professionals' Concerns and Confidence About Climate Change Education*, 62 J. OF GEOSCIENCE EDUC. 495-501 (2014); Aaron J.C. Wijeratne et al., *Rules of Engagement: The Role of Emotional Display Rules in Delivering Conservation Interpretation in a Zoo-based Tourism Context*, 42 TOURISM MGMT. 149-156 (2014).

50. John Fraser et al., *Sustaining the Conservationist*, 5 ECOPSYCHOLOGY 70-79 (2013), *available at* http://online.liebertpub.com/doi/pdfplus/10.1089/eco.2012.0076.

51. U.S. CENSUS BUREAU, *supra* note 22; Lindsay M. Howden & Julie A. Meyer, *Age and Sex Composition: 2010*, 2010 UNITED STATES CENSUS BRIEFS, http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf (last visited June 29, 2014).

change (e.g., either voting, contacting offices, petitions, or rallies) with the average frequency being less than once a year.[52] We asked questions related to motivation, ability, and social norms in order to assess reasons for the infrequency of discussions about climate change.[53]

In order to assess concern, we asked respondents to self-categorize into one of the six Americas groups.[54] Consistent with their generally liberal political ideologies, a strong majority of the respondents indicated some degree of concern about climate change (Alarmed: 22%; Concerned: 45%, Cautious: 20%, Disengaged: 7%, Doubtful: 4%, Dismissive: 3%). Consistent with past research noted above, the more concerned individuals were about climate change, the more likely they were to talk about climate change and engage with politicians on the topic (see Table 2).[55] However, given the large percent of respondents who were concerned and alarmed about climate change and the relative infrequency of talking about climate change, their concern appeared to not fully account for their infrequent discussions.

Respondents with stronger self-efficacy were more likely to talk about climate change (see Table 2). However, a lack of perceived self-efficacy does not appear to fully account for their relative infrequency of discussions with friends and family: respondents generally perceived that they knew enough to talk about climate change with people they knew. More specifically, to assess self-efficacy, respondents indicated on a ten-item measure the extent to which they knew enough to talk about climate change with a variety of people. Eighty-seven percent "agreed" or "strongly agreed" that they knew enough to talk about climate change with their friends and family. In contrast, lack of self-efficacy is better

52. These behavioral questions were embedded in other behavioral questions (e.g., donate money, take public transportation, make one's home more energy efficient) that were included in order to test whether we would use these measures for future research. Here we focus on variables related to public discourse about climate change.

53. For exploratory purpose, respondents completed several additional types of questions to help explain their lack of tendency to talk about climate change (i.e. questions about disengagement and displacing responsibility to others). These are relatively new constructs so we do not discuss them further here. They also indicated the extent to which they believed others were concerned about climate change. This measure was not related to talking about climate change. Additional research we have conducted suggests that the reason for this lack of relation was that it is not specific enough to the audiences that they typically interact with. Nathaniel Geiger & Janet K. Swim, Climate of Silence: Meta-beliefs as Barriers to Climate Change Discussions (Unpublished Manuscript) (participants in the present research indicated how hopeful they were about their ability to talk about climate change because our previous research suggested that this might predict talking about climate change); Swim & Fraser, *supra* note 49 (However, in the present research hope was not associated with talking about climate change or engaging with politicians).

54. *See* Swim & Gieger, *supra* note 41 (for the reliability and validity of this method).

55. *See* Leiserowitz et al., *supra* note 4.

at explaining discussions with other group of people. Only 51% indicated that they "agreed" or "strongly agreed" that they were sufficiently informed about climate science to participate in community discussions about climate change, and 43%, that they knew enough about climate change to talk about climate change with their local government officials, 37% with state representatives, and 37% with federal representatives and 29% indicated they were unsure about themselves with discussing climate change in public settings.

Respondents with stronger response efficacy were more likely to talk about climate change (see Table 2). Yet again, this does not appear to fully account for their lack of engagement with politicians. If they were to talk about climate change with politicians, they appeared somewhat optimistic about these discussions. Respondents indicated, on a seven-item measure, the extent to which they perceived that government officials would respond to public beliefs about climate change. Seventy-one percent "agreed" or "strongly agreed" that there were many legal ways for citizens to successfully influence politicians decisions about climate change, and 61% "disagreed" or "strongly disagreed" that climate change activists delude themselves about their ability to influence government officials. They do not, however, appear to translate this to their own ability to influence officials, perhaps because they are not confident in their knowledge or self-efficacy (as noted above) or a possible tension between internal efficacy focused on ability versus low external efficacy resulting from anticipation of negative feedback. They were neutral in their opinion about whether people like themselves had a say about what the government did about climate change with 34% agreeing with this statement, 45% disagreeing and 16% neither agreeing nor disagreeing.

Thus, there is some ambiguity about whether concern and efficacy explain the lack of conversations about climate change. On the one hand, concern and efficacy were correlated with engaging with discussions with friends and family and with engaging politically. Yet, on the other hand, most were at least cautiously concerned, report being able to talk about climate change with friends and family, and the belief that political engagement can be effective.

In contrast to this ambiguity, respondents agreed that the social norm was to be silent about climate change and endorsing this norm was associated with less engagement. Specifically, respondents indicated, on a five-item measure, the extent to which most people were disinterested in talking about climate change.

For example, they "agreed" or "strongly agreed" that people they know were not interested in talking about climate change (57%) and instead were more interested in talking about other political issues (e.g., the economy, gun control, or health care, 75%), their personal problems (82%), or daily lives (e.g., work, family, or what they do for fun, 78%). Further, respondents who reported stronger social norms to not discuss climate change, less frequently engaged with their friends and family and politicians on the topic (see Table 2). Thus, of the three possible explanations for lack of discussion we explored, social norms for silence appear to be the best explanation for the lack of discussion.

We conducted additional analyses to better understand the relation among these different predictors of climate change. We used structural equation modeling to test whether concern about climate change (as assessed in their self-classification into the Six Americas categories) and perceived social norms influenced perceived efficacy and whether these effects on efficacy could account for the effects of concern and social norms on climate change (as noted in Table 1). First, as illustrated in Figure 1, those who were more concerned about climate change perceived that social norms were less problematic (i.e., weaker norms for silence) potentially because the people in their social networks were more favorably inclined to talk about climate change. Next, concern and perceived social norms were both associated with political response efficacy, and concern, but not social norms, were associated with self-efficacy. Last, both political response efficacy and self-efficacy were, in turn, associated with frequency of talking with friends and family, and with politicians. Thus, both concern about climate change and perceptions of the situation were both important predictors of talking about climate change, via their impacts on self-efficacy and response-efficacy.

E. Encouraging Discourse

Researchers and educators affiliated with the National Network of Ocean and Climate Change Interpretation (NNOCCI) have been working with educators at informal science learning institutions (e.g., zoos and aquariums) to engage the public in discussions about climate change.[56] Educators at these institutions and those who attend such institutions tend to be more concerned

56. John C. Anderson & Melissa A. Williams, *Engaging Visitors to Create Positive Futures*, 38 J. OF MUSEUM EDU. 256-59 (2013), *available at* http://museumeducation.info/wp-content/uploads/2013/09/JME03803-2.pdf.

about climate change than the general public.[57] Further, Fraser and Sickler report that many consider these institutions reliable translators of technical information, and seek out guidance about climate change and other nature-related information from these institutions. For instance, in the second survey noted above, we asked respondents to indicate where they have learned about climate change. Out of fifteen possible locations, museums, zoos, aquariums, and national and state parks topped the list with all respondents selecting these options (see Table 3).

Informal science learning centers provide a fitting setting for creating opportunities to discuss climate change because of the evidence of the impacts of climate change on animals in these sittings via impacts on their habitats, the presentation of scientific information about the life and survival of a wide range of species, and the salient evidence of the diversity and interconnection among animals, humans, and their environments.[58] These discussions have the potential to have a powerful impact on cultural norms because over seventy million people visit these facilities a year. It is important that these discussions be planned well because educators need support in their efforts and to avoid backlash, reactance, or dissipation of message impact over time.[59] NNOCCI, funded through a National Science Foundation Climate Change Education Partnership Grant, is using communication science to aid educators in creating their educational programs and informal discussions in their institutions. Goals include increasing educators' ability to talk about climate change with visitors to their institutions, encouraging dissemination of the training to improve their co-workers' ability to talk about climate change, and improving educators' discussions about climate change with their friends and family.

In the NNOCCI training, educators are taught "strategic framing techniques" to move audiences away from prototypical, confusing, and antagonistic discussions to discussions that increase their audiences' ability to understand climate science and the applicability of the science to climate solutions.[60] Educators are

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57. John Fraser & Jessica Sickler, WHY ZOOS AND AQUARIUMS MATTER: HANDBOOK OF RESEARCH KEY FINDINGS AND RESULTS FROM NATIONAL AUDIENCE SURVEY 12-13, 40-41 (Silver Spring, MD: Association of Zoos and Aquariums eds., 2009).

58. Susan Clayton et al., *Zoo Experiences, Conversations, Connections and Concern for Animals*, 28 ZOO BIOLOGY, 377-97 (2009), *available at* http://onlinelibrary.wiley.com/store/10.1002/zoo.20186/asset/20186_ftp.pdf?v=1&t=i05yawce&s=9cd9b95aee2ac2498c61482370eef82a517e662c.

59. Fraser et al., supra note 50.

60. Alexis Bunten & Shannon Arvizu, *Turning Visitors into Citizens: Using Social Science for Civic Engagement in Informal Science Education Centers*, 38 J. OF MUSEUM EDUC. 260-272 (2013), *available at* http://www.maneyonline.com/doi/abs/10.1179/1059865013Z.00000000028.

encouraged to start discussions by focusing on commonly held beliefs or world views such as the belief that people should protect all life on the planet and should responsibly manage resources for future generations, rather than start discussions by mentioning dire consequences of climate change or rhetorical battles about the issue.[61] Educators are taught to, next, use simplifying metaphors that have been demonstrated to result in greater understanding of the carbon cycle and impact of climate change on oceans and reduce confusion.[62] Last, they are taught to encourage individuals to participate in community actions to develop climate change solutions.[63] These solutions avoid a typical focus on personal actions that may contribute to perceptions that solutions are ineffective because of the lack of match between individual actions and the size of the problem. Community actions are also presumed to be an advantageous focus in contrast to global or national-level action because the public may perceive that they have little ability to influence the latter.

Assessment of the training has indicated that the training increases educators' hope about their ability to talk about climate change; preliminary assessment data indicates they are learning to use the recommended message techniques and they are less concerned about discussing climate change at their institutions.[64] Thus, the program appears to be addressing pre-training knowledge and efficacy related concerns among the educators. Further, because their institutions support their attendance to the training, their institutions are countering explicit norms against discussing climate change. Increased communication about climate change by educators at their institutions also provides a place for the public to discuss climate change and potentially alter social norms about discussing climate change, particularly in this setting. Future research will test whether such training is having a ripple effect, spreading to co-workers, friends and family, and institution visitors. Pilot testing suggests that these messaging strategies are effective means of engaging the public, improving their knowledge about climate change and their ability to describe climate change to others.[65] Thus, trainers' use of framing techniques has the potential to boost confidence in visitors' knowledge about climate change, and counter efficacy and social norm barriers to communication about climate change.

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61. *Id.*
62. *Id.*
63. *Id.*
64. Swim & Fraser, *supra* note 49.
65. Bunten & Arvizu, *supra* note 60.

V. SUMMARY AND CONCLUSION

It is critical to involve the public in efforts to respond to climate change. Public involvement includes changing their own behaviors, participating in collective efforts to change communities, encouraging public officials to address climate change, and helping mold policies into a fashion that will fit their communities and their personal lives. Underlying this public engagement is public discourse about climate change. Their conversations can alter personal behaviors and alter community efforts and business practices creating grassroots efforts even in the face of lack of state or federal efforts. Discourse can also lead to state and federal government officials noticing the importance of climate change to their constituents, and potentially impacting mitigation policies that these officials introduce and support.

Increased knowledge, motivation, ability, and supportive social contexts are all needed to spur scientifically grounded public involvement. Despite a relatively small but vocal opposition to climate change action, a large percent of the public are poised to contribute to climate change mitigation as evidenced by their beliefs and concern about climate change. Yet, in order for this motivation to lead to action, opportunities must be created to counter norms not to discuss climate change and holes in the public's climate science knowledge. Confidence in this knowledge needs to be bolstered in order to lead to more effective discussions about climate change.

Table 1: Responses to true-false questions about global climate change.[1]

Topic area	Percent selecting correct response	Percent selecting incorrect response	Percent correct responses by topic area	Correlation with political ideology (1 = very liberal; 5 = very conservative)
Climate systems	• Changes in oceans, atmosphere, ice, clouds or land influence entire climate system (97%) • Sun is primary source of energy for earth's climate system (92%) • Climate is average weather (85%) • "Heat trapping blanket" aka "greenhouse effect" refer to gases in the atmosphere that hold heat (76%)[2] • Sun's energy has not changed over 30 years (61%)[2]	Weather is average climate (36%)	77%	-.18
Energy Use (Here identifying fossil fuels)	• Coal (92%) • Oil (90%) • Natural gas (72%)	• Wood (30%) • Hydrogen (13%) • Solar (6%) • Nuclear (13%)	82%	.01
Causes of climate change over last 25 years.	• Cars & trucks (90%; 58% vs. 88% vs. 100%). 100%) • Fossil fuels (86%; 50% vs. 88% vs 95%) • Deforestation (86%; 58% vs. 94% vs. 93%) • Cows (50%; 17% vs 47% vs. 62%)	• Hole in ozone (78%) • Aerosol spray cans (71%; 41%, 74% vs. 88%) • Toxic waste (58%) • Sunspots (40%; 50% vs. 24% vs. 17%) • Acid rain (24%) • Volcanos (29%) • Earthquakes (12%)	55%	-.30 ($p = .01$)

1. Three items were multiple choice questions
2. This responses was from a multiple choice questions.

Human responses	Mitigation • *Switch away from fossil fuels (94%; 75% vs. 94% vs. 100%)* • *Plant trees (93%; 75% vs. 88% vs. 95%)* • Decrease tropical deforestation (89%) • *Increase car and truck fuel efficiency (88%; 58% vs. 88% vs. 98%)* • Insulate homes and buildings (76%) • *Reduce number of cows (50%; 8% vs. 47% vs. 62%)* Adaptation • Prepare people for disaster responses (94%) • Raise foundations of buildings along oceans (76%) • Build flood walls on ocean coasts (71%)	Mitigation • *Ban aerosol spray cans (24%; 5% vs. 18% vs. 50%)* • Stop punching holes in ozone layer with rockets (12%). Adaptation • Stronger sunscreen (56%) • Store emergency vehicles within one mile of shore line (32%)	68%	-.25 (p=.04)
Impacts of climate change	• More severe weather (100%) • Warmer oceans (93%) • Competition water and food (88%) • Plant and Animal extinction (85%) • *Destruction of coral reefs (62%; 17% vs. 70 vs. 96%)* • Increase in asthma (57%) • Emigration from islands (56%) • More acidic oceans (44%) • Greater access to oil in Arctic Circle (24%) • Increase Lyme disease (22%)	• Increase in skin cancer (61%) • Oceans more salty (19%) • Seafood more plentiful (1%) • Decrease forest fires (7%)	59%	-.10

Measuring and modeling climate	Measurement • *Instruments placed around the world measure temperature (86%)* • Instruments measure temperature in atmosphere (83%) • *Bubbles in ice cores (57%; 17% vs. 29% vs. 52%)* • *Patterns in tree rings (40%; 17% vs. 65% vs. 67%)* Modeling • *Nearly all models predict temperature rise over next 100 years (81%; 58% vs. 65% vs. 93%)* • Model projections vary dependent upon assumed levels of CO2 and heat trapping gasses (72%)	Modeling • *Models are too variable for scientist to make predictions (28%; 33% vs 47% vs 74%)*	56%	-.34 (p = .004)
Nature of Climate science	• Single studies are rarely sufficient to establish a finding (85%) • *Most accurate information is in peer reviewed journal (74%; 58% vs. 59% vs. 83%)* • *There is sufficient evidence to indicate that human caused climate change is occurring and will have negative effects if we don't slow it down (65%; 42% vs 47% vs 81%)*[2] • Hard to prove anything true because uncertainty is a part of science (36%)	• News includes more qualification of findings then journal reports (33%) • Al Gore is leading scientist (18%)	62%	-.29 (p = .02)

Evidence climate change is human caused	• *Increase CO2 by nations since 1700's (76%; 67% vs 53% vs 88%)* • Increase in frequency of extreme weather (72%) • Increase in emissions and less heat escaping into space (65%) • CO2 from fossil fuels, not other sources (61%) • Decrease in Oxygen from forming CO2 (53%)	• *Increase in temperature in stratosphere and troposphere (8%; 8% vs. 24% vs. 2%)* • Greater increase in temperature during the day then night (42%)	44%	-.06

Items in italic are the responses that were correlated with political ideology. One item "accuracy of peer reviewed journals, was marginally significant at $p < .07$). The first percent represents the total sample responses. Of the three percentages that follow, the first represents responses from those who self-identified as conservative or very conservative; the second, moderates, and the third liberal or very liberal/progressive.

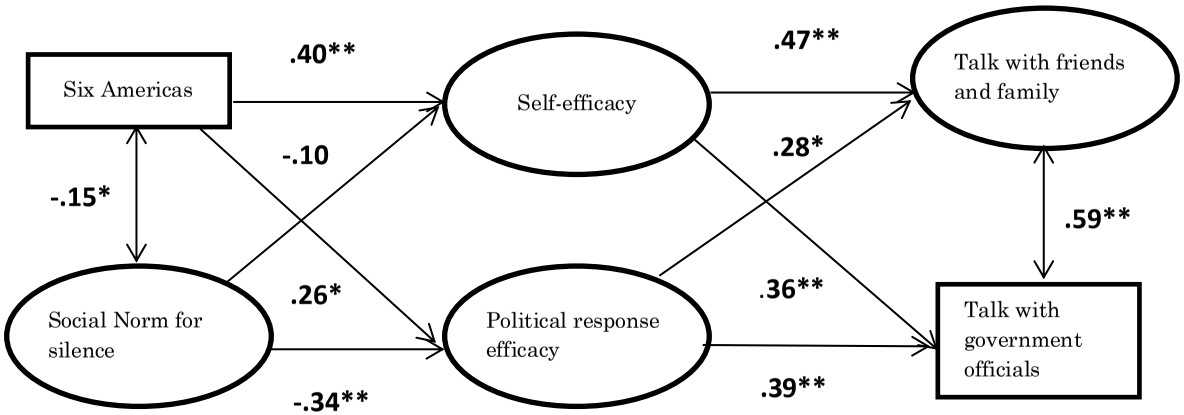
Table 2: Correlates of talking about climate change.

	Mean (*S.d.*)	Cronbach a	Correlation with talking and using social media	Correlation with engaging with politicians
Six Americas (1 = Alarmed; 6 = Dismissive)	2.33 (1.17)	NA	-.40**	-.30**
Self-efficacy (-2 = low; 2 = high)	.26 (.81)	.94	.45**	-.30**
Political response efficacy (-2 = low; 2 = high)	.38 (.85)	.90	.45**	.50**
Social norm for silence (-2 = low; 2 = high)	.84 (.77)	.85	.37**	.50**

Table 3: Places respondents have learned about climate change.

Location	**No**	**Percent of sample**
Museums, zoos, aquariums, or national or state parks	76	100%
Internet	67	88%
Television news programs	50	66%
Television specials or movies on climate change	43	57%
Newspapers	33	43%
Your family and friends	32	42%
Magazines	31	41%
Books	25	33%
Government office websites such as NASA, NOAA, and the EPA	21	28%
Your local weather forecast	21	28%
Radio programs	21	28%
College or graduate or other post-college school	18	24%
Scientific peer reviewed journals	17	22%
Environmental groups	17	22%
K-12 Schools	15	20%

Figure 1: Relation among predictors of engaging in friends and family and politicians in climate change topics.



Notes: *Chi-Square*(57) = 107.48, NFI = .83, CFI = .91, RMSE = .11; * p <.05; ** p < .01
All variables are latent variables with the exception of "Six Americas" and talking with government officials.
Higher numbers represent more concern about climate change (i.e., Six Americas "Alarmed), stronger norm for silence, more self-efficacy, more political efficacy, more engagement with friends (talking and use of social media), and more civic engagement (talking with political officials, donating to environmental groups)

AN ODE TO THE CLEAN AIR ACT

ANN CARLSON*

I. INTRODUCTION

Many commentators have derided the Clean Air Act (CAA) as a tool to regulate greenhouse gases (GHGs).[1] Indeed, *Massachusetts v. EPA,* the U.S. Supreme Court's landmark 2007 ruling holding that GHGs are air pollutants under the Act,[2] was thought by many to be a strategy to pressure Congress to enact comprehensive climate legislation, not to get the Environmental Protection

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1. *See, e.g.,* Juliet Eilperin, *EPA Presses Obama to Regulate Warming Under Clean Air Act,* WASH. POST, (Mar. 24, 2009), http://www.washingtonpost.com/wp-dyn/content/article/2009/03/23AR2009032301068.html (quoting William Kovacs, U.S. Chamber of Commerce saying that an EPA endangerment finding that greenhouse gases endanger public health and welfare under the Clean Air Act "devastating for the economy," and New York Law School Professor David Schoenbrod arguing that the EPA finding would be a regulatory maze far exceeding anything we've seen before"); J.R. Pegg, *US EPA Chills Progress Toward Regulating Greenhouse Gases*, Env't News Service (July 11, 2008), (quoting EPA Administrator Stephen Johnson as calling the CAA "ill-suited" for regulating GHGs); Representative John Dingell, *Strengths and Weaknesses of Regulating Greenhouse Gas Emissions Using Existing Clean Air Act Authorities: Hearing on Climate Change Before the Subcomm. On Energy and Air Quality of the H. Comm. On Energy and Commerce*, 110th Cong. (2008) (calling regulating GHGs under the CAA a "glorious mess"); Jody Freeman, *Teaching an Old Law New Tricks*, N.Y. TIMES (May 29, 2014) (calling EPA's efforts to regulate under the CAA "the sad reality of climate policy in the United States circa 2014").

2. Massachusetts v. EPA, 549 U.S. 497 (2007).

Agency (EPA) to actually use the CAA to regulate GHGs.[3] Architects of the strategy—along with many observers—believed that successful lawsuits would raise the specter of regulating GHGs under the cumbersome and inflexible CAA and that Congress would replace the regulation with a more flexible market-based program.[4] Congress has not, of course, done so. Instead, *Mass v. EPA* has led EPA to embark on an extensive program to regulate GHGs from cars and trucks, power plants and large new factories that emit carbon pollution. Additional regulations of both new and existing sources like oil refineries and airplanes will likely follow.

I confess that I was among those who believed that the CAA was ill-suited to regulate GHGs. I have now changed my mind. Not only has the statute proved to be a workable way to regulate emissions, but its use for greenhouse gas regulation has also demonstrated that, in enacting the Clean Air Act in 1970, with subsequent amendments in 1977 and 1990, Congress showed remarkable foresight and prescience. The Act's use of a number of statutory devices—broad definitions; multiple and sometimes overlapping provisions to regulate sources of pollution; innovative structures of federalism; the inclusion of citizen suits and other forms of participation; the delegation of power to an expert agency; and a remarkable symmetry that runs through the Act—have created a statute that is surprisingly adaptable, durable and innovative.[5] For a statute that has often served as the poster child for inflexible, ill-conceived regulatory policy, the organic nature of the CAA has proven to be a significant virtue in regulating GHGs.

That is not to say that regulating carbon under the CAA is the best mechanism for doing so. Like many observers I believe placing a price on carbon is the most important and effective means to regulate GHG emissions, either through cap and trade or a tax.[6]

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3. *See, e.g.*, Hilary Sigman, *Legal Liability as Climate Change Policy*, 155 U. PENN L.REV. 1953, 1956 (2007); Phil Goldberg, *Why Progressives Should Cool to "Global Warming" Lawsuits*, PROGRESSIVE, POLICY INSTITUTE (Nov, 2010) at 1, http://www.progressivefix.com/wp-content/uploads/2010/11/11.2010-PPI_Memo-Goldberg-Global_Warming_Lawsuits.pdf; Coral Davenport, *How Green Groups Make the EPA Issue New Rules*, National Journal (June 13, 2013), http://www.nationaljournal.com/magazine/how-green-groups-make-the-epa-issue-new-rules-20130613.

4. *See* Davenport, *supra* note 3; Goldberg, *supra* note 3, Hari M. Osofsky, *Climate Change Legislation in Context*, 102 NW. U. L. REV. COLLOQUY 245, 248-50 (2008).

5. There is a robust literature on obsolescent, or at least old, statutes and whether and how to adapt them to new circumstances in the face of Congressional inaction. Seminal works include Roscoe Pound, *Anachronisms in Law*, 3 J. AM. JUD. SOC'Y 142 (1919) and Guido Calabresi, A COMMON LAW FOR THE AGE OF STATUTES (1982). Much of the debate about adapting statutes to new circumstances centers on which branch of government, the executive or the judiciary, should do the adapting. For a review of the literature and an analysis of the role administrative agencies play in responding to Congressional inaction, *see* Jody Freeman and David B. Spence, *Old Statutes, New Problems*, 163 U. PA. L. REV. 1, 3-4 (2014),

6. *See, e.g.*, National Academy of Sciences, *Limiting the Magnitude of Future Climate Change* (at 3) (2010) (recommending placing a price on carbon). For a discussion of cap and trade and its relationship

Congressional action to impose a carbon price would be a superior means to regulate. And in passing the Clean Air Act Congress hardly drafted a perfect statute. Its initial efforts to regulate hazardous pollutants, for example, led to nothing but stalemate[7] and its grandfathering in of existing sources that emit conventional pollutants created pathologies that we are still experiencing almost forty five years later.[8] Moreover there are predictable problems in implementation, including lengthy rulemaking proceedings, constant legal challenges, and step-by-step serial regulation rather than a comprehensive, one-time reform effort.[9] But for now we are left with the CAA as a second-best option and as such the statute has proven to be far more effective as a regulatory tool than I would have predicted. The Act also provides us with important lessons about how to draft a statute that incorporates provisions into it that allows it to remain effective and dynamic over many decades.[10] In this essay I outline the statutory mechanisms that have proved important in regulating GHGs and reflect on the qualities that have contributed to the Clean Air Act as a dynamic, adaptive statute.

II. A COMPREHENSIVE REGULATORY SCHEME

A. Citizen Suits

No description of the regulation of greenhouse gases under the Clean Air Act should ignore the central role citizen suits and other forms of citizen participation have played in getting EPA to address climate change.[11] Citizen participation led to *Massachusetts v. EPA*,[12] which began with a petition requesting

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to other policies to reduce carbon emissions, *see* Ann E. Carlson, *Designing Effective Climate Policy: Cap-and-Trade and Complementary Policies*, 49 HARV. J. ON LEGIS. 207 (2012). For an extensive analysis of why a carbon tax is more effective than cap-and-trade, *see* SHI-LING HSU, THE CASE FOR A CARBON TAX (2011).

7. *See* William A. Wichers II, Michael G. Cooke, Walter J. Kramarz, and Barbara H. Brandon, *Regulation of Hazardous Air Pollutants Under the New Clean Air Act: Technology-Based Standards at Last*, 22 ELR 10711 (1992).

8. *See* sources collected in n 95-102, *infra*.

9. That is not to say that a comprehensive program to regulate carbon would not face similar implementation and legal challenges. It is hard to imagine, for example, that the 1400+ page Waxman-Markey bill to establish a cap-and-trade program, would have been spared lengthy rulemakings and litigation. *See* Text of the American Clean Energy and Security Act, https://www.govtrack.us/congress/bills/111/hr2454/text.

10. I have written elsewhere about the importance of durability and flexibility in long-term energy policy, using the Clean Air Act as an example of a statute that has managed to incorporate both attributes. *See* Ann E. Carlson and Robert W. Fri, *Designing a Durable Energy Policy*, 142 DAEDALUS 119 (2013).

11. 42 U.S.C. § 7604.

12. 49 U.S. 497 (2007).

the agency to regulate GHGs from mobile sources.[13] The resulting regulations, issued in two phases covering model years 2012-2016 and 2017 to 2025, will lead to average fleet standards for passenger cars of 54.5 miles per gallon by 2025 and the first ever standards for medium and heavy duty vehicles for 2014-18 model years.[14] Total GHG reductions from the rules are expected to cut almost 6.3 billion metric tons of GHGs over the lifetimes of the vehicles.[15]

But the transportation sector is by no means the only one to face regulation as a result of a citizen intervention. After the Court issued its decision in *Mass v. EPA,* environmental groups filed a subsequent lawsuit to force action under Section 111 of the CAA. As a result, EPA entered into a consent decree under which it agreed to issue regulations for new and existing electric generating units and refineries. [16] The recently-released proposed regulations—though issued far after the date EPA was required to meet under the consent decree terms[17] have been described as the most significant federal climate policy ever adopted. [18] Transportation and electricity sector emissions together cover 60 percent of total domestic emissions.[19] Moreover the original *Mass v.* EPA lawsuit triggered a regulatory cascade that began but by no means ended with the issuance of auto standards. Without the inclusion of citizen participation in the CAA we simply would have no federal climate policy under the CAA.

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13. International Technology Assessment Center v. Browner, *Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions From New Motor Vehicles Under Section 202 of the Clean Air Act*, (Oct. 20, 1999), http://www.ciel.org/Publications/greenhouse_petition_EPA.pdf.

14. U.S. EPA, *EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks*, http://www.epa.gov/otaq/climate/documents/420f12051.pdf; *EPA and NHTSA Adopt First Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency from Medium and Heavy Duty Vehicles*, http://www.epa.gov/otaq/climate/documents/420f11031.pdf.

15. U.S. EPA, *EPA and NHTSA Set Standards*, *supra* note 14.

16. For an explanation of the consent decree and litigation, *see* EPA, *Settlement Agreement to Address Greenhouse Gases from Electric Generating Units and Refineries*, http://www2.epa.gov/sites/production/files/2013-09/documents/settlementfactsheet.pdf.

17. The new source EGU rules were supposed to be finalized by May 26, 2012. *See id.* They are now projected to be finalized in January 2015. *See* EPA, Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, http://yosemite.epa.gov/opei/rulegate.nsf/byRIN/2060-AQ91.

18. *See* Ryan Kornowski, *8 Things You Should Know About the Biggest Thing a President's Ever Done On Climate Change*, CLIMATE PROGRESS (June 2, 2014), available at http://thinkprogress.org/climate/2014/06/02/3443593/obama-historic-action-on-climate-change/.

19. *See* EPA, *Sources of Greenhouse Gases*, EPA.GOV http://www.epa.gov/climatechange/ghgemissions/sources/transportation.html. (last visited Oct. 11, 2014).

B. Innovative Arrangements of Federalism

Though a citizen petition led to Mass v. EPA, which in turn required EPA to determine whether GHGs from mobile sources endangered public health and welfare, another provision of the CAA helped accelerate—perhaps by years—the adoption of GHG mobile source standards in response to the endangerment finding. Section 209 of the CAA preempts all states from issuing emissions standards for cars and other mobile sources except for California.[20] California can issue its own standards provided the standards are at least as protective of public health and welfare as comparable federal standards. California used this special authority to issue the nation's first GHG standards under state legislation adopted in 2003. California's legislature delegated authority to promulgate state standards to its Air Resources Board, which in turn issued the standards—after extensive notice and comment—in 2004.[21] The standards were supposed to take effect for model years 2019-2016.[22] 17 states across the country then indicated that they would adopt the California GHG standards, as they are permitted to do under Section 220 of the CAA (they may choose between California or federal standards).[23] California could not proceed with its standards, however, without receiving a waiver of the preemption requirement from EPA.[24] Under the Bush Administration, EPA denied California its waiver.[25] California then challenged EPA's denial of its waiver in the Ninth Circuit Court of Appeal.[26] Before

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20. 42 U.S.C. § 7543(a),(b). Technically, Section 209 bars all states from issuing mobile source standards except those states that had emissions standards in place as of Mar. 30, 1966. Only California meets that criterion. *See* Motor Vehicle Mfrs. Ass'n v. N.Y. Dep't of Envtl. Conservation, 17 F.3d 521, 525 (2d. Cir. 1994)

21. CAL. AIR RES. BD., FACT SHEET: CLIMATE CHANGE EMISSION CONTROL REGULATIONS (2004), *available at* http://www.arb.ca.gov/cc/factsheets/cc_newfs.pdf.

22. *Id.*

23. For an explanation of this history, *see* Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1125-28 (2009).

24. 42 U.S.C. § 7543(b).

25. California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156, 12,168–69 (Mar. 6, 2008). The state, and other states that had joined the California standards, also faced suit from auto manufacturers who argued that California could not issue GHG standards because of a separate federal statute, the Energy Policy and Conservation Act. EPCA preempts all states from issuing fuel economy standards and the car manufacturers argued that GHG standards—even though measured by reductions in carbon dioxide emitted—were simply fuel economy standards masked as something else. In an extensive trial on the issue in Vermont (because Vermont had adopted the California standards), a district court upheld the California standards as consistent with EPCA. *See* Carlson, *Iterative Federalism*, *supra* note 18, at 1127.

26. Petition for Review of Decision of the U.S. EPA, Cal. v. EPA, No. 08-70011 (9th Cir. Jan. 2, 2008).

the Court could issue a decision, President Obama took office, and his EPA reversed the denial of the waiver.[27]

The Obama EPA also issued its endangerment finding as required by *Massachusetts v. EPA* not long after assuming office.[28] Once it issued the finding, it then turned to setting mobile source standards. Of course by that time California had already laid the groundwork for GHG standards and had in turn persuaded seventeen of its fellow states to adopt them. The Obama Administration took the California standards for model years 2012-2016 and adopted them in very similar form, using, for example, similar grams per mile standards and allowing fleet averages. [29] The Administration also persuaded the auto manufacturers to drop their lawsuits against the California standards.[30]

California's regulatory efforts were by no means the only reason the President issued stringent mobile source standards so quickly. His bailout of the auto industry also put the Administration in a powerful bargaining position to demand that the auto industry drop its challenges to the California rules and its opposition to more stringent fuel efficiency and GHG standards.[31] But it seems safe to assume that without the combination of section 209 of the Act, which gives California authority to act when the federal government refused to do so, and section 177, which allows other states to opt in, the Administration would have found it much more difficult to move as quickly as it did to issue standards that essentially paralleled the California standards. Given the precarious financial situation of the auto industry, combined with the leverage the President had over it through the bailout, having an almost ready-made package of regulations ready to go as a result of the CAA's unusual federalism arrangement helped seal the deal.

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27. Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 74 Fed. Reg. 32,744 (July 8, 2009).

28. *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,* EPA.GOV, http://www.epa.gov/climatechange/endangerment/ (last visited Oct. 6, 2014).

29. For the documents explaining this history and including the federal standards, see *Transportation and Climate—Regulations and Standards, Presidential Announcements and Letters of Support*, EPA.GOV, http://www.epa.gov/otaq/climate/letters.htm#2009al (last visited Oct. 6, 2014).

30. *Id.*

31. *See* Sheryl Gay Stolberg & Bill Vlasic, *President Gives a Short Lifeline to Carmakers*, N.Y. TIMES (Mar. 30, 2009), http://www.nytimes.com/2009/03/31/business/31auto.html?pagewanted=all&_r=0.

C. Expansive Regulatory Definitions

For a number of key terms contained in the CAA, Congress used definitions that allow – indeed require – EPA to regulate broadly with ample room for designing flexible regulatory schemes. These definitions ensure that the Act is not static. The terms allow EPA to respond to pollution threats, such as climate change, with tools that can be adapted to the nature of the pollution problem. In regulating greenhouse gases, at least two of these broad terms, "air pollutant" and "standards of performance," have been key to EPA's regulatory authority.

1. "Air Pollutant"

Rather than specifying in advance exactly which pollutants the CAA covers, Congress drafted the definition of "air pollutant" expansively. An air pollutant is "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." [32] This expansive definition is important because it allows EPA—which is directed in various provisions of the Act to regulate air pollutant—to respond to new scientific information about the health and welfare effects of airborne pollutants. The definition of air pollutant was, of course, at the center of *Massachusetts v. EPA*.[33] Though the Bush EPA argued that Congress never intended to include greenhouse gases under the CAA's extensive regulatory apparatus, the Supreme Court had an entirely different view. In calling the definition of air pollutant "sweeping," Justice Stevens wrote:

> While the Congresses that drafted § 202(a)(1) might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. The broad language of § 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence. See *Pennsylvania Dept. of Corrections* v. *Yeskey*, 524 U.S. 206, 212 (1998) ("[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does

32. 42 U.S.C. § 7602(g) (2012).
33. 549 U.S. 497 (2007).

> not demonstrate ambiguity. It demonstrates breadth" (internal quotation marks omitted)).[34]

The result of this expansive definition—and other provisions that also reflect Congressional intent to maintain the CAA as an organic, dynamic statute—is the regulation of greenhouse gases.

2. "Standards of Performance"

Air pollutant is not the only term in the CAA that Congress defined expansively. Section 111, under which EPA has issued its most far-reaching proposed regulations for greenhouse gases to date, includes within it a definition of the term "standards of performance."[35] Before describing the way in which the breadth of the definition leaves ample room for EPA to consider a range of regulatory options a bit of background is in order.

In June of 2014, EPA released its proposed rules for emissions from the country's existing power plants (Electric Generating Units in EPA parlance).[36] The rules are so significant because electricity generation is the largest source of U.S. greenhouse gases, contributing almost a third of total emissions.[37] EPA had already issued proposed rules for new power plants.[38] The Clean Power Plant rule is the first federal rule to require GHG reductions from *existing* sources. Given the extraordinarily long lives of power plants, including some that have operated since the 1940s, the regulation of existing plants is crucial to cutting overall U.S. emissions.[39] The term "standards of performance" is the key basis for the substance of EPA's regulations, allowing the agency to design a remarkably creative and flexible regulatory program.

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34. *Id.* at 532; *see also* Megan Herzog, *A Response to John Nagle: The Clean Air Act as a Whole Supports Climate Regulation*, LEGAL PLANET, (July 29, 2014), http://legal-planet.org/2014/07/29/a-response-to-john-nagle-the-clean-air-act-as-a-whole-supports-climate-regulation/.

35. 42 U.S.C. § 7411(a) (2012).

36. *See Carbon Pollution Standards—Clean Power Plan Proposed Rule*, EPA.GOV, http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule (last visited Oct. 6, 2014) [hereinafter *Clean Power Plan*].

37. *See Sources of Greenhouse Gases*, EPA.GOV, http://www.epa.gov/climatechange/ghgemissions/sources.html (last visited Oct. 6, 2014).

38. *See Standards of Performance for Greenhouse Gas Emissions from New Stationary Source Generating Units*, EPA.GOV, http://yosemite.epa.gov/opei/rulegate.nsf/byRIN/2060-AQ91 (last visited Oct. 6, 2014).

39. Just over half of the country's generating capacity is more than thirty years old. U.S. Energy Info. Admin., *Frequently Asked Questions—How Old Are U.S Power Plants?*, http://www.eia.gov/tools/faqs/faq.cfm?id=110&t=3 (last updated Mar. 22, 2013). The average age of a coal fired power plant is forty-two years, and ten plants still in operation were built in the 1940s. *See* Steven Mufson, *Vintage U.S. Coal-Fired Power Plants Now an 'Aging Fleet of Clunkers'*, WASH. POST (June 13, 2014), http://www.washingtonpost.com/business/economy/a-dilemma-with-aging-coal-plants-retire-them-or-restore-them/2014/06/13/8914780a-f00a-11e3-914c-1fbd0614e2d4_story.html.

EPA issued its proposed rules (know as the Clean Power Plan) under section 111 of the CAA.[40] Section 111 generally governs new sources (hence its title, "New Source Performance Standards") but under some circumstances, including for greenhouse gases, extends its provisions to existing polluters. Section 111(b) requires the EPA Administrator first to list categories of stationary sources that "cause, or contribute significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[41] Once listed, the Administrator must then establish federal "standards of performance" for the new sources within the listed category. Existing sources are then included within section 111's reach through section 111(d).[42] Generally speaking, section 111(d) is for types of pollutants from existing sources that are not regulated under other sections of the CAA. Section 111(d) directs the EPA Administrator to establish procedures to require states to develop plans to establish "standards of performance" for existing sources that a) have new source performance standards issued; b) are not covered under the section of the CAA that establishes National Ambient Air Quality Standards (NAAQS) and c) are not covered under the Hazardous Air Pollutant section of the Act.[43]

Section 111 contains its own definition section, which includes the term "standards of performance" and defines it as follows:

> The term "standard of performance" means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.[44]

As the language of the section demonstrates, EPA has significant flexibility in determining what types of performance standards it can direct states to include in their plans to regulate air pollutants from new and existing sources under section 111(d). In implementing regulations, EPA has fleshed out in more detail its interpretation of the term, including within its definition of

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40. 42 U.S.C. § 7411.
41. *Id.* § 7411(b).
42. *Id.* § 7411(d).
43. *Id.*
44. *Id.* § 7411(a)(1).

"standard of performance" an "allowable rate of emissions," an "allowance system" and "prescribed equipment specifications."[45]

EPA's proposed Clean Power Plan relies on this expansive and flexible definition to do several notable things. First, it sets an overall "rate-based" emission standard for carbon dioxide each state must meet based on the amount of carbon dioxide emitted for every megawatt hour of electricity produced (consistent with its interpretation of "standards of performance" to include an "allowable rate of emissions").[46] This rate-based standard can also be converted into the tons of CO_2 a state can emit per year (known as a "mass-based standard").[47] Then, rather than requiring rigid emissions reductions to be imposed on each of a state's power plants, EPA determined that the "best system of emission reduction" (part of the definition of "standards of performance") could include not just improvements in the emissions from individual power plants, such as increased efficiency in the way the plant operates. Instead, the Clean Power Plan defines the "best system of emission reduction" to include reductions outside the boundaries (or "fence line") of the individual plants. States can include as a system of emission reduction new, cleaner generation from renewable energy sources like wind and solar; from energy efficiency by consumers of electricity (businesses and residential customers) to reduce their consumption through measures like adding insulation, installing more energy efficient appliances, and so forth; and by relying less on power plants that generate electricity from coal and more on plants that use natural gas (called redispatching).[48] The result is that the proposed rules allow for broader-based reductions that are designed to be more cost-effective – and also more far-reaching—than traditional standards imposed directly on a power plant. Again, this flexible proposal depends on the expansive statutory definition of standards of performance.

Finally, and importantly, EPA defined standards of performance to encourage states to engage in regulatory activity

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45. 40 C.F.R. § 60.24(b) (2003). For an excellent analysis of the legal issues surrounding section 111(d) and greenhouse gases, see Robert R. Nordhaus & Ilan W. Gutherz, *Regulation of CO_2 Emissions from Existing Power Plants Under § 111(d) of the Clean Air Act: Program Design and Statutory Authority*, 44 ENVTL. L. REP. 10366 (2014).

46. For an excellent overview of the Clean Power Plan, see Megan Herzog, *EPA Releases Section 111(d) Rule For Existing Power Plants*, LEGAL PLANET (June 2, 2014), http://legal-planet.org/2014/06/02/epa-releases-section-111d-rule-for-existing-power-plants/. For the text of the rule, see *Clean Power Plant*, *supra* note 36.

47. *Clean Power Plant*, *supra* note 36; Herzog, *supra* note 46.

48. *See FACT SHEET: Clean Power Plan Flexibility*, EPA.GOV, http://www2.epa.gov/carbon-pollution-standards/fact-sheet-clean-power-plan-flexibility (last visited Oct. 6, 2014); Herzog, *supra* note 46.

with other states.[49] EPA was explicit in recognizing existing state programs that reduce greenhouse gases as appropriate standards of performance, including state Renewable Portfolio Standards,[50] California's extensive regulatory program under its Global Warming Solutions Act, [51] and the Regional Greenhouse Gas Initiative of a group of northeastern states.[52]

Thus, through the flexible and open-ended definition of standards of performance Congress included in Section 111, EPA has drafted a proposal—thought by many observers to be legally defensible—[53]that give states a wide range of flexible, cost-effective options to regulate the electricity sector to produce 30 percent cuts in carbon emissions by 2030.[54] Recall the fears of many observers that applying the CAA to greenhouse gases would prove inflexible, expensive and draconian. Yet, Congress's choice to define standards of performance to give EPA regulatory flexibility has produced instead a proposed program that allows states to engage in regional market-based programs like cap-and-trade, use consumer-based energy efficiency measures to reduce greenhouse gases, encourage alternative energy facilities as compliance measures and avoid entirely imposing traditional, command and control measures directly on existing power plants.

D. Cascading Regulatory Requirements

The CAA also contains a remarkably elegant and symmetrical set of statutory directives that ensure that EPA will regulate pollutants comprehensively rather than in a piecemeal fashion. For greenhouse gases, which come from multiple sources and have global, not local effects, this symmetrical language is key to getting the agency to address emissions from virtually all the major sources of pollutants.[55]

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49. *See id.*

50. *See* WARREN LEON, CLEANENERGY STATES ALLIANCE, THE STATE OF STATE RENEWABLE PORTFOLIO STANDARDS (2013), *available at* http://www.cesa.org/assets/2013-Files/RPS/State-of-State-RPSs-Report-Final-June-2013.pdf.

51. *See* California Air Resources Board, *Assembly Bill 32 Overview*, CA.GOV, http://www.arb.ca.gov/cc/ab32/ab32.htm (last updated Aug. 5, 2014).

52. *See* REGIONAL GREENHOUSE GAS INITIATIVE: AN INITIATIVE OF THE NORTHEAST AND MID-ATLANTIC STATES, http://rggi.org (last visited Oct. 6, 2014).

53. *See, e.g.*, Gregory E. Wannier, Jason A. Schwartz, Nathan Richardson, Michael A. Livermore, Michael Gerrard & Dallas Burtraw, *Prevailing Academic View on Compliance Flexibility Under Section 111 of the Clean Air Act*, RESOURCES FOR THE FUTURE DISCUSSION PAPER at 1 (July 2011), http://www.law.columbia.edu/null/download?&exclusive=filemgr.download&file_id=60994 ("There is widespread agreement in the academic community that § 111 authorizes the use of many types of flexible approaches [for existing sources]").

54. *See* U.S. EPA, *FACT SHEET: Clean Power Plant Overview* (Sept. 24, 2014, 10:34 PM), http://www2.epa.gov/carbon-pollution-standards/fact-sheet-clean-power-plan-overview.

55. Again, my claim is not that the CAA approach to regulating GHGs is the best solution; merely that Congress drafted a statute that is remarkably comprehensive and far-reaching.

The Act envisions comprehensive coverage of ubiquitous pollutants by using two tactics. First, it repeats language and terms in various sections of the law, each of which requires a different form of regulation. Second, it considers sources and types of pollution across various categories of emitters and across various jurisdictions. I consider each in turn.

III. REPETITIVE LANGUAGE

A. Use of The Term "Air Pollutant"

One of the key issues decided in *Massachusetts v EPA* was, of course, that greenhouse gases constitute air pollutants under the Act. EPA then decided that GHGs from mobile sources endanger public health or welfare, triggering its responsibility to issue GHG standards for vehicles. The decision to issue GHG standards for vehicles then led to the first action EPA took to regulate GHGs from stationary sources like factories and power plants. EPA believed that its vehicle GHG regulations required it to issue regulations for GHGs under a separate provision of the CAA: the Prevention of Significant Deterioration (PSD). [56] The PSD provisions require certain new and modified stationary sources to obtain permits and install emissions-reducing technology prior to operating.[57]

EPA's New Source Review (NSR) PSD regulations for stationary sources stemmed from language in the PSD provisions that requires permits for new and modified sources that emit 250 tons per year or more of any "air pollutant."[58] Once the Supreme Court decided that GHGs are air pollutants, EPA believed it had little choice but to regulate stationary sources under the PSD provisions.[59] This belief was further bolstered by language in the PSD provision requiring major sources (those emitting 250 tons per year or more of any air pollutant) to install "best available control technology" for "each *pollutant* subject to regulation under" the Act.[60] Because GHGs were now regulated under Section 202, the mobile source provision of the Act, they became pollutants subject to regulation under the Act. As a result, EPA determined

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56. *See* Util. Air Regulatory Grp. v. E.P.A., 134 S. Ct. 2427, 2436 (2014) ("Under EPA's view, once greenhouse gases became regulated under any part of the Act, the PSD and Title V permitting requirements would apply to all stationary sources with the potential to emit greenhouse gases in excess of the statutory thresholds").

57. 42 U.S.C. §§ 7470-79.

58. 42 U.S.C. §§ 7475, 7479.

59. EPA made this argument explicitly in *Util. Air Regulatory Grp. v. E.P.A.*, 134 S. Ct. 2427 (2014).

60. 42 U.S.C. § 7475 (emphasis added).

that it was required to issue regulations to implement the NSR PSD provision for GHGs.

The Supreme Court found EPA's interpretation of the PSD language to be largely permissible, upholding the application of the PSD provisions to large emitters of greenhouse gases in its recent UARG decision.[61] Five members of the Court did not agree that EPA's interpretation of the language requiring the application of the PSD provisions was, in fact, mandatory, but nevertheless held that the interpretation was a reasonable one.[62] The dissenters, led by Justice Breyer, agreed with EPA's position that the PSD provision compelled the agency to regulate.[63] Regardless of the Court's reasoning, EPA's regulations were largely upheld based on Congressional use of the term "air pollutant" in a manner that triggered regulation of stationary sources once EPA began regulating mobile sources.

B. Use of "Endangerment" Language

Once the Court in *Massachusetts v. EPA* decided that greenhouse gases fit the definition of "air pollutant" under the CAA, the Court then determined that the statutory language of Section 202 of the Act required the agency to decide whether GHGs emitted from automobiles "may reasonably be anticipated to endanger public health or welfare."[64] Despite a number of EPA arguments that various policy considerations allowed it to avoid making such an "endangerment finding," the Court found that the language of the statute, saying that the EPA Administrator "shall by regulation prescribe (and from time to time revise)" emissions standards, required the agency to decide whether GHGs emitted from cars endanger public health or welfare.[65] Put a different way, EPA could not decide not to decide whether GHGs endanger public health or welfare.

EPA eventually, of course, made its endangerment finding and began regulating greenhouse gases from passenger automobiles and, eventually, heavy duty engines.[66] The significance of EPA's finding of endangerment, however, goes far beyond regulating mobile sources. Congress included similar language in seven

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61. *Util. Air Regulatory Grp.*, 134 S. Ct. at 2448.
62. *Id.* at 2439.
63. *Id.* at 2450.
64. Massachusetts v. E.P.A., 549 U.S. 497, 497 (2007).
65. *Id.* at 506.
66. *See* discussion *supra* notes 27-8.

additional sections of the CAA, most of which could be triggered once EPA found endangerment under Section 202.[67]

To date, Section 111, the New Source Performance Standard provision described above, is the only additional section containing endangerment language that has led to GHG regulation. Recall that Section 111 requires the EPA Administrator to issue performance standards for those sources she includes on a list of categories of sources. The list is to include a category of sources "if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[68] Once EPA found that GHG emissions from mobile sources endanger public health or welfare, the only logical conclusion was that GHG emissions from power plants do as well. Indeed, a group of state petitioners and environmental groups filed suit in the D.C. Circuit to compel EPA to issue New Source Performance Standards for greenhouse gases emitted from Electric Generating Units (EGU)[69] on the basis that *Massachusetts v. EPA* compelled such a finding. EPA settled the case and agreed to a timetable (which the agency missed by several years) to issue NSPS for both new and existing power plants.[70] The result is the proposed Clean Power Plan described above.

Four other provisions of the CAA also contain endangerment language nearly identical to the mobile source language that could be used to regulate GHGs, though to date none has resulted in EPA action to regulate greenhouse gases under them. Sections 7457 (non-road engines) and 7571 (aircraft engines) both contain the endangerment language and EPA faces petitions asking that it regulate greenhouse gases from these sources as a result of *Massachusetts v. EPA*. The petitions ask the agency to regulate emissions from marine vessels, aircraft engines, and locomotives as well as fuels from aircraft, motor vehicles and non-road

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67. The sections are 42 U.S.C. §§ 7408 (NAAQS), 7411 (New Source Performance Standards), 7415 (International Air Pollution), 7511b (Federal ozone measures), 7547 (Nonroad engines and vehicles), 7571 (aircraft) and 7671n (stratospheric ozone). With the exception of Sections 7511(b) and 7671(n), all are relevant to greenhouse gases.

68. 42 U.S.C. § 7411(b)(1)(a).

69. State of New York et al. v. EPA, No. 06 - 1322 (D.C. Cir. 2014). For a description of the procedural posture of the petition and subsequent litigation, see Arnold W. Reitze, Jr., *EPA's Proposed New Source Performance Standards to Control Green House Gas Emissions From Electric Utility Generating Units*, (April 26, 2012), at 3, http://harrisonlawllc.com/wp-content/uploads/2012/05/EPAs-NSPS-for-EGUs-April-26-2012.pdf; Nathan Richardson, *EPA Greenhouse Gas Performance Standards: What the Settlement Agreement Means*, RESOURCES FOR THE FUTURE ISSUE BRIEF, (Feb., 2011) at 1-4, http://www.rff.org/RFF/Documents/RFF-IB-11-02.pdf.

70. *See* U.S. EPA, *Settlement Agreements to Address Greenhouse Gases from Electric Generating Units and Refineries, Fact Sheet*, http://www2.epa.gov/sites/production/files/2013-09/documents/settlementfactsheet.pdf.

engines.[71] One set of petitions has led to litigation to force EPA to regulate GHGs from marine and aircraft engines. Relying on *Massachusetts v. EPA*, a federal district court held in 2011 that EPA must make an endangerment finding about emissions from these sources. [72] Although EPA has agreed to prepare an endangerment finding for aircraft, its delay in doing so has led petitioners to file a Notice of Intent to Sue to force EPA to regulate GHGs from aircraft engines.[73]

Two other provisions that contain endangerment language are more complicated legally than the non-road and aircraft engine provisions and it is less clear whether EPA can be compelled to regulate under them. The first is Section 108, the section that establishes the National Ambient Air Quality Standards together with Section 109.[74] Section 108 requires the EPA to issue National Ambient Air Quality Standards for air pollutants "emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[75] Thus it contains endangerment language parallel to Section 202's. Once a pollutant is listed as a NAAQS, an elaborate process kicks in that requires the Administrator to set ambient standards limiting the amount of the pollutant to levels designed to protect public health, welfare and the environment.[76] States must then submit plans to EPA setting forth how they will meet the standards and remain in compliance with them.[77] Section 108 (a)(1), on its face, would appear to apply to GHGs. The full language of the provision is as follows:

> (1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant—
> (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be

71. *See* James E. McCarthy & Brent D. Yacobucci, *Cars, Trucks and Climate: EPA Regulation of Greenhouse Gases from Mobile Sources*, CONG. RES. SERV. at 10, 11 (Mar. 13, 2014), http://fas.org/sgp/crs/misc/R40506.pdf.

72. Ctr. for Biological Diversity v. EPA, 794 F. Supp. 2d 151 (2011).

73. *See* Letter from Earth Justice, Friends of the Earth to Gina McCarthy, EPA Administrator, EPA.GOV, http://www.climatesciencewatch.org/wp-content/uploads/2014/08/Aircraft_Unreasonable_Delay_Notice_Letter_CBD_FOE_14-08-05.pdf (Aug. 5, 2014).

74. 42 U.S.C. §§ 7408, 7409.

75. 42 U.S.C. § 7408(a)(1)(A) (1998).

76. *See* U.S. EPA, *National Ambient Air Quality Standards (NAAQS)*, EPA.GOV, http://www.epa.gov/air/criteria.html

77. *See* U.S. EPA, *State Implementation Plan Status and Information*, EPA.GOV, http://www.epa.gov/air/urbanair/sipstatus/

> anticipated to endanger public health or welfare;
> (B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and
> (C) for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section.[78]

GHGs clearly meet the first two criteria given that the Administrator has already made an endangerment finding and that carbon is emitted from numerous, diverse mobile and stationary sources. And in the only case to consider whether the Administrator must list pollutants as criteria pollutants as long as the first two criteria are met, the D.C. Circuit held in *NRDC v. Train*[79] that the duty to list is mandatory.[80]

EPA has to date avoided regulating under Section 108 despite the fact that it faces a petition to list GHGs as criteria pollutants and then set national standards for states to meet.[81] There are numerous reasons why setting NAAQS for GHGs could prove to be difficult, including deciding on the appropriate level of GHGs in the atmosphere necessary to remove the endangerment, the share of global GHGs for which the United States is responsible, and the share of the U.S. total for which each state is responsible. Moreover, the length of time GHGs remain in the atmosphere may also make it potentially difficult for states to meet the standard given statutory deadlines specified in the CAA.[82] And to date, perhaps given the progress the EPA has made in regulating cars, heavy duty vehicles, and power plants, petitioners have not moved forward with a lawsuit to force a determination of whether to issue a NAAQS for GHGs. The somewhat awkward fit of the NAAQS process for GHGs could lead a court to allow the EPA to avoid regulating under it. On the other hand, given the important role states are playing in the regulation of existing power plants under Section 111(d), regulating GHGs under Section 108 might be less onerous and problematic than previous commentators have

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78. 42 U.S.C. § 7408(a)(1).

79. NRDC v. Train, 545 F.2d 320 (2d Cir. 1976).

80. For an argument that *Train* was wrongly decided and does not compel EPA to list greenhouse gases under Section 108, *see* Craig Oren, *When Must EPA Set Ambient Air Standards? Looking Back at NRDC v. Train*, 30 UCLA J. ENVTL. L. 157 (2012).

81. CTR. FOR BIOLOGICAL DIVERSITY & 350.ORG, PETITION TO ESTABLISH NATIONAL POLLUTION LIMITS FOR GREENHOUSE GASES PURSUANT TO THE CLEAN AIR ACT 25 (2009), *available at* http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf.

82. *See* Robert R. Nordhaus, *New Wine into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L.J. 53, 60-63 (2007); Oren, *supra* note 39, at 158-59; Craig N. Oren, *Is the Clean Air Act at a Crossroads?*, 40 ENVTL. L. 1231, 1247 (2010).

suggested. The EPA has shown in its proposed existing source rule that it can set overall targets for each state to meet in reducing power plant GHGs that are sensitive to state differences in fuel mix, electricity markets, and available cost-effective strategies for reducing emissions.[83] Given that EPA has now set mobile source standards for light and heavy duty vehicles and proposed regulating emissions from existing power plants, the task of setting a NAAQS for GHGs seems at least less daunting than previously predicted. EPA is likely to continue to avoid doing so, however, as long as it faces no pressure to do so from outside parties.[84]

The final CAA section containing endangerment language demonstrates just how far-reaching the CAA is and just how comprehensively Congress intended to regulate. Section 115, entitled "International Air Pollution," is a little-known provision with potentially far-reaching implications for GHG regulation.[85] The provision offers a means for the executive branch to require states to address air pollution that threatens a foreign country, in exchange for reciprocal protections by that country. The provision has been invoked by the EPA only once, in the 1980s, in an early attempt to control acid rain pollution generated in the United States and Canada.[86] Nevertheless, its applicable language seems directly relevant to GHG pollution:

> Sec. 115. International air pollution
>
> (a) Endangerment of public health or welfare in foreign countries from pollution emitted in United States
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> Whenever the Administrator, upon receipt of reports, surveys or studies from any duly constituted international agency has reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may

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83. For an explanation of the state goals and factors EPA took into account in setting them, see Janet McCabe, U.S. E.P.A., *Understanding State Goals Under the Clean Power Plan*, EPA CONNECT (June 4, 2014, 2:54 PM), http://blog.epa.gov/epaconnect/2014/06/understanding-state-goals-under-the-clean-power-plan.

84. Indeed President Obama's first EPA Administrator, Lisa Jackson, told the *New York Times* that she has "never believed and this agency has never believed that setting a national ambient air quality standard for greenhouse gases was advisable." *See* Anne C. Mulkern, Allison Winter & Robin Bravender, *Brazen Environmental Upstart Brings Legal Muscle, Nerve to Climate Debate*, N.Y. TIMES (Mar. 30, 2010), http://www.nytimes.com/gwire/2010/03/30/30greenwire-brazen-environmental-upstart-brings-legal-musc-82242.html?pagewanted=all.

85. 42 U.S.C. § 7415 (2012).

86. *See* John L. Sullivan, *Beyond the Bargaining Table: Canada's Use of Section 115 of the United States Clean Act to Prevent Acid Rain*, 16 CORNELL INT'L L.J. 193 (1983).

> reasonably be anticipated to endanger public health or welfare in a foreign country or whenever the Secretary of State requests him to do so with respect to such pollution which the Secretary of State alleges is of such a nature, the Administrator shall give formal notification thereof to the Governor of the State in which such emissions originate.
>
> (b) Prevention or elimination of endangerment
>
> The notice of the Administrator shall be deemed to be a finding under section 7410(a)(2)(H)(ii) of this title which requires a plan revision with respect to so much of the applicable implementation plan as is inadequate to prevent or eliminate the endangerment referred to in subsection (a) of this section. Any foreign country so affected by such emission of pollutant or pollutants shall be invited to appear at any public hearing associated with any revision of the appropriate portion of the applicable implementation plan.
>
> (c) Reciprocity
>
> This section shall apply only to a foreign country which the Administrator determines has given the United States essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country by this section.[87]

As the text of Section 115 demonstrates, its operation is relatively straightforward. The EPA Administrator must first make an endangerment finding that air pollutants emitted in the United States "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country,"[88] language nearly identical to Section 202 except that the concern is over endangerment in foreign country. Alternatively, the Secretary of State can request the Administrator to act in response to pollution the Secretary "alleges is of such a nature."[89]

The endangerment finding does not, however, automatically trigger responsibility on the part of states to regulate their

87. 42 U.S.C. § 7415 (2012).
88. *Id.* § 7415(a).
89. *Id.*

emissions. Instead, the Administrator must also find "reciprocity," which means that she must determine that the endangered foreign country gives to the United States "essentially the same rights with respect to the prevention or control" of its own air pollution as is provided by Section 115.[90]

Section 115 requires that, once both conditions are met, the Administrator notify the governor of each state where the pollution originates.[91] The state must then revise its State Implementation Plan (SIP), which is required under Section 110 of the CAA to demonstrate how the state will meet air standards. Under Section 115, the SIP must address emissions when the SIP "is inadequate to prevent or eliminate the endangerment."[92] Section 110(a)(2)(A) provides states with considerable discretion in how to address the pollution. Among the tools available are "economic incentives such as fees, marketable permits, and auctions of emissions rights."[93] If a state fails to submit a revised SIP, or if the state's SIP is inadequate or incomplete, the EPA must promulgate a Federal Implementation Plan for the state.[94]

Given the global nature of climate change caused by the emission of GHGs, it seems fairly clear that the logic of the EPA's endangerment finding under Section 202 would extend to Section 115. There are obvious questions, however, about exactly how Section 115 would operate with respect to GHGs. For example, does the Administrator have a non-discretionary duty to determine whether pollutants endanger public health or welfare in a foreign country, as it does with respect to emissions that endanger domestic public health or welfare? What is the meaning of reciprocity for a global pollutant? Would it suffice to establish reciprocity with, say, the European Union, which has embarked on extensive GHG regulation, in order to impose Section 115 obligations on states, or should reciprocity for a global pollution problem include the world's largest current emitter, China? What actions to reduce GHGs would a country need to demonstrate in order for the Administrator to find reciprocity? What would be the extent of the obligations states should meet in order to "prevent or eliminate the endangerment" for a pollutant that is emitted by all countries across the globe?

Although the exact scope of applying Section 115 to GHGs is unclear, the inclusion of the provision in the CAA demonstrates just how broad-ranging Congress intended the statute to be. Its

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90. *Id.* § 7415(c).
91. *Id.* § 7415(a).
92. *Id.* § 7415(b).
93. 42 U.S.C. § 7410(a)(2)(A).
94 *Id.* § 7410(c)(1).

concern was not just domestic emissions but U.S. emissions that harm the public and the environment of other countries.

IV. COMPREHENSIVE, OVERLAPPING REGULATORY REQUIREMENTS

The CAA's many mechanisms for regulating GHGs also demonstrate the no-stone-left-unturned vision of Congress. Virtually every potential source of GHGs, from ships, to aircraft, to power plants, to cars and trucks, has a provision devoted to it. The states have already played a powerful role in developing regulatory models and will continue to exercise significant discretion in determining how to cut emissions from the electricity sector. International emissions could be the subject of mutual regulatory activity. Both new and existing stationary sources must cut emissions. New sources must not only get permits under the PSD program but must also meet performance standards for the equipment they install. EPA has mandatory duties, yet it also has discretion about the best means to implement those duties. And private individuals can seek to ensure that EPA meets its regulatory responsibilities through citizen suit provisions. I highlight a few of the particularly interesting means Congress has chosen to implement this comprehensive vision below.

A. New and Existing Stationary Sources

Perhaps no provision has proven as far reaching or as surprising in the regulation of GHGs as Section 111 of the CAA. The Act's more general distinction between new and stationary sources has long been the subject of significant, appropriate—indeed scathing—criticism.[95] Existing emitters of conventional pollutants covered by the NAAQS were essentially grandfathered into the Act in 1970, apparently on the grounds that they would be retired over a few decades and eliminate the need for regulation.[96] But particularly in the power sector, those retirements failed to occur, leaving the oldest, dirtiest sources operating far beyond what was expected to be their shelf lives.[97] Only now, through a combination of regulation under the hazardous air pollutant portion of the Act and through regulating cross-border acid rain and ozone pollution caused primarily by old coal-fired power plants

95. *See, e.g.*, Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation*: *The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1667 (2007).

96. *See id.* at 1681-82.

97. *See supra* note 80 (noting that average life of coal-fired power plants is forty-two years and that a number of plants built in the 1940s are still operating).

in the Midwest and southeast, are the oldest, dirtiest plants either shutting down or cleaning up.[98] New and modified stationary sources of conventional pollutants, by contrast, face regulation under both the NSR provisions (and in the case of regions that fail to meet the NAAQS face especially stringent standards) and the NSPS, Section 111(b) requirements.[99] Section 111(d) does not apply to existing sources of NAAQS pollutants. The distinction between new and old sources of conventional pollutants has led to perverse incentives for existing sources to avoid being considered modified sources and might be the single biggest weakness of the Act.[100]

However, for sources that emit pollutants not covered by the NAAQS or by the hazardous air pollutants section of the CAA (which also treats new and existing stationary sources differently, though the distinction is by no means as severe), Section 111 proves quite potent. As described in detail above, once EPA has issued new source performance standards for a category of new sources, it must then regulate existing sources by issuing standards of performance for states to implement. Prior to the issuance of the Clean Power Plan, Section 111(d) had been invoked only rarely.[101] Most stationary sources are regulated either under the NAAQS or HAP sections. But Congress showed remarkable foresight in adding Section 111(d), apparently precisely to address pollutants not yet known at the time the CAA was adopted in 1970.[102] In 1970, Congress clearly didn't view carbon dioxide as a harmful pollutant, yet it also included language precisely to apply to newly discovered pollutants.

B. Mix of Mandatory Duties and Discretion

Congress also used a very interesting mix of mandatory language and open-ended terms that both require the EPA to respond to information about new pollutants but also give the agency fairly significant discretion to determine how to regulate those pollutants. The result is a statute that does not allow the EPA to avoid Congressional directives—at least if someone is willing to hold the agency to its statutory responsibilities through

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98. *See Planned Coal-Fired Power Plant Retirements Continue to Increase*, U.S. ENERGY INFO. ADMIN. (Mar. 20, 2014), http://www.eia.gov/todayinenergy/detail.cfm?id=15491.

99. *See New Source Review*, EPA.GOV, http://www.epa.gov/nsr/.

100. *See* Jody Freeman & David B. Spence, *Old Statutes, New Problems*, *supra* n. 5 at 33-34; Nash & Revesz, *supra* note 95, at 1718.

101. *See* Nordhaus & Gutherz, *supra* note 28, at 10368-70.

102. *See* Coral Davenport, *Brothers Battle Climate Change on Two Fronts*, N.Y. TIMES (May 10, 2014), http://www.nytimes.com/2014/05/11/us/brothers-work-different-angles-in-taking-on-climate-change.html?_r=0 (describing role Robert Nordhaus played in drafting Section 111(d) in 1970).

a citizen suit—yet vests the EPA with the authority, within bounds, to determine the form of that regulation. This mix of mandate and regulatory flexibility is a quite thoughtful one.

It is worth stressing again that, were EPA left to its own accord, it would almost certainly not have regulated GHGs under the CAA, or at least there would not be anywhere close to the regulatory coverage it has achieved to date. Not only did the agency actively fight an interpretation of the Act that led to the Court's landmark *Mass v. EPA* decision holding that GHGs are pollutants, but even under an ideologically more sympathetic administration, the agency has been sued repeatedly to regulate everything from emissions from electric generating units and oil refineries to ship and air craft emissions. Without the combination of citizen suits and mandatory language such as that contained in Sections 202 and 111 ("the agency *shall*"), the EPA could easily avoid using the CAA to regulate the sorts of unknown pollutants, like CO_2, that Congress apparently contemplated in parts of the statute like Section 111 and the definition of air pollutant.

Yet just as Congress could not anticipate every pollutant problem that might arise, it could also not specify in advance how to regulate every pollutant. Thus it delegated significant authority and discretion to the agency—and importantly to states—to determine how best to reduce the emissions of newly discovered pollutants. It did so, again, through generalized terms like "standards of performance" and "best systems of emissions reduction" that allow EPA to exercise its expert judgment after public notice and comment to design a regulatory approach that is well-suited to the context and circumstances of the pollutants being emitted.

V. CONCLUSION

In outlining what I consider to be the many strengths of the CAA and the rather remarkable foresight of its enacting Congress, I do not mean to ignore the potential pitfalls and problems of the Act. To name only a few, the process for regulating is remarkably cumbersome, with the EPA's approach requiring long, drawn out regulatory processes for each rulemaking. *Mass v. EPA* was decided in 2007. Seven years later we have regulations in place only for vehicles and new sources under the PSD program. There remains significant legal uncertainty that EPA's regulatory program under Section 111, once finalized, will be upheld. Rather than designing a program from scratch that is specifically aimed at GHGs, the EPA must work within statutory language that is

sometimes at obvious odds with the problem of GHG pollution. The "tailoring rule" under the PSD program—under which EPA struggled to apply the provisions only to large sources even though the clear language of the statute applied the provisions to sources emitting only 250 tons per year—is the best example.

And yet, as I've attempted to outline above, the CAA has allowed the EPA—with strong nudges from citizen suits and petitions—to craft regulatory programs for mobile sources, power plants, and new stationary sources that seem to hold real promise to work effectively. I am not alone in sharing this view. Jody Freeman and David Spence argue that in exercising its statutory responsibilities in applying the CAA to GHGs, "EPA has behaved strategically, consistent with its mission; it has carefully calibrated and moderated its approach in light of prevailing legal, policy and political considerations."[103] Dallas Burtraw has undergone a bit of a conversion from cap-and-trade optimist to a grudging admirer of the CAA and its ability to achieve emissions reductions cost-effectively.[104] Michael Hanemann and Holly Doremus were more prescient than I in arguing that the CAA could work well—and indeed more effectively—than cap-and-trade[105] (though I remain convinced that cap-and-trade, if well-implemented, is a more comprehensive and cost-effective approach than CAA regulation). And President George H.W. Bush's EPA general counsel, E. Donald Elliott, is not only an advocate of the new Section 111 rules but believes EPA could use the NAAQS process to create a workable national emissions limit to control GHGs.[106]

So I end by applauding the drafters of the 1970 Clean Air Act for incorporating into the eight hundred plus page behemoth statute a rather remarkable set of institutional mechanisms to allow an agency to respond to the most significant environmental problem humans have ever faced, one that Congress didn't likely even know about when it passed the legislation.

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103. Freeman & Spence, *supra* note 5, at 42.

104. *See* Dallas Burtraw, *The Institutional Blind Spot in Environmental Economics*, 142 DAEDALUS 110 (2012).

105. *See* Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act's Cooperative Federalism Framework Is Useful for Addressing Global Warming*, 50 ARIZ. L. REV. 799 (2008).

106. *See* Ann Carlson, *Obama's Section 111d Plan Has Support from George H.W. Bush's EPA General Counsel, Utility Executives*, LEGALPLANET (June 1, 2014), http://legal-planet.org/2014/06/01/obamas-plan-has-support-from-george-h-w-bushs-epa-general-counsel-utility-executives/.