

THE EPA AT 40: AN HISTORICAL PERSPECTIVE

RICHARD N. L. ANDREWS*

I. INTRODUCTION

The Environmental Protection Agency is in many respects a unique agency in the overall structure of United States governance.¹ Created in 1970 by presidential initiative rather than congressional legislation, it was given a sweeping new series of statutory mandates and powers that both nationalized the core functions of pollution and toxic chemicals control, and defined them overwhelmingly as regulatory functions—augmented in some cases by federal subsidies—rather than broader and more integrated management responsibilities. Paradoxically, it was given these mandates in response to massive bipartisan popular demand for federal leadership in solving the pollution problem at a time when the public was otherwise increasingly skeptical of and even hostile to the federal government. Liberals were opposed to the government’s Vietnam War policies; conservatives resisted the government’s civil rights policies; and the growing environmental movement itself questioned the government’s policies of multipurpose dam-building and stream channelization, clear-cutting of the national forests, promotion and subsidization of nuclear power, and more generally promoting the use of the natural environment primarily for industrial resource extraction and economic development.

In the academic literature of the 1960s and early 1970s, political scientists were writing scathingly about the capture of agencies by the businesses they were supposed to be regulating, and about the control of policymaking by “iron triangles” of favored interests, congressional subcommittees beholden to them, and the agencies they oversaw. Economists were becoming increasingly vocal against these traits in

* Professor of Public Policy and of Environmental Sciences & Engineering, University of North Carolina at Chapel Hill.

1. Originally presented at the Duke Environmental Law and Policy Forum Symposium, January 24, 2011, based in part on work originally published in R.N.L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* (2d ed. 2006).

economic regulatory agencies responsible for regulating the airline, trucking and railroad, and telecommunications industries. In short, the Progressive ideal that had justified the discretionary powers of the federal agencies for two-thirds of a century since Theodore Roosevelt—the ideal of good government through scientific management by politically neutral, technocratic administrators—was becoming increasingly discredited from the left as well as the right.²

Yet in the midst of all these criticisms of government, both academic and popular, a conservative Republican president, Richard Nixon, created the Environmental Protection Agency. And in the Congress, solidly bipartisan majorities vested this new agency with sweeping new powers to regulate pollution and toxic chemicals, to impose federal mandates on state and local governments both to implement and comply with these regulations, and to subsidize both state regulatory agencies and local wastewater treatment facilities on an unprecedented scale.

By the end of its first decade, EPA had begun to achieve significant results in reducing pollution from the sources it was empowered to regulate, although the limitations and costs of those successes were also becoming evident. A more serious problem was developing, however: a fracturing of the bipartisan support that EPA had initially enjoyed. While environmental protection remained a widely supported and largely nonpartisan value for the general public, among elected politicians and interest groups it became a surrogate for an increasingly ideological and partisan conflict over the role of government regulation in achieving it. This reframing of the issue pitted liberal Democrats, and a dwindling minority of moderate Republicans, against an increasingly vocal anti-government core of the Republican Party which was augmented on individual issues by Democrats from districts whose businesses were burdened by environmental regulations.

As a result, the EPA has become confined to incomplete and variable implementation of a set of laws and policies that, with few exceptions, were put in place more than thirty years ago. It has been chronically underfunded and subjected to increasing burdens of proof, oversight, and litigation; and with changes in presidential administrations, its priorities have repeatedly been subjected to radical swings and even attempts at fundamental reversal. None of its basic statutes have been repealed—few have even been significantly

2. ANDREWS, *supra* note 1, at 218–20, and associated notes and references.

modified—and the general public still supports environmental protection broadly, if only shallowly. But even policy reforms that would arguably benefit both the economy and the environment have been held hostage to the increasingly bitter partisan and ideological gridlock of Congressional and presidential politics.

This history need not be destiny. Environmental protection is too important—to the economy, to the American people, and to the continued sustainability of modern civilization—to be consigned to the status of a political football of partisan and ideological politics. Serious environmental hazards remain unsolved: global warming most obviously, but also air and water pollution, groundwater and marine contamination, and new health hazards such as nanoparticles, among others. Environmental protection often has characteristics that require government intervention—most obviously market failures such as externalities and open-access resources (“tragedies of the commons”)—but it is not inherently anti-business. From a firm’s perspective, not only is pollution a waste of materials and energy that have been bought and paid for, but it also creates liability risks and other harmful social costs. From a broader economic perspective, it also creates jobs in firms that impose less social costs in the forms of damage to health and environmental assets.

Environmental protection is not necessarily best accomplished, however, solely by the regulatory tools that were most attractive in the 1970s. Both the economy and the environment could be better served by policy innovations that would promote more integrated solutions, more self-enforcing incentives, and more rigorous, yet more stable, environmental performance expectations. The challenge for Americans on all points of the political spectrum who aspire to maintain a livable environment, as well as a healthy and innovative economy, is to move EPA from its partially successful but problematic history over the past forty years to a renewed vision of the environment we want to live in and pass on, and to a more effective and integrated suite of policy tools and priorities for achieving that vision.

This article provides an historical perspective on the origins of EPA, its mission and structure, its history to date, and the challenges it faces as a result both of the strengths and limitations of its powers and of the changing political context in which it must function. The article then suggests some of the ways in which environmental protection could be pursued differently and perhaps more effectively than under mere continuation of EPA’s traditional regulatory

authorities, and it documents the challenges of path dependence and political gridlock that would have to be overcome to achieve a more effective framework for U.S. environmental protection policy.

II. ORIGINS

The EPA was created in the context of an extraordinary outburst of mass public pressure for federal action to address the widespread pollution problems that had resulted from the vast post-war growth in industrial production and mass consumption. Environmental protection had historically been left almost entirely to state and local jurisdictions—a president as recent as Dwight Eisenhower had described air and water pollution as “uniquely local” problems³—and while a few states such as California had taken aggressive actions to address some pollution problems, most had not. Those few that sought to do so were limited by a lack of powers to address interstate sources and by the risk of losing businesses and jobs to more lenient states.

With the advent of television and the rise of a relatively affluent mass middle class, the American public in the 1960s witnessed a series of environmental crises: extreme smog disasters in Los Angeles and elsewhere, radioactive fallout in milk, the indiscriminate use of pesticides, the Santa Barbara oil spill, Ohio’s Cuyahoga River catching fire, Lake Erie being declared “dead” due to oxygen depletion, the environmental risks of the proposed Trans-Alaska Pipeline System, and others. By 1970, a common concern had begun to develop that environmental pollution was out of control. This concern culminated in April 1970 with the first Earth Day celebration, the largest nationwide public demonstrations that had occurred since the victory celebrations at the end of World War II.⁴

President Richard Nixon had no previous record of public concern for the environment except a single radio address during his 1968 campaign, but he recognized both the risk posed and the opportunity presented by the mass public demand for federal action on the issue. Senator Edmund Muskie, a Democrat from Maine and the author of most of the federal environmental legislation in the 1960s and of the Clean Air Act amendments then under consideration, was widely recognized as a likely presidential

3. JAMES L. SUNDQUIST, *POLITICS AND POLICY: THE EISENHOWER, KENNEDY, AND JOHNSON YEARS* 323 (1968).

4. ANDREWS, *supra* note 1, at 201–26.

candidate in 1972. At the same time, mass public demand for federal action on the environment offered a welcome opportunity for presidential leadership on a consensus issue: diverting the national agenda from the divisiveness of the Vietnam War and civil rights issues that were otherwise dominant.

It is fair to say that President Nixon saw a mob coming, jumped in front of it and called it a parade. On New Year's Day 1970 he signed the National Environmental Policy Act (no relation to EPA, but a visionary statement of federal policy commitment to environmental protection) on national television, declaring the 1970s to be the "decade of the environment" in which "it was either now or never" to clean up pollution and environmental damage.⁵ In late January, he addressed environmental issues forcefully in his State of the Union address.⁶ Subsequently, in February, he delivered a special environmental speech to Congress, enunciating a specific 37-point program for environmental cleanup.⁷ In April, the first Earth Day celebration took place.⁸ In July, Nixon issued a Presidential Reorganization Plan creating the Environmental Protection Agency, to take effect that December.⁹ And in December, Congress passed and Nixon signed the landmark Clean Air Act of 1970,¹⁰ the first of a series of major new environmental statutes establishing primary federal regulatory authority for control of pollution and toxic chemicals.

III. STRUCTURE

The EPA was actually Nixon's second choice for an environmental agency. The initial proposal recommended by his Council on Executive Reorganization, chaired by Roy Ash, was for a unified Department of the Environment, pulling together all the major agencies that had environmental responsibilities, including

5. Frank Gannon, *RN in '70—Launching the Decade of the Environment* (Jan. 1, 2010), <http://thenewnixon.org/2010/01/01/rn-in-70-the-decade-of-the-environment/>.

6. Richard M. Nixon, President, Annual Message to the Congress on the State of the Union (Jan. 22, 1970), available at <http://www.presidency.ucsb.edu/ws/index.php?pid=2921#ixzz1ZpHKDU5P>.

7. Richard M. Nixon, President, Special Message to the Congress on Environmental Quality (Feb. 10, 1970), available at <http://www.presidency.ucsb.edu/ws/index.php?pid=2757#axzz1ZpHtZNRz>.

8. Jack Manning, *Mood Is Joyful as City Gives Its Support; Millions Join Earth Day Observances Across the Nation*, N.Y. TIMES, Apr. 23, 1970, at 1.

9. Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623, 84 Stat. 2086.

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

environmental management agencies such as the Forest Service, Interior Department, and the civilian water management programs of the Army Corps of Engineers.¹¹ Such an agency could perhaps have used a far broader range of integrated management and regulatory policies to manage and protect the environment. Like Franklin Roosevelt's proposal for a Department of Conservation in the 1940s, however, this proposal would have required congressional approval and faced strong opposition from the traditional constituencies of the Forest Service and the Corps of Engineers. The proposal for a unified Department of the Environment was dropped in favor of a mere reorganization of administrative units already present in the executive branch, which could be accomplished by presidential fiat: a presidential reorganization plan did not require congressional approval, but only that both houses of Congress not act to disapprove it within sixty days.¹²

The EPA was thus created simply by pulling into one new agency an array of environmental health regulatory and technical assistance functions, and their associated statutory authorities, that were previously spread across multiple existing agencies.¹³ Air pollution control was transferred from the Department of Health, Education, and Welfare, as were environmental health services including solid waste management, water hygiene, and some radiological health and environmental control programs; water quality administration was transferred from the Interior Department, to which it had been moved from the Public Health Service in the 1960s; pesticide regulation programs were transferred from the Agriculture, Interior, and Health, Education, and Welfare departments; radiation protection standard-setting was transferred from the Atomic Energy Commission; and ecological systems functions were transferred from the Council on Environmental Quality.¹⁴

Because EPA was merely the result of a presidential reorganization plan and not created by legislation, no new powers or resources were provided. It had no overall "organic act" that would

11. Richard J. Lazarus, *The Tragedy of Distrust in the Implementation of Federal Environmental Law*, 54 LAW & CONTEMP. PROBS. 311, 315 (1991).

12. RONALD C. MOE, CONG. RESEARCH SERV., RL30876, THE PRESIDENT'S REORGANIZATION AUTHORITY: REVIEW AND ANALYSIS, at CRS-4 (2001), available at <http://www.oswego.edu/~ruddy/Educational%20Policy/CRS%20Reports/President's%20Reorganization%20Authority.pdf>.

13. Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623, 84 Stat. 2086.

14. ANDREWS, *supra* note 1, at 229.

authorize its administrator to integrate or set priorities among its various programs. It was merely a holding company for separate programs, each continuing to operate under its own separate statutory authority and budget, and each with its associated subculture. EPA's regulatory authority in turn was created or vastly expanded piecemeal, mainly during the 1970s, a decade that saw the passage of nearly a dozen major new statutes regulating air pollution, water pollution, solid and hazardous wastes, drinking water, pesticides, and toxic substances.¹⁵ Although these new statutes added to the agency's powers and responsibilities, none of them authorized EPA to provide overall management of water, air, or land resources, or even integrated management of pollutant discharges to these several environmental media. The statutes were even authored and overseen by several different congressional subcommittees. EPA's only formal basis for setting overall priorities was the administrator's negotiations with the president and Congress for its annual budget and appropriations legislation.

In short, EPA was created primarily as a regulatory agency for specific types of pollutants and environmental contaminants, and secondarily as a source of federal subsidies for wastewater treatment, state environmental staffing, and some other purposes. Due to this emphasis on an adversarial regulatory mission and lack of full departmental status, it is virtually unique among the environmental ministries of the other industrial democracies.¹⁶ Despite its name, EPA has never been given broad statutory authority to protect or manage the environment, to lead U.S. efforts to create an environmentally sustainable economy, or even to integrate management of the pollutants it regulates.

Even as a regulatory agency, EPA is something of a hybrid. Unlike several of the economic regulatory agencies, which are established as independent commissions and thus designed to function with primary duty to their statutes and not to White House

15. See Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676; Resource Recovery Act of 1970, Pub. L. No. 91-512, 84 Stat. 1227; Water Quality Improvement Act of 1970, Pub. L. No. 91-224, 84 Stat. 91; Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816; Federal Environmental Pesticide Control Act of 1972, Pub. L. No. 92-516, 86 Stat. 973; Safe Drinking Water Act, Pub. L. No. 93-523, 88 Stat. 1660 (1974); Resource Conservation and Recovery Act, Pub. L. No. 94-580, 90 Stat. 2795 (1976); Toxic Substances Control Act of 1976, Pub. L. No. 94-469, 90 Stat. 2003; Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566; Comprehensive Environmental Response, Compensation, and Liability Act, Pub. L. No. 96-510, 94 Stat. 2767 (1980).

16. ANDREWS, *supra* note 1, at 231.

politics, EPA's administrator and other senior staff are appointed by—and change with—each president.¹⁷ There have been repeated legislative proposals since 1988 to elevate EPA to a Cabinet-level Department of Environmental Protection, but each attempt has failed in at least one house of the Congress due to unacceptable additions, such as an amendment mandating risk–cost–benefit analysis of all regulations or an amendment creating an Office of Environmental Statistics that would be independent of presidential oversight, among others.¹⁸

Internally, EPA at its creation had to assimilate a wide range of disparate subcultures. Air quality and solid waste management, for instance, had historically been technical assistance programs within the Department of Health, Education, and Welfare rather than regulatory programs. Water quality was still evolving from a drinking-water focus in the Public Health Service to greater emphasis on ambient water quality improvement in Interior. Pesticide regulation in USDA had been more focused on effectiveness and farmer-friendly technical assistance than on health and environmental protection. To respond to public demands for more vigorous environmental protection, and to faithfully carry out EPA's new regulatory mandates as they were enacted, its administrators had to create out of these cultures a more adversarial overall culture of regulatory standard-setting and enforcement.¹⁹

EPA's first administrator, William Ruckelshaus, was an aggressive Republican prosecutor determined to establish EPA's credibility and political independence as a regulatory agency that would be faithful to its statutory mandates and to public expectations for standard-setting and enforcement, and not subservient to White House and business politics. In several key cases, he successfully stood up to White House pressures in enforcing against business supporters of the president.²⁰ He also created several cross-cutting

17. Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623, 84 Stat. 2086.

18. Philip Shabecoff, *House Votes Bill to Elevate E.P.A. to Cabinet Level*, N.Y. TIMES, Mar. 29, 1990, <http://www.nytimes.com/1990/03/29/us/house-votes-bill-to-elevate-epa-to-cabinet-level.html>.

19. ANDREWS, *supra* note 1, at 229–32.

20. See J. Patrick Dobel, *Managerial Leadership in Divided Times: William Ruckelshaus and the Paradoxes of Independence*, 26 ADMIN. & SOC'Y 488 (1995). As a condition of his reappointment at the start of Nixon's second term, Ruckelshaus also demanded and received control over regulatory initiatives opposed by Nixon's Office of Management and Budget. *Id.*; JOHN QUARLES, *CLEANING UP AMERICA: AN INSIDER'S VIEW OF THE ENVIRONMENTAL PROTECTION AGENCY* 117–18, 125–61 (1976).

functional units within the agency—enforcement, and research and development, for instance—separate from the air, water, and pesticides units that the agency had inherited.²¹ He also created ten regional offices—often overlooked by the national media, but the locus of a large fraction of EPA’s staff—where much of EPA’s day-to-day work is done in cooperation with state agencies.²²

IV. STATUTORY POWERS AND MANDATES

During the 1970s, bipartisan congressional majorities enacted a sweeping range of new national environmental regulatory statutes, most of them signed by Republican presidents. These statutes at face value gave the EPA an unprecedented range of new powers and mandates to reduce pollution discharges to air, water, and land, and to protect the public from the health risks of pesticides and other toxic chemicals. Taken together, they created a far-reaching new role for the federal government, establishing a set of national regulatory frameworks—including direct federal regulation of products sold in interstate commerce, such as pesticides and motor vehicles, and others delegated as mandates to be carried out by the states within frameworks and standards established by EPA—to protect the environment and public health against the hazards caused by human wastes and other contaminants.

These statutory powers were of several types. For air quality, EPA was to set national ambient air quality standards based solely on health science with an adequate margin of safety, without respect to the costs of achieving them; the public should be free to travel throughout the country without risk to their health from polluted air.²³ For new stationary sources of air pollutant emissions and all point sources of wastewater discharges—generally, industries and municipal wastewater treatment plants—EPA was to set permit standards based on the “best available technology,” essentially, the most effective technologies already in use by the best firms in each industry.²⁴ For motor vehicles, Congress set technology-forcing

21. ROBERT MCMAHON, *The Institutional Structure of the EPA*, in *THE ENVIRONMENTAL PROTECTION AGENCY: STRUCTURING MOTIVATION IN A GREEN BUREAUCRACY* 33, 33–52 (2006).

22. *Id.*

23. 42 U.S.C. § 7409(b)(1) (2006).

24. *Id.* § 7479(3) (defining “best available control technology”); 33 U.S.C. §§ 1314(b)(1)(B), (b)(2)(B) (2006) (wastewater); *Prevention of Significant Deterioration (PSD) Basic Information*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/NSR/psd.html> (last

requirements by statute, requiring 90% reduction of tailpipe emissions by 1975.²⁵ And for drinking water contaminants, hazardous air pollutants, toxic water pollutants, pesticides, and other toxic chemicals—potentially thousands of specific substances—EPA was to set restrictions that balanced the risk of human exposure against the costs and benefits of the proposed restrictions on each substance.²⁶

Implementing these statutes represented a Herculean task: Ruckelshaus once famously compared EPA's responsibility to "perform[ing] an appendectomy on yourself while running a hundred-yard dash."²⁷ These statutes were the only tools, however, that Congress had authorized and directed EPA to use. Congress had deliberately mandated that EPA set technology-based standards ("command and control") because they were easily enforceable—an inspector had only to determine whether or not the approved technology was present and functioning properly—and easily defensible: since the standards were based on technologies already used by the best firms in each industry, they could not easily be challenged in court as "impractical." They also could be implemented far more quickly than the risk-based statutes, which in contrast placed a far heavier burden of proof on EPA to prove that a proposed regulation was both justified and practical, thereby inviting endless litigation of the science and leading to relatively few substances ever being fully investigated and regulated. EPA's risk analyses were often based on limited scientific knowledge, but under U.S. legal principles the Agency bore the primary burden of proof to justify regulation, rather than the manufacturer or the supplier to prove their safety.²⁸

Within a decade of its creation, EPA thus became arguably the largest and most powerful environmental agency in the world. In its early years it banned domestic use of DDT,²⁹ began phasing out lead

updated July 22, 2011); *Water: Industry Effluent Guidelines: Frequent Questions*, U.S. ENVTL. PROT. AGENCY, http://water.epa.gov/scitech/wastetech/guide/questions_index.cfm (last updated Sept. 29, 2011).

25. *Mobile Source Emission—Past, Present, and Future: Milestones*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/oms/inventory/overview/solutions/milestones.htm> (last updated July 9, 2007).

26. *See supra* note 15.

27. *As EPA Turns 40, IU Professor Recalls Its Creation*, IND. UNIV., <http://newsinfo.iu.edu/news/page/normal/16660.html> (last visited Sept. 10, 2011).

28. ANDREWS, *supra* note 1, at 232–37, 242–49.

29. U.S. ENVTL. PROT. AGENCY, *DDT: A REVIEW OF SCIENTIFIC AND ECONOMIC ASPECTS OF THE DECISION TO BAN ITS USE AS A PESTICIDE 1 (1975)*, available at <http://www.nal.usda.gov/speccoll/findaids/agentorange/text/01183.pdf>.

from gasoline,³⁰ and began promulgating the wide range of emissions and contaminant standards mandated by the Clean Air, Clean Water, and Safe Drinking Water Acts, as well as persuading Congress to pass major amendments to the Clean Air and Clean Water Acts in 1977.³¹ By the late 1970s, EPA had substantially reduced pollutant emissions from electric utilities and industrial smokestacks, industrial and municipal wastewater discharges, and automobiles.³² It also had ended open burning of wastes and closed down some 5,000 open dumps, forcing professionalization of solid waste management and separate tracking and safe disposal of hazardous industrial wastes.³³ In 1978, it banned nonessential uses of chlorofluorocarbons (CFCs) due to their damaging effects on stratospheric ozone.³⁴ Beginning in 1978, EPA had to tackle cleanup of the disastrous contamination of the Love Canal site in upstate New York, and in 1980, it began implementing a massive nationwide cleanup program for “Superfund” sites contaminated by past dumping of toxic chemicals.³⁵

For businesses subject to EPA’s regulations, however, a problematic consequence of this history was that while the air, water, and solid and hazardous waste statutes were enacted piecemeal over much of a decade, each statute affected many of the same industrial processes. The lack of a unified statutory framework, or even a coherent vision for overall pollution prevention and reduction, meant that each statute therefore triggered new costs and recalculations of optimal pollution control strategies. Reducing air pollution at the smokestack, required in 1970, produced more materials to be disposed in liquid slurries or landfills. Reducing water pollution, required in 1972, shifted an even greater burden to landfills. Finally, the solid and hazardous waste legislation, passed in 1976, dramatically raised the standards, and thus the costs, for landfill disposal as well. Moreover, if the statutes were implemented literally and rigorously,

30. Press Release, U.S. Env’tl. Prot. Agency, EPA Requires Phase-Out of Lead in All Grades of Gasoline (Nov. 28, 1973), *available at* <http://www.epa.gov/history/topics/lead/03.html>.

31. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685; Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566.

32. J. CLARENCE DAVIES & JAN MAZUREK, *POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM* 56, 69 (1998).

33. ANDREWS, *supra* note 1, at 245–49.

34. Certain Fluorocarbons (Chlorofluorocarbons) in Food, Food Additive, Drug, Animal Food, Animal Drug, Cosmetic, and Medical Device Products as Propellants in Self-Pressurized Containers: Prohibition on Use, 43 Fed. Reg. 11,301 (Mar. 17, 1978).

35. *See* Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767.

achieving ambient air quality standards in areas not already in compliance with them could in theory require stopping any new economic growth that would increase pollution—an unachievable outcome in an area such as southern California, for instance.

V. INNOVATIONS FROM WITHIN

To the agency's credit, leading administrators within EPA recognized these problems and proposed innovative solutions to them.³⁶ Faced with the conundrum of achieving air quality improvement without closing down regional economies, EPA Assistant Administrator William Drayton, initially with no clear statutory authority, proposed a series of more flexible market-oriented policy instruments—emissions offsets and offsets “banking,” tradable permits, netting and “bubbling” of emissions (treating each source facility as if under a single “bubble,” rather than requiring best technology on each stack and vent)—which EPA then persuaded Congress to approve in its 1977 amendments.³⁷ These were the first of a far broader range of “market-oriented instruments” which Congress subsequently approved for EPA use, including tradable production phasedown quotas for leaded gasoline and chlorofluorocarbons and ultimately the widely hailed “cap and trade” program under the 1990 Clean Air Act amendments for reducing sulfur and nitrogen emissions from power plants.³⁸

By the late 1970s, however, businesses subject to repeated piecemeal regulation regrouped under an alternative new framing of the issues: a campaign against overregulation, big government, and bureaucratic zealotry,³⁹ accompanied by pejorative attacks on

36. ANDREWS, *supra* note 1, at 251.

37. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685; DAVID BORNSTEIN, HOW TO CHANGE THE WORLD: SOCIAL ENTREPRENEURS AND THE POWER OF NEW IDEAS 53–56 (2004) (discussing Drayton and his “bubble” concept); OFFICE OF POLICY, ECON., & INNOVATION [OPEI], U.S. ENVTL. PROT. AGENCY, EPA-240-R-01-001, THE UNITED STATES EXPERIENCE WITH ECONOMIC INCENTIVES FOR PROTECTING THE ENVIRONMENT 67, 72–75 (2001), available at [http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0216B-13.pdf/\\$file/EE-0216B-13.pdf](http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0216B-13.pdf/$file/EE-0216B-13.pdf); Laurens H. Rhinelander, *The Bubble Concept: A Pragmatic Approach to Regulation Under the Clean Air Act*, 1 VA. J. NAT. RESOURCES L. 177, 191 (1981).

38. See OPEI, *supra* note 37.

39. *Id.* at 255–56. See also MURRAY WEIDENBAUM, THE FUTURE OF BUSINESS REGULATION (1980). These attacks used longstanding criticisms by economists of the older economic regulatory programs (airlines, trucking and railroads, telecommunications, electric generation), several of which were in the process of deregulation at the time, to disparage environmental, health, and safety regulations as well, despite the significant differences between economic regulation—which had in practice protected favored businesses from competition—

environmental regulations as “command and control” and “one size fits all.”⁴⁰ In fairness to EPA, these were the statutory tools and mandates EPA had been given by Congress. Some economists had proposed more market-oriented environmental policy strategies as early as the late 1960s, such as Pigovian taxes or even marketable permits,⁴¹ but no strong stakeholder groups advocated for them at the time. Environmental advocacy groups saw no guaranteed environmental benefits of taxes and opposed giving the industries a legal “right to pollute,” while businesses themselves, if they had to be regulated, preferred certainty and simplicity of clear requirements binding on all competitors to a tax or marketable permit system that might cost them more and increase their economic uncertainty.

Ironically, it was during the same period of the late 1970s, as businesses began to lobby more intensively against environmental regulation, that leading businesses and business consultants first began to champion the proposal that “pollution prevention *pays*.” Pollution not only causes social costs, but also represents inefficiency in the businesses themselves: a waste of materials and energy that had been bought and paid for, and a potential source of increased financial liability, which could often be corrected to the benefit of the business rather than merely as deadweight costs.⁴²

VI. DEREGULATION AND ITS DAMAGE: THE LOST OPPORTUNITY FOR POLICY REFORM AND INNOVATION

When Ronald Reagan was elected president in 1980, one of his transition teams made a series of recommendations to him to adopt and build upon the emerging proposals for market-oriented instruments to reform environmental policy and promote pollution prevention.⁴³ These ideas were already beginning to gain traction

and health, safety, and environmental regulation, which protected the public from market failures such as environmental externalities and tragedies of the commons.

40. Cf. Daniel H. Cole & Peter Z. Grossman, *When Is Command-and-Control Efficient? Institutions, Technology, and the Comparative Efficiency of Alternative Regulatory Regimes for Environmental Protection*, 1999 WIS. L. REV. 887. Perhaps ironically, “one size fits all” was once a positive marketing slogan for socks, not a derogatory label for uniform national standards.

41. See, e.g., J. H. DALES, *POLLUTION, PROPERTY, AND PRICES* (1968); Larry Ruff, *The Economic Common Sense of Pollution*, 19 PUB. INT. 69, 78–82 (1970).

42. ANDREWS, *supra* note 1, at 262–66; Michael Royston, *Making Pollution Prevention Pay*, HARV. L. REV. 6, 6–27 (1980). See also generally MICHAEL ROYSTON, *POLLUTION PREVENTION PAYS* (1979).

43. Richard N.L. Andrews, *Deregulation: The Failure at EPA*, in ENVIRONMENTAL POLICY IN THE 1980S: REAGAN’S NEW AGENDA 161 (Norman J. Vig & Michael E. Kraft eds., 1984).

among many opinion leaders. Given Reagan's personal popularity and political momentum at the time, combined with the country's economic concerns, he could perhaps have achieved significant reform of EPA's regulatory mandates toward more moderate, market-oriented Republican principles.

Instead, however, Reagan adopted the recommendations of a different transition team which focused on deregulation and proposed a far more radical agenda: to reverse and roll back the environmental policies of the previous decade. This team aimed to do so not by working with Congress to reform or repeal the statutes, but by administrative fiat. David Stockman, Reagan's budget director, warned of a "Republican economic Dunkirk" due to a "ticking regulatory time bomb" as a torrent of new regulations under development strangled the economy, and Stockman therefore proposed cuts of more than 11% in EPA's budget.⁴⁴ Reagan himself announced his intention to "deregulate, defund, and devolve" environmental policymaking to the states.⁴⁵ He issued an Executive Order mandating that the Office of Management and Budget review all proposed regulations, and directing that no new regulations be issued unless their economic benefits were shown to exceed their costs.⁴⁶ His appointees to head EPA—including Anne Gorsuch (later Burford) as administrator—were chosen solely for loyalty to this agenda rather than for any expertise or experience in environmental protection, and were both isolated from and openly hostile to the Agency's staff and mission.⁴⁷

The results were disastrous, not only for EPA and its environmental protection mission, but also for Reagan's own agenda. He did succeed in converting the expensive wastewater treatment grants program to a low-interest loan program, and his budget cuts severely reduced EPA rulemaking and enforcement, but his attempts to roll back federal environmental protection regulation—especially by administrative fiat through hostile and incompetent

44. Dave Stockman, *The Stockman Manifesto: The New Budget Director's Sweeping Blueprint for President Reagan's First 100 Days*, WASH. POST., Dec. 14, 1980, at C1 (excerpting a report Stockman wrote for then-President-elect Reagan entitled *Avoiding a GOP Economic Dunkirk*).

45. Richard N.L. Andrews, *Reform or Reaction?*, in ANDREWS, *supra* note 1, 255, 257; Robert F. Durant, *Hazardous Waste, Regulatory Reform, and the Reagan Revolution: The Ironies of an Activist Approach to Deactivating Bureaucracy*, 53 PUB. ADMIN. REV. 550, 550 (1993).

46. Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 19, 1981).

47. Andrews, *supra* note 43, at 166.

administrators—ignited a firestorm of public and political backlash as well as reversals by the courts.⁴⁸ Within three years Reagan found it necessary to fire sixteen of the top twenty presidential appointees at EPA, including both the administrator and the deputy administrator, perhaps the most sweeping mid-course replacement of senior agency staff in U.S. history.⁴⁹ At least one appointee, a former industry lobbyist, went to jail for corruption, while the administrator was cited for contempt of Congress.⁵⁰ Reagan found it necessary to persuade William Ruckelshaus, EPA's first administrator, to return to EPA as administrator to restore its morale and public credibility.⁵¹

Reagan himself was reelected in 1984, but the Democrats regained control of the Congress and passed several tough new environmental statutes containing “deadline and hammer” clauses: provisions designed to prevent further administrative undermining of regulatory statutes by automatically imposing draconian consequences if EPA did not issue mandated regulations within specified time periods.⁵² Ironically, however, these new mandates also fell most heavily on small businesses and local governments rather than large corporations, and thus increased friction between EPA and some key constituencies.⁵³

With a longer historical perspective, one can look back at Reagan's first administration as a tragically missed opportunity and a fateful turning point in the development of U.S. environmental protection policy. Rather than championing more market-oriented reforms and innovations in EPA's statutes and environmental policy tools at a moment when opinion leaders were growing receptive to them and a Republican-led version of them might have been promoted, Reagan sought to dismantle them, to undermine the agency itself, and to fundamentally repudiate the federal commitment to environmental protection by administrative fiat. In doing so, he severely overreached, shattering the bipartisanship that had largely characterized environmental policymaking throughout the 1970s. Just

48. *Id.* at 173–177; Andrews, *supra* note 45, at 261.

49. Andrews, *supra* note 43, at 174.

50. Andrews, *supra* note 45, at 260; *Costly Lies: Rita Lavelle is Convicted of Perjury*, TIME, Dec. 12, 1983, <http://www.time.com/time/magazine/article/0,9171,921404,00.html>; Obituary, *Anne Burford*, 62; *Embattled EPA Chief for President Reagan*, L.A. TIMES, July 22, 2004, <http://articles.latimes.com/2004/jul/22/local/me-burford22>.

51. Andrews, *supra* note 45, at 261.

52. *Id.* at 261.

53. ANDREWS, *supra* note 1, at 261–62.

at the moment when Michael Royston and some leading businesses were pioneering a new vision that pollution prevention could be profitable, Reagan's overreach prompted congressional Democrats to dig in to protect existing statutes against any change. It also pushed the environmental advocacy organizations to distrust Republican calls for reform and instead to ally themselves more firmly with Democratic defenders of the existing statutes and regulatory programs.

Reagan, in his second term, went on to sign several new environmental statutes and treaties, such as amendments to the Safe Drinking Water Act and Clean Water Act, a toxics "right-to-know" law (the Emergency Planning and Community Right-to-Know Act), and the Montreal Protocol phasing out production of stratospheric ozone-depleting chemicals (chlorofluorocarbons).⁵⁴ He appointed Lee Thomas, a low-profile career EPA official, as EPA administrator after Ruckelshaus.⁵⁵ Thomas's main contributions included banning further uses of asbestos, implementing amendments to the Safe Drinking Water Act and the Superfund program, and sponsoring an agency-wide, risk-based review of EPA's programs and priorities, seeking to make the case for clearer prioritization of environmental hazards.⁵⁶ Critics, however, also attacked EPA during this period for failing to more aggressively regulate risks which were already within its jurisdiction, such as pesticide and lead exposure and contaminants in drinking water.⁵⁷

Reagan's initial radicalism, however, had opened and exacerbated a deep ideological fault line between support for environmental protection and hostility to the federal government, a division which would increasingly be exploited for partisan advantage by Newt Gingrich in 1994, by George W. Bush during his presidency, and by others. In principle, there is every reason to believe that a

54. Safe Drinking Water Act Amendments of 1986, Pub L. No. 99-359, 100 Stat. 642; Water Quality Act of 1987, Pub. L. No. 100-4, 100 Stat. 7; Emergency Planning and Community Right-to-Know Act of 1986, Pub. L. No. 99-499, 100 Stat. 1733; Montreal Protocol on Substances that Deplete the Ozone Layer, 26 I.L.M. 1541 (1987).

55. Press Release, U.S. Env'tl. Prot. Agency, Lee M. Thomas Biography (Nov. 29, 1984), available at <http://www.epa.gov/history/admin/agency/thomas.html>.

56. ANDREWS, *supra* note 1, at 268-70; U.S. ENVTL. PROT. AGENCY, EPA-230-2-87-025a, UNFINISHED BUSINESS: A COMPARATIVE ASSESSMENT OF ENVIRONMENTAL PROBLEMS (1987).

57. See, e.g., *Les v. Reilly*, 968 F.2d 985 (9th Cir. 1992), *cert. denied*, 113 U.S. 1361 (1993); *Am. Water Works Ass'n v. U.S. Env'tl. Prot. Agency*, 40 F.3d 1266 (D.C. Cir. 1994) (decided on petitioners' challenges to EPA regulations initially proposed in 1988 on lead in drinking water).

healthy environment is compatible with and even necessary to a healthy economy, and that while this requires some clear roles for government, more market-oriented policy innovations could achieve both environmental and economic benefits more effectively than the mere continuation of the regulatory statutes of the 1970s. By attempting to dismantle those statutes rather than reform them, however, and by re-framing the issue as government over-regulation rather than environmental protection, Reagan and his successors held EPA and its environmental policy mandates hostage to a broader ideological battle between the most entrenched interests in both the business and environmental advocacy communities, and between Republican and Democratic strategists seeking partisan advantage. This false dichotomy continues to stalemate environmental policy reform and innovation more than a quarter century later.

The more aggressive anti-regulatory organizations, meanwhile, refocused their attention on attacking the scientific justifications for EPA's risk-based regulations. Throughout the late 1980s and early 1990s, EPA's regulatory proposals were constantly attacked in the news media, the courts, and quasi-academic books as being based on "junk science."⁵⁸

In response to this increased politicization of EPA's scientific and rulemaking processes, both EPA and environmental advocacy groups began seeking more self-enforcing incentives that could promote environmental protection without the staff-intensive and time-consuming burdens of EPA's regulatory process. An early precursor was the strict joint and several liability provision in the Superfund Act of 1980, which created the threat of severe economic consequences for any business that had dumped hazardous waste into contaminated sites.⁵⁹ In 1986, after the Bhopal industrial disaster—in which large numbers of people were killed or sickened by toxic chemicals leaking from an American-operated pesticide factory in India—Congress passed the Emergency Planning and Community Right to Know Act, which required businesses to disclose and EPA to publicly list the annual quantities of toxic chemicals they used and any leaks or releases of them into the environment.⁶⁰ Direct public pressure would thus become a complement or alternative to EPA regulation. Similarly, as naturally occurring radon became recognized

58. ANDREWS, *supra* note 1, at 277–80 and accompanying notes and references.

59. 42 U.S.C. § 9607 (2006).

60. *Id.* §§ 11002–03.

as a hazard in some homes and public buildings, rather than regulate it directly EPA was authorized in 1988 to set scientifically-based radon action levels and provide technical assistance for state radon inspection programs, thus letting property sale negotiations serve as an alternative to regulation.⁶¹

VII. RECLAIMING THE ISSUE: GEORGE H.W. BUSH AND EPA ADMINISTRATOR BILL REILLY

In 1988, George H.W. Bush was elected president. His campaign capitalized on his position as Reagan's vice president, but also differentiated him as a pro-environment candidate. Bush was by then a Texan, but from a moderate and patrician New England Republican background, and one suspects that he sought for both personal and political reasons to try to reaffirm and reclaim a Republican version of the environmental policy agenda from the partisan polarization to which it had become hostage. Described by one source as "conservative on the size of government but progressive and in favor of more action on environmental protection,"⁶² he ran on promises to strengthen the Clean Air Act and to achieve "no net loss" of wetlands, and in public speeches he emphasized the increasingly global nature of environmental hazards.⁶³ He appointed William Reilly as his EPA administrator, a Republican moderate who was deeply knowledgeable about environmental science and policy, and widely respected by both Republicans and Democrats, as well as by businesses and environmental advocacy groups. Reilly also enjoyed with Bush the closest personal relationship that any EPA administrator has had with their president.

Under Reilly's leadership, EPA's senior managers and Science Advisory Board followed through on Lee Thomas's *Unfinished Business* risk priorities study with a wide-ranging attempt to examine and recommend changes in the agency's priorities, based on the "relative risks" of all the present and potential environmental issues

61. The Indoor Radon Abatement Act of 1988, 15 U.S.C § 2665 (2006).

62. KATHY MCCAULEY ET AL., CROSSING THE AISLE TO CLEANER AIR: HOW THE BIPARTISAN "PROJECT 88" TRANSFORMED ENVIRONMENTAL POLICY 19 (2008), available at <http://www.iop.pitt.edu/documents/casestudies/Crossing%20the%20Aisle%20to%20Cleaner%20Air.pdf>.

63. WHITE HOUSE OFFICE ON ENVTL. POLICY, PROTECTING AMERICA'S WETLANDS: A FAIR, FLEXIBLE, AND EFFECTIVE APPROACH (1993), available at <http://www.wetlands.com/fed/aug93wet.htm> (no net loss); George Herbert Walker Bush, President, Speech at Helena, Mont. (1989), available at http://www.rep.org/news/GEvol8/ge8.1_Bush41.html.

within its sphere of responsibility. They concluded, for instance, that hazardous waste cleanups were significantly overfunded compared to more serious hazards to public health and the environment such as climate change.⁶⁴ Reilly's goal was to try to persuade Congress to allow EPA to manage, innovate, and change based on risk priorities across its programs, and to address new hazards as they arose, rather than just continue to implement the statutory and judicial mandates of the 1970s. Reilly's EPA also endeavored to demonstrate EPA's commitment to science-based priorities in response to "junk science" claims by opponents of its regulatory initiatives.⁶⁵ Unfortunately, most of these priority changes could not be implemented without congressional approval and Congress itself was too fragmented both by partisanship and by separate subcommittees to approve them. The report thus did not have as much impact on policies and priorities as was hoped.

A crowning environmental achievement of the George H.W. Bush administration, however, was the passage of the landmark Clean Air Act Amendments of 1990 with their pioneering "cap and trade" innovation in air pollution control. This statute set stringent caps on total sulfur and nitrogen emissions from the nation's electric power plants and authorized the EPA to issue tradable allowances that the utilities could either use themselves or sell to others if they could reduce their own emissions more cheaply.⁶⁶ Environmental groups had long been skeptical of such "rights to pollute," as had many traditionalist EPA regulators, but it proved to be the single most successful policy to date in effectively and significantly reducing air pollution emissions.⁶⁷ It also became the exemplar for subsequent cap-and-trade proposals, including the European Union carbon-trading scheme devised under the Kyoto Protocol⁶⁸—despite nonparticipation by the U.S.—and a greenhouse-gas reduction bill

64. U.S. ENVTL. PROT. AGENCY, REDUCING RISK: SETTING PRIORITIES AND STRATEGIES FOR ENVIRONMENTAL PROTECTION 13 (1990). [http://yosemite.epa.gov/sab/sabproduct.nsf/28704D9C420FCBC1852573360053C692/\\$File/REDUCING+RISK+++++EC-90-021_90021_5-11-1995_204.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/28704D9C420FCBC1852573360053C692/$File/REDUCING+RISK+++++EC-90-021_90021_5-11-1995_204.pdf)

65. Leslie Roberts, *Counting on Science at EPA*, 249 SCIENCE 616 (1990).

66. Clean Air Act Amendments of 1990, Pub L. No. 101-549, 104 Stat. 2399.

67. David Malakoff, *Taking the Sting Out of Acid Rain*, 330 SCIENCE 910 (2010).

68. William B. Bonvillian, *Time for Climate Plan B*, ISSUES SCI. & TECH. ONLINE, Winter 2011, <http://www.issues.org/27.2/bonvillian.html> (noting that permit-trading mechanism of the Clean Air Act Amendments of 1990 was brought by the United States to Kyoto).

which passed the U.S. House in 2009 but failed in the Senate.⁶⁹ The 1990 amendments also included other aggressive air pollution control policies, including technology-based requirements for reducing hazardous air pollutant emissions and a “bump-up” provision subjecting states that were not complying with the national ambient air quality standards to automatically more stringent and costly consequences.⁷⁰

Reilly also exacted a \$1 billion settlement from the Exxon Corporation for its *Exxon Valdez* oil spill in the Gulf of Alaska—the largest environmental criminal damage settlement in history up to that point.⁷¹ But without additional statutory authority such as the 1990 CAA cap-and-trade program, EPA could not promulgate alternative market-oriented tools such as environmental taxes and fees or cap-and-trade systems.⁷²

In the absence of congressional support for additional initiatives, therefore, the EPA under Reilly initiated a wide range of voluntary programs to promote and reward positive environmental initiatives and best practices by leading businesses, in hopes of making them models for others. One example was the 33/50 program, which challenged businesses to reduce their use of toxic chemicals by 33% by 1992 and 50% by 1995 against a 1988 baseline.⁷³ Another was the Energy Star program, which offered a positive environmental label—first for personal computers and monitors, later for all types of

69. See H.R. 2454, 111th Cong. (2009) (titled the American Clean Energy and Security Act, and also known as the Waxman-Markey bill, after its sponsors); Penny Crossman, *Is Carbon Trading the Next Big Thing?*, WALL STREET & TECH. (July 19, 2009), <http://www.wallstreetandtech.com/electronic-trading/218501208> (noting that the Clean Air Act Amendments of 1990 introduced the first national cap-and-trade program in the world and connecting that development to the American Clean Energy and Security Act of 2009).

70. Clean Air Act Amendments of 1990, §§ 301–06 (Title III, Hazardous Air Pollutants); *id.* § 179, 104 Stat. 2420.

71. Press Release, U.S. Dep’t of Justice, Exxon to Pay Record One Billion Dollars in Criminal Fines and Civil Damages in Connection with Alaskan Oil Spill (March 13, 1991), available at <http://www.epa.gov/history/topics/valdez/02.html>.

72. One of its most significant recent innovations, for instance, the 2005 Clean Air Interstate Rule, which would have created an emissions-reduction cap and permit market for sulfur and nitrogen emissions across the whole eastern half of the country, was remanded to the Agency by a court decision as lacking statutory authority (although left in place pending refinements), even though it would probably have greatly benefited economic efficiency in industries as well as cleaner air. See JOHN GRAHAM, BUSH ON THE HOME FRONT 209 (2010). It was subsequently replaced in 2011 by the even stronger Cross-State Air Pollution Rule (CSAPR). 76 Fed. Reg. 48208, August 8, 2011.

73. DANIEL J. FIORINO, THE NEW ENVIRONMENTAL REGULATION 134 (2006); U.S. ENVTL. PROT. AGENCY, EPA-745-R-99-004, 33/50 PROGRAM: THE FINAL RECORD 1 (1999), available at <http://www.epa.gov/opptintr/3350/3350-fnl.pdf>.

appliances and even for homes—affirming that the labeled product uses significantly less energy than comparable alternative products.⁷⁴

One final environmental outcome of George H.W. Bush's presidency was the adoption of the United Nations Framework Convention on Climate Change (UNFCCC),⁷⁵ which Bush signed and the U.S. Senate ratified in 1992, although only after the Bush administration had successfully insisted on removing from it all binding targets.⁷⁶ Often overlooked in favor of its more contentious sequel, the Kyoto Protocol, the UNFCCC did not include binding greenhouse gas reduction targets, but it did explicitly commit the U.S. to acknowledgement of global warming as a serious environmental threat and of the responsibility of the industrialized countries to take the lead in reducing it. It thus provided an important basis, in addition to the Clean Air Act itself, for EPA's responsibility to address this issue. Reilly was not able, however, to persuade Bush to sign the international convention on biodiversity; and other pledges such as no net loss of wetlands also have never been fully achieved.

VIII. PARTISAN "SWINGS OF THE PENDULUM"

Bush's loss in 1992 to Bill Clinton and the outspoken environmental champion Al Gore probably reconfirmed in the minds of Republican politicians the likelihood that Democratic candidates would always have an advantage over Republicans on environmental issues. This led Republican strategists instead to redouble their determination to change the subject, to reframe the issues as opposition to big government and burdensome federal regulation and, in the process, attract major campaign funding from businesses opposed to environmental regulations. Both Newt Gingrich and the Republican congressional insurgents in 1994 followed this course, as did President George W. Bush with Vice President Dick Cheney from 2000 to 2008.

74. Will Nixon, *Uncle Sam's Green Wallet: Will Federal Spending Support Environmental Technologies?*, E: THE ENVTL. MAG., Sept.–Oct. 1993, at 24 (describing the early Energy Star program, which involved only 13 computer manufacturers); *Major Milestones*, ENERGYSTAR.GOV, http://www.energystar.gov/index.cfm?c=about.ab_milestones (last visited Sept. 10, 2011).

75. United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107.

76. Michael Weisskopf, *Bush Was Aloof in Warming Debate; Climate Treaty Offers View of President's Role in Complex Policy*, WASH. POST, Oct. 31, 1992, at A1.

Clinton himself was more a centrist than a committed environmentalist at the outset of his presidency, although he did take several early environmental initiatives. He sought early on to elevate EPA to the status of a Cabinet department, for instance, but this legislative proposal failed due to the addition of amendments in the House and Senate by conservative opponents of the bill. The House amendment—proposed by Representatives Mica, a Republican, and Thurman, a Democrat—would have required EPA to conduct cost-benefit analyses and risk assessments on all rules it imposed on local governments. Supporters of the amendment lauded it as a way of reducing unfunded mandates.⁷⁷ A similar amendment to the Senate version of the bill was proposed by Democratic Senator J. Bennett Johnston.⁷⁸ The amendments were unacceptable to environmental advocates of the legislation.⁷⁹

Clinton also sought early on to create nonpartisan, multi-stakeholder processes to negotiate solutions to thorny environmental issues. Early in his presidency, he sponsored several high-profile negotiation processes to try to resolve environmental controversies such as the water quality protection for the Everglades; the old-growth forests of the Pacific Northwest; and habitat conservation agreements for endangered species.⁸⁰

This attempt to foster a spirit of multi-stakeholder negotiation for environmental issues was, in effect, rebuffed by the midterm elections in 1994, in which a strongly ideological, anti-government Republican insurgency led by Newt Gingrich took control of Congress.⁸¹ Gingrich and his fellow Republican candidates

77. Gary Lee, *House Leaders Defer Vote on Cabinet Rank for EPA; GOP Opposition to Clinton Measure Growing*, WASH. POST, Nov. 20, 1993, at A4 (describing both the proposal and the cost-benefit amendment intended to stymie it); Mary-Margaret Larmouth, *Cities Flex Muscles on Mandates*, NATION'S CITIES WKLY., Feb. 7, 1994, at 1.

78. See Janet O. Wiener, *Risk Assessment and Cost-Benefit Analyses: In the Public Interest?*, 101 ENVTL. HEALTH PERSP. 408 (1993).

79. See, e.g., Mike Mills, *EPA Cabinet Measure Hits Snag over Amendment*, CONG. Q. WKLY., Feb. 5, 1994, at 241 (quoting the chief legal counsel of the National Audubon Society as saying that the amendment, and the necessity of pulling the bill altogether, was "very disappointing"). See also Wiener, *supra* note 78, at 409 ("Most environmental groups oppose all forms of risk assessment legislation . . . The National Wildlife Federation says the Johnston [amendment] would 'add a costly new layer of bureaucracy that will delay important environmental regulations.' David Driesen of the Natural Resources Defense Council says that 'while comparative risk analysis sounds attractive in theory, it doesn't work very well in practice and has sometimes paralyzed environmental programs.' . . . Rick Hinds of Greenpeace says 'risk assessment is a voodoo science of politicians to let pollution occur.'")

80. ANDREWS, *supra* note 1, 350-59.

81. *Id.*

campaign on a platform widely advertised as a “Contract with America,” in which the intent to vigorously attack environmental regulation was masked by almost Orwellian language; the bill was called the “Job Creation and Wage Enhancement Act.”⁸²

Once faced with an outspokenly anti-environmental Congress after 1994, Clinton defined himself as a far stronger champion of environmental protection, thereby gaining support from the public—with the exceptions of regulated industries and Western public land users—at the expense of the Republican insurgents.⁸³

For EPA administrator, Clinton appointed Carol Browner, former Secretary of Florida’s Department of Environmental Regulation and former legislative director to then-Senator Al Gore.⁸⁴ Browner brought to the EPA an aggressive commitment to tough rulemaking and regulatory enforcement for environmental health protection, and became the longest-serving administrator in EPA’s history, holding the position from 1993 to 2001.⁸⁵ During her tenure, she reorganized EPA’s enforcement programs into a single Office of Enforcement and Compliance Assistance, and promoted several initiatives to negotiate pollution prevention partnerships with key industrial sectors, including Project XL and the Common Sense Initiative, both elements of Clinton’s “Reinventing Government” effort.⁸⁶ With Clinton’s support she also established new initiatives at EPA on children’s environmental health and environmental justice.⁸⁷

82. Despite its title, the content of this proposed legislation consisted primarily of proposals requiring risk assessments and cost-benefit analyses for all major environmental regulations, specifying in detail how such assessments were to be conducted, setting an overall “regulatory budget” for the maximum cost of all new regulations in a given year (without respect to their benefits), requiring detailed “regulatory impact assessments,” and mandating compensation for any reduction in property value resulting from limitation of its use by federal regulation, among other mandates. See Job Creation and Wage Enhancement Act of 1995, S. 6221, 104th Cong. (1995).

83. ANDREWS, *supra* note 1, at 351–59.

84. Carol M. Browner: *Biography*, U.S. ENVTL. PROT. AGENCY (Feb. 1998), <http://www.epa.gov/aboutepa/history/admin/agency/browner.html> [hereinafter *Browner Biography*].

85. Press Release, League of Conservation Voters, League of Conservation Voters Welcomes Carol Browner to the Board of Directors (June 23, 2011), available at <http://www.lcv.org/media/press-releases/League-of-Conservation-Voters-Welcomes-Carol-Browner-to-the-Board-of-Directors.html>.

86. Carol M. Browner, *Foreword: The Role of Private Parties in Resolving Public Problems*, 18 U. PA. J. INT’L ECON. L. 447, 449–50 (1997); SUSAN HUNTER & RICHARD W. WATERMAN, *ENFORCING THE LAW: THE CASE OF THE CLEAN WATER ACTS 221* (1996).

87. Exec. Order 12,898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 16, 1994); Exec. Order 13,045: Protection of Children from Environmental Health Risks and Safety Risks, 62 Fed. Reg.

In addition, she successfully fought off attempts by the 1994 Republican Congress to roll back EPA's regulatory powers.⁸⁸

Browner also began EPA's successful program to revitalize contaminated "brownfield" sites,⁸⁹ and skillfully and successfully championed tightening of federal air quality standards for ground-level ozone and particulates as well as for emissions from light trucks and sport utility vehicles.⁹⁰ Finally, she began to lay the foundations for EPA regulation of greenhouse gas emissions, despite bipartisan congressional opposition to any U.S. climate change action that did not include binding commitments by rapidly industrializing countries such as China.⁹¹ The few bipartisan successes of this era were 1996 pre-election amendments to the Food and Drug Act; amendments that abolished the "Delaney Amendment," which had prohibited any carcinogenic additives in food, and in exchange required toxicity testing for additives' effects on children as well as adults;⁹² and amendments to the Safe Drinking Water Act.⁹³ Some Republicans from Northeastern downwind states also supported the more stringent ozone and particulate standards.⁹⁴

Browner's emphasis on strict enforcement, however, was particularly controversial with respect to "new source review" (NSR), the requirement that pre-existing industrial sources of air pollution upgrade to technology that met the tougher Clean Air Act standards for new sources whenever they underwent major modifications.⁹⁵ Electric utilities in particular preferred to manage these older sources under the "cap and trade" scheme of the 1990 Clean Air Act, which

19,885, 19,885 (Apr. 23, 1997); U.S. ENVTL. PROT. AGENCY, 1993 ENVIRONMENTAL JUSTICE INITIATIVE (1993), available at http://www.epa.gov/compliance/ej/resources/reports/annual-project-reports/ej_annual_report_1993.pdf; U.S. ENVTL. PROT. AGENCY, THE EPA CHILDREN'S ENVIRONMENTAL HEALTH YEARBOOK (1998), available at <http://yosemite.epa.gov/ochp/ochpweb.nsf/content/pdf5.html/%24File/ochpyearbook.pdf>.

88. *Browner Biography*, *supra* note 84.

89. *Id.*

90. John H. Cushman Jr., *On Clean Air, Environmental Chief Fought Doggedly, and Won*, N.Y. TIMES, July 5, 1997, <http://www.nytimes.com/1997/07/05/us/on-clean-air-environmental-chief-fought-doggedly-and-won.html>; Warren Brown & Martha Hamilton, *EPA to Require Cleaner Fuels; Light Trucks, SUVs Must Meet Same Emission Standard as Cars*, WASH. POST, Dec. 21, 1999, at A1.

91. See S. Res. 98, 105th Cong. (1997).

92. ANDREWS, *supra* note 1, at 358.

93. Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, 110 Stat. 1613.

94. Cushman, *supra* note 90.

95. Peter Van Doren & Jerry Taylor, *Congress vs. Responsibility: New Source Review Problems Are on Capitol Hill*, NAT'L REV., Dec. 8, 2003, <http://old.nationalreview.com/comment/vandorentaylor200312080926.asp>.

only regulated total emissions rather than requiring strict compliance by every facility. Strict NSR enforcement, from the perspective of the utilities, undermined the more flexible cap-and-trade system and was far more costly. From the perspective of Browner's enforcement office, however, some utilities had been flouting the NSR requirement for years, continuing to upgrade old coal-fired power plants and use them more intensively without installing the best available technology as mandated by the original Clean Air Act. Browner's EPA filed 51 enforcement suits over this issue in the closing years of the Clinton administration, most of them against coal-fired power plants.⁹⁶ Her aggressive enforcement stance on this issue led many industries to support George W. Bush for election in 2000 over Al Gore and to lobby for more aggressive Republican initiatives to rein in EPA.⁹⁷

IX. ANOTHER ANTI-REGULATORY ERA: EPA UNDER GEORGE W. BUSH

The 2000 presidential election clearly reconfirmed environmental protection as a partisan issue, with high-profile environmental champion Al Gore as the Democratic nominee and George W. Bush, heavily supported by industries that were chafing under the Clinton EPA's aggressive regulatory and enforcement policies, as the Republican candidate. Bush had made a campaign pledge to require all power plants to meet federal standards for carbon dioxide as well as sulfur, nitrogen and mercury, but once in office, he both withdrew the U.S. from participation in international greenhouse gas reduction negotiations and reversed his pledge to regulate carbon dioxide emissions.⁹⁸

The Bush administration's record at EPA was, with a few important exceptions, one of the low points of the agency's history. Bush's first appointee as EPA administrator was Christine Todd Whitman, the moderate Republican governor of New Jersey.⁹⁹ In retrospect, Whitman's appointment appears to have been a token appointment of a woman from the moderate Northeastern wing of the Republican Party. Whitman resigned within two years after being

96. GRAHAM, *supra* note 72, at 201.

97. Bruce Barcott, *Changing All the Rules*, N.Y. TIMES MAG., Apr. 4, 2004, <http://www.nytimes.com/2004/04/04/magazine/04BUSH.html?pagewanted=all>.

98. ANDREWS, *supra* note 1, at 360–61.

99. *Christine Todd Whitman: Biography*, U.S. ENVTL. PROT. AGENCY (2001), <http://www.epa.gov/aboutepa/history/admin/agency/whitman.html>.

repeatedly undercut by the White House when defending and seeking to carry out what she had taken as his campaign commitments.¹⁰⁰ Whitman was followed as administrator by Michael Leavitt, a former governor of Utah who had been considered an effective environmental manager at the state level and soon went on to become Secretary of Health and Human Services.¹⁰¹ Leavitt was succeeded by Stephen Johnson, a career professional from within EPA who proved to be more a malleable subordinate for the White House's policies than a strong independent administrator in the tradition of Ruckelshaus.¹⁰²

During Administrator Leavitt's tenure, the agency strengthened its standards for ozone and other air pollutants and, in particular, implemented tougher standards for diesel emissions from both on- and off-road vehicles—the former begun under the Clinton administration—a major new step forward in air pollution control.¹⁰³ In 2005, EPA introduced the Clean Air Interstate Rule (CAIR), a pathbreaking proposal, albeit with controversial timelines, to create a cap-and-trade system for sulfur and nitrogen emissions covering the entire eastern half of the country.¹⁰⁴ CAIR was remanded to the EPA by the courts for refinements needed to pass judicial scrutiny, but was left in place in the meantime.¹⁰⁵ A controversial rule on reducing mercury emissions from power plants, called the Clean Air Mercury

100. The immediate reason for her resignation, as she confirmed in a later interview, was being directed by Vice President Dick Cheney to essentially exempt old coal-fired power plants from new source review requirements, a policy change that was later overturned by the courts. See Jo Becker & Barton Gellman, *Leaving No Tracks*, WASH. POST, June 27, 2007, at A1. Whitman subsequently authored a poignant book entitled *It's My Party, Too*, lamenting the Republican Party's abdication of commitment to environmental issues. CHRISTINE TODD WHITMAN, *IT'S MY PARTY, TOO: THE BATTLE FOR THE HEART OF THE GOP AND THE FUTURE OF AMERICA* (2005).

101. *Biography of Mike Leavitt*, U.S. DEP'T OF HEALTH & HUMAN SERVS., <http://www.hhs.gov/secretary/dhhssec.html> (last visited Sept. 10, 2011).

102. Cf. John Shiffman & John Sullivan, *An Eroding Mission at EPA*, PHILA. INQUIRER, Dec. 7, 2008, http://articles.philly.com/2008-12-07/news/24992895_1_climate-change-climate-change-deputy-administrator-jason-burnett.

103. Michael Janofsky, *New EPA Rules to Cut Diesel Soot / Regulations for Nonroad Vehicles Require Cleaner Fuel, Slashing Emissions by 90%*, S.F. CHRON., May 11, 2004, http://articles.sfgate.com/2004-05-11/news/17424399_1_diesel-fuel-new-diesel-trucks-that-use-diesel.

104. *Clean Air Interstate Rule: Basic Information*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/cair/basic.html> (last updated July 9, 2010).

105. *North Carolina v. U.S. Env'tl. Prot. Agency*, No. 05-1244 (D.C. Cir. Dec. 23, 2008) (order remanding CAIR to EPA without vacatur). See also GRAHAM, *supra* note 72, at 207–09.

Rule, was also proposed.¹⁰⁶ Positive features of the proposed rule would have included a permanent nationwide cap on total mercury emissions, but this approach would also have left open the risk of “hot spots” of toxic pollution at some facilities and unacceptably long compliance deadlines.¹⁰⁷ This proposal too was overturned by the courts.¹⁰⁸ EPA also introduced a vigorous program for cleaning up contaminated “brownfields” sites and stepped up the Energy Star voluntary energy efficiency certification program.¹⁰⁹

On other important issues, however, Bush’s EPA was dominated by White House pressure against strong environmental regulation, especially of the fossil fuel industries and their users. Led by Vice President Dick Cheney and the Interior Department, the Bush administration pursued aggressive policies of accelerated oil and gas leasing throughout the public lands and promoted new investments in coal production and use.¹¹⁰ EPA enforcement actions dropped dramatically.¹¹¹ In 2002 EPA issued a highly controversial new interpretation of the NSR regulations that would, in effect, permanently exempt old “grandfathered” industrial air polluters from ever having to upgrade to modern air pollution standards; this policy

106. *Clean Air Mercury Rule*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/oar/mercuryrule/> (last updated Mar. 16, 2011).

107. Regulating mercury as a hazardous air pollutant under section 112 of the Clean Air Act could be done immediately using known control technologies; the proposed EPA Clean Air Mercury Rule would instead have introduced a two-phase cap-and-trade program that would not be fully mandatory until 2018, with full reductions not expected until 2026. *Nine States Sue EPA Seeking Tougher Mercury Rule*, ENV’T NEWS SERV. <http://www.ens-newswire.com/ens/mar2005/2005-03-31-03.asp> (last visited Nov. 17, 2011); *Fact Sheet: EPA’s Clean Air Mercury Rule*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/oar/mercuryrule/factsheetfin.html> (last updated Mar. 16, 2011); OFFICE OF INSPECTOR GENERAL, U.S. ENVTL. PROT. AGENCY, 2006-P-00025, MONITORING NEEDED TO ASSESS IMPACT OF EPA’S CLEAN AIR MERCURY RULE ON POTENTIAL HOTSPOTS (2006), available at <http://www.epa.gov/oig/reports/2006/20060515-2006-P-00025.pdf>.

108. *New Jersey v. U.S. Env’tl. Prot. Agency*, 517 F.3d 574 (D.C. Cir. 2008) (vacating the Clean Air Mercury Rule). See also GRAHAM, *supra* note 72, at 210–14.

109. ANDREWS, *supra* note 1, at 379.

110. According to Graham, by 2004 the Department of Energy projected that the U.S. would have built 72 new coal-fired power plants, compared to zero projected in 1999; and by 2006 another 100 plants were under consideration, although by 2008 these numbers had been significantly reduced due to public backlash, lawsuits, and rising construction costs. GRAHAM, *supra* note 72, at 136–37.

111. Seth Borenstein, *Pollution Citations Plummet under Bush*, PHILA. INQUIRER, Dec. 9, 2003, http://articles.philly.com/2003-12-09/news/25469611_1_epa-administrator-mike-leavitt-bush-epa-pollution-citations.

was subsequently overturned by the courts.¹¹² In Appalachia, the Bush EPA approved rules that reversed Clean Water Act restrictions on dumping mine waste into streams, now allowing such dumping so long as harm was minimized “to the extent practicable” and was compensated for somewhere else.¹¹³ And the Bush administration tightened standards for motor vehicle fuel efficiency only marginally, far less than needed to have significant benefits.¹¹⁴

On climate change, Bush withdrew the U.S. from participation in international climate change negotiations and personally dismissed a major EPA scientific report on climate change as just another “report put out by the bureaucracy.”¹¹⁵ The climate change section of EPA’s scientific *Draft Report on the Environment*, released in 2003, was heavily edited by a former industry lobbyist in the Executive Office¹¹⁶ and ultimately withheld by Administrator Whitman rather than being published in politically edited form.¹¹⁷ Many other EPA reports were also said to have been subjected to political editing.¹¹⁸ EPA’s legal

112. GRAHAM, *supra* note 72, at 201–04; KIM CONNOLLY & VICTOR FLATT, CTR. FOR PROGRESSIVE REGULATION, ‘GRANDFATHERED’ AIR POLLUTION SOURCES AND POLLUTION CONTROL: NEW SOURCE REVIEW UNDER THE CLEAN AIR ACT (2005), available at http://www.progressivereform.org/articles/NSR_504.pdf

113. Excess Spoil, Coal Mine Waste, and Buffers for Perennial and Intermittent Streams, 73 Fed. Reg. 75, 814, 75,814 (Dec. 12, 2008); Juliet Eilperin, *EPA to Scrutinize Permits for Mountaintop-Removal Mining*, WASH. POST, Mar. 25, 2009, <http://www.washingtonpost.com/wp-dyn/content/article/2009/03/24/AR2009032401607.html>; Deborah Zaborenko, *EPA Eases Rule on Mountaintop Coal Mining Debris*, REUTERS, Dec. 3, 2008, available at <http://www.reuters.com/article/2008/12/03/us-coal-mountaintop-idUSTRE4B267F20081203>.

114. The mileage standards announced in March 2006 would have required an increase in the average fuel economy for passenger trucks only from 22.2 miles per gallon to 23.5 miles per gallon by 2010. *Court Throws Out Bush Fuel Economy Standards*, ENVTL. NEWS SERV., Nov. 16, 2007, <http://www.ens-newswire.com/ens/nov2007/2007-11-16-02.html>. Bush did subsequently propose a standard of 34 mpg for cars and light trucks by 2017, but did not implement this in regulations before the end of his term. John Hughes & Roger Runningen, *Bush Plans Rules to Boost Auto Fuel-Economy Standards (Update 1)*, BLOOMBERG NEWS, May 14, 2007, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aVMYPLUwm.LU&refer=home>; U.S. Dep’t of Transp., Statement on Corporate Fuel Economy Standards Finalization (Jan. 7, 2009), available at <http://www.dot.gov/affairs/dot0109.htm>.

115. Lloyd De Vries, *Bush Disses Global Warming Report*, CBS NEWS, June 4, 2002, <http://www.cbsnews.com/stories/2002/06/03/tech/main510920.shtml>.

116. Philip Cooney, formerly of the American Petroleum Institute, then chief of staff of the president’s Council on Environmental Quality; subsequently employed by ExxonMobil. See Jarrett Murphy, *White House Guts Global Warming Study*, CBS NEWS, June 19, 2003, <http://www.cbsnews.com/stories/2003/07/24/politics/main564873.shtml>.

117. ANDREWS, *supra* note 1, at 381.

118. See U.S. ENVTL. PROT. AGENCY, EPA 600-R-03-050, EPA’S DRAFT REPORT ON THE ENVIRONMENT TECHNICAL DOCUMENT (2003). For additional examples, see UNION OF CONCERNED SCIENTISTS, SCIENTIFIC INTEGRITY IN POLICYMAKING: AN INVESTIGATION INTO THE BUSH ADMINISTRATION’S MISUSE OF SCIENCE (2004), available at

office went on to issue a ruling asserting that the agency did not even have legal authority to regulate greenhouse gas emissions under the Clean Air Act, a ruling later rejected by the courts¹¹⁹ and reversed by the Obama administration.¹²⁰ Additionally, Administrator Stephen Johnson denied California's request for a waiver allowing it to regulate tailpipe emissions of greenhouse gases, an action that also was subsequently challenged in the courts.¹²¹

X. REAFFIRMATION OF EPA'S MISSION: THE OBAMA ADMINISTRATION

Since January 2009, the Obama administration has once again put highly experienced and committed regulators in charge of EPA. The agency is currently led by Administrator Lisa Jackson, a chemical engineer and former Commissioner of New Jersey's Department of Environmental Protection and, before that, a 16-year EPA veteran.¹²² Jackson's stated goal has been to "restore momentum to EPA's core programs—healthier air and water, and reduced risks from toxic substances—while also tackling emerging challenges such as climate change."¹²³ In her first two years, she reversed the Bush EPA's

http://www.ucsusa.org/assets/documents/scientific_integrity/rsi_final_fullreport_1.pdf; UNION OF CONCERNED SCIENTISTS, SCIENTIFIC INTEGRITY IN POLICYMAKING: FURTHER INVESTIGATION OF THE BUSH ADMINISTRATION'S MISUSE OF SCIENCE (2004), available at http://www.ucsusa.org/assets/documents/scientific_integrity/scientific_integrity_in_policy_making_july_2004_1.pdf; and U.S. HOUSE OF REPRESENTATIVES, COMMITTEE ON GOVERNMENT REFORM—MINORITY STAFF, POLITICS AND SCIENCE IN THE BUSH ADMINISTRATION (2003), available at <http://it.stlawu.edu/~vleh/Bush%20Politics%20Science.pdf>.

119. *Massachusetts v. U.S. Evtl. Prot. Agency*, 549 U.S. 497 (2007). The decision overruled the Bush EPA's position, holding that the Clean Air Act did indeed authorize it to regulate tailpipe emissions of greenhouse gases as hazards to the public health and welfare.

120. Acting on the basis of the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. at 497, EPA Administrator Lisa Jackson issued findings that greenhouse gases were a threat to public health and welfare, and that tailpipe emissions contribute to this threat. Proposed Endangerment and Cause or Contribute Finding for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18,886 (Apr. 24, 2009).

121. *California v. U.S. Evtl. Prot. Agency*, No. 07-1457, 2007 U.S. App. LEXIS 29095 (D.C. Cir. Dec. 11, 2007); 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 (Mar. 6, 2008); Press Release, Governor Arnold Schwarzenegger, Gov. Schwarzenegger Announces Intent to Appeal Denial of California's Tailpipe Emissions Waiver Request (Dec. 20, 2007), available at <http://www.cleancarscampaign.org/web-content/newsroom/docs/Schwarz-Appeal-12-20-07.pdf>.

122. *Administrator Lisa P. Jackson*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/aboutepa/administrator.html> (last updated June 15, 2011).

123. *Progress Report*, U.S. ENVTL. PROT. AGENCY (Apr. 29, 2009), <http://epa.gov/progress/>.

position on climate change, agreeing with the Supreme Court that EPA has both the authority and the responsibility to regulate greenhouse gas emissions, and issued draft regulations to begin that process as well as creating a mandatory greenhouse gas reporting registry for all major sources.¹²⁴ She also issued draft regulations restricting mercury emissions from cement kilns and coal-fired power plants.¹²⁵ In 2010, she severely tightened standards for mountaintop-mining impacts on water quality, and, in 2011, for the first time, cancelled a major mountaintop-mining permit,¹²⁶ telegraphing a significantly stronger position on the Clean Water Act's mandate to protect water quality. After a significant spill from a coal ash storage pond, she proposed more stringent new regulations on coal ash disposal as well.¹²⁷ Finally, she administered a major increase in funding under the Obama Administration's economic recovery stimulus funding—the American Recovery and Reinvestment Act—for a wide range of initiatives, including community drinking-water and water-quality infrastructure projects, brownfield restoration initiatives, additional Superfund site and underground storage tank cleanups, and diesel emission reduction investments.¹²⁸

Taken as a whole, many of these policies represented a particularly strong reversal of the Bush administration's policies promoting the coal industry, significantly raising the cost of coal to reflect more of its full environmental costs and thus reducing its advantage relative to environmentally more benign renewable energy sources.

124. See *supra* note 120.

125. Press Release, U.S. Env'tl. Prot. Agency, EPA Sets First National Limits to Reduce Mercury and Other Toxic Emissions from Cement Plants (Aug. 9, 2010), available at <http://yosemite.epa.gov/opa/admpress.nsf/e77fdd4f5afd88a3852576b3005a604f/ef62ba1cb3c8079b8525777a005af9a5!OpenDocument>; *Mercury and Air Toxics Standards (MATS) for Power Plants*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/airquality/powerplanttoxics/> (last updated July 28, 2011).

126. John M. Broder, *Agency Revokes Permit for Major Coal Mining Project*, N.Y. TIMES, Jan. 13, 2011, <http://www.nytimes.com/2011/01/14/science/earth/14coal.html?pagewanted=all>; Kris Maher & Siobhan Hughes, *EPA Toughens Mining Permits*, WALL ST. J., Apr. 2, 2010, <http://online.wsj.com/article/SB10001424052702303960604575158032996638508.html>.

127. Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities, 75 Fed. Reg. 35,128 (June 21, 2010). As of October 2011, the rule had not yet been finalized.

128. U.S. ENVTL. PROT. AGENCY, AMERICAN RECOVERY AND REINVESTMENT ACT QUARTERLY PERFORMANCE REPORT, CUMULATIVE RESULTS AS OF JUNE 30, 2011 (2011), available at <http://www.epa.gov/recovery/pdfs/ARRA-FY11-Quarter-3-Performance-Report.pdf>.

As a pattern, these policies also represented a dramatic new “swing of the pendulum” from the laxity of the Bush administration back toward a more vigorous rulemaking and enforcement policy for environmental protection. With the election of a far more strongly anti-government, Republican-led House of Representatives in 2010, however, the new majority, including some Democrats from fossil-fuel-dependent states, threatened legislation to limit EPA’s powers to carry out many of these proposals or, failing that, to hamstring the agency through budget cuts and constant oversight hearings.¹²⁹ Only time will tell which if any of these measures will be approved by the Senate and the president, and when and on what issues, if any, a working bipartisan consensus can be achieved on strong and stable environmental performance expectations.

XI. DISCUSSION

In short, EPA at 40 has accomplished a great deal and has generated proposals for a variety of further innovations, but remains fundamentally constrained within the regulatory frameworks and fragmented authorities of the 1970s due to the loss of bipartisanship, trust and shared commitment to its mission among the members and factions of Congress. EPA has significantly improved the overall quality of the air we breathe, vastly improved waste management practices, removed lead and stratospheric ozone-depleting chemicals from the air and significantly reduced pollution discharges from point sources into both air and water.¹³⁰ It also has attempted to generate innovative methods to improve both economic efficiency and environmental outcomes, such as emissions trading. However, these successes are highly imperfect and vulnerable to changes in administration. The agency still does not have an overarching framework of authority and tools to protect the environment and set priorities more generally, let alone a broader mission to help achieve an economy that is environmentally sustainable.

129. U.S. HOUSE COMMITTEE ON APPROPRIATIONS—DEMOCRATS, LEGISLATIVE RIDERS AND FUNDING LIMITATIONS IN H.R. 2584 INTERIOR, ENVIRONMENT, AND RELATED AGENCIES APPROPRIATIONS, FY12 (2011), http://democrats.appropriations.house.gov/images/Special_Interest_List_Interior_Appropriations.pdf; *House GOP Passes Bill Targeting EPA Regulations*, FOX NEWS, Sept. 23, 2011, <http://www.foxnews.com/politics/2011/09/23/house-gop-passes-bill-targeting-epa-regulations/>.

130. See generally J.C. DAVIES & J. MAZUREK, POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM (1998).

As a result, important threats to the environment remain unsolved and unmanaged. Among the most obvious examples are water pollution from non-point sources, aggregate motor vehicle emissions, grandfathered pre-existing power plants and industrial facilities, wetland destruction and continued urbanization of other ecologically valuable natural lands, continuing uncertainty over whether Congress will undercut its nascent regulation of greenhouse gas emissions, and the absence of effective approaches to new hazards such as nanomaterials.

Despite perennial calls for better science, EPA's risk-based regulatory programs have ironically been among its least effective, largely because they are vulnerable to unending debate and politicization of the assumptions used in the science itself.

Politically, as a regulatory agency, EPA's most active constituencies are those businesses that would be most affected by its regulations, particularly those that would be required to retrofit existing facilities to comply with new regulations and are seeking to avoid the costs of change. EPA's constituencies also include firms that benefit from its regulations, such as emissions-control equipment manufacturers and the ethanol industry, but also more generally, those businesses that simply want to maintain the status quo, including those that have already litigated the existing regulations and invested in complying with them and do not want competitors to escape these costs. These businesses are implicitly allies of environmental groups protecting the status quo, but not necessarily of those seeking more efficient or more effective reforms.

The main constituencies in favor of EPA's mission of more effective environmental protection include a few organized environmental advocacy groups who wish to do more than simply protect existing statutes and regulations; innovative "green" enterprises and renewable-energy producers seeking to grow their businesses; in many instances (though not all), the courts; and in principle, the general public, to the extent that the public can be galvanized intermittently into active pressure by environmental crises reported in the media, or by threats to the basic legislation of environmental protection as an election issue. In 2006, for instance, environmental advocates helped defeat one of the most outspokenly extreme anti-regulatory Republican House leaders, Richard Pombo,

in an ostensibly safe district in California,¹³¹ but the general public is notoriously difficult to keep mobilized and is especially vulnerable to other fears and priorities, such as terrorism and economic downturns. In the 2010 election, environmental voting appears to have been eclipsed by other issues and made little significant difference to the electoral outcomes.¹³²

For the present, it is clear that any hope of significant environmental policy reform in Congress continues to be held hostage to bitter partisan gridlock, demonstrated most clearly in Congress's failure to enact any climate change legislation in 2009 or thereafter. It is just as clear that EPA, with all the limitations as well as the strengths of its statutory authorities, therefore remains the nation's key hope for action to protect the environment and public health from harmful pollutants.

With each recent change in presidential party affiliation, however, EPA's policies have been subjected to exaggerated "swings of the pendulum" between aggressiveness and laxity, based on the ideological polarization of the two major parties on this issue and the demonization of environmental protection policy as an element of the anti-government core ideology that now dominates the Republican party. The conflation of these issues, and the resulting congressional gridlock and executive policy volatility on environmental protection policy, have arguably been as harmful to businesses as to the environment. This represents a pattern that serves neither the environment nor even the business community well.

Under all administrations, moreover, there has been a large disparity between EPA's mandates and its funding. In real terms, EPA's budget in 2010 was barely above what it was in 1992, despite its increased responsibilities, and this disparity is likely to continue if not increase given the growing federal budget deficit and resulting restrictions on discretionary domestic spending.¹³³

In short, EPA's most serious unsolved problems and deficiencies are congressionally imposed: they cannot be solved without

131. See Bettina Boxall, *Environmentalists Savor Pombo Defeat as Sign of Power*, L.A. TIMES, Nov. 9, 2006, <http://articles.latimes.com/2006/nov/09/local/me-defenders9>.

132. Jeffrey Jones, *In U.S., Many Environmental Issues at 20-Year-Low Concern*, GALLUP (Mar. 16, 2010), <http://www.gallup.com/poll/126716/environmental-issues-year-low-concern.aspx>.

133. ROBERT ESORTHY ET AL., CONG. RESEARCH SERV., R41149, ENVIRONMENTAL PROTECTION AGENCY (EPA): APPROPRIATIONS FOR FY2011, at 31 fig.B-1 (2010), available at <http://cnie.org/NLE/CRSreports/10Jun/R41149.pdf>.

congressional will to pursue a greener economy, both by deploying market-oriented regulatory tools and removing perverse subsidies and other incentives that continue to protect environmentally damaging—and economically anachronistic—practices of an earlier era.

This continued congressional gridlock represents as much a split in the business community as it does a partisan and ideological divide. The split exists between businesses that want to make greener investments and need greater certainty about future prices and regulatory expectations to do so, and those that want to continue to operate older facilities and more environmentally damaging practices. It also exists between those who see environmental protection as inherently a form of big government to be resisted and reduced, and those who advocate ways of achieving environmental protection that could also make markets work more efficiently on an environmentally sustainable “level playing field;” and between those environmental advocates who see business as inherently an enemy to be regulated and punished, and others who seek alliances with those businesses that could be core partners in creating a greener economy.

Finally, throughout EPA’s history the courts have played a critical role in upholding or reversing EPA’s actions. This role reflects complicated cross-cutting considerations. Courts must face questions about whether they should uphold strongly environmentally protective interpretations of the agencies’ statutes—even in some cases in which the agency is the one trying to weaken the statute—and whether to give broad deference to the agency’s expertise or to take their own “hard look” at the substance of the agency’s decisions as well as the agency’s procedures in reaching them, an approach which has tended to increase the burden of proof on the agency before approving environmentally protective regulations.¹³⁴

EPA’s statutory mandates to protect the environment have frequently been protected and vindicated by the courts, even in cases in which the EPA itself has downplayed or sought to weaken them. As Schroeder and Glicksman comment,

Up at least through the 1990s, industry prevailed in nearly half of the cases in which it charged that EPA provided an inadequate explanation for its decision and both pro-industry and proenvironmental litigants succeeded in a remarkably high percentage of the cases in which they leveled attacks on EPA’s

134. See, e.g., Rita L. Weckler, *Case Comment: A “Hard Look” at a Soft Analysis*, *Corrosion Proof Fittings v. Environmental Protection Agency*, 4 B.U. PUB. INT. L.J. 145 (1994).

science based on defects in the agency's explanations for its decisions [At the same time,] the Courts of Appeals during the 1990s have indeed been wary about making comparative judgments and for that reason do not typically question EPA's evidentiary choices or second-guess the agency in its readings of the weight of the scientific evidence. . . . [At the same time,] the courts have not been hesitant during the past decade to inflict defeat upon EPA when the agency provides no evidence at all to support its technical determinations, relies on evidence that conflicts with the stated views of its own experts, employs technical models or methodologies that are obviously ill-suited to assessing the impact of the regulated activity on the environment, fails to explain in any way an apparently illogical conclusion, is silent in the face of a pointed and relevant question about the logic of its reasoning, or engages in internally inconsistent reasoning or reasoning that for unstated reasons conflicts with the agency's own previous practice.¹³⁵

Particularly during George W. Bush's second term, for instance, court decisions repeatedly overruled EPA regulatory proposals to weaken environmental regulations, such as NSR, the Clean Air Mercury Rule which would have allowed flexible trading in place of site-specific controls on this toxic contaminant, some portions of the CAIR rule, and notably the *Massachusetts v. EPA* decision confirming EPA's authority, against the Bush EPA's wishes, to regulate greenhouse gases under the Clean Air Act.¹³⁶ In other cases, however, the courts have not always supported the EPA, as evinced by a ruling of the conservative Fourth Circuit Court of Appeals in *Ohio Valley Environmental Coalition v. Aracoma Coal Co.*, overriding a number of district court decisions that had upheld strict EPA regulation of mountaintop removal mining under the Clean Water Act.¹³⁷

XII. THE NEXT 40 YEARS

Given this history and EPA's current imperfect circumstances, what should EPA aspire to look like over its next 40 years?

One would hope, first, for a broader mandate, not simply to regulate individual pollutants and facilities, but to lead in transforming existing government policies into more effective incentives to create a greener, economically efficient, and

135. Christopher H. Schroeder & Robert L. Glicksman, *Chevron, State Farm and the EPA in the Courts of Appeals during the 1990s*, 31 ENVTL. L. REP. NEWS & ANALYSIS 10371 (2001).

136. *Cf. GRAHAM, supra* note 72, at 220; *cf. also* Shiffman & Sullivan, *supra* note 102.

137. 556 F.3d 177, 186 (4th Cir. 2009).

environmentally sustainable economy. EPA also needs clearer authority to lead in addressing global threats to the environment and human health as they become increasingly serious.

Second, and at the very least, EPA needs statutory authority to take more integrated approaches across its traditional regulatory programs to reduce major pollutants in all their most significant environmental media and exposure pathways, especially for potentially serious new hazards such as nanomaterials.

Third, EPA needs authority to deploy a broader and more flexible range of policy tools, including, for instance, market-oriented incentives, behavioral “nudges,”¹³⁸ information disclosures, and liability, all in a regulatory framework that provides more certainty both of environmental performance outcomes and for businesses as to what regulations and markets they will face for pollutants and other uses of the environment. To do this well, the agency also needs clearer authority and increased funding for applied research and development on the social and behavioral aspects of solving environmental problems, in order to design more effective policies and to evaluate and improve their outcomes.

Finally, chronically underfunded, EPA needs more resources to do the job that has been assigned to it by Congress and expected of it by the American people.

138. See RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 183–96 (2008); RICHARD H. THALER, CASS R. SUNSTEIN & JOHN P. BALZ, *CHOICE ARCHITECTURE* (2010), available at <http://ssrn.com/abstract=1583509>.