ESSAY

GLOBAL WARMING AND THE PROBLEM OF POLICY INNOVATION: LESSONS FROM THE EARLY ENVIRONMENTAL MOVEMENT

BY

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When it comes to influencing government decisions, special interests have some built-in advantages over the general public interest. When the individual members of special interest groups have a good deal to gain or lose as a result of government action, special interests can organize more effectively, and generate benefits for elected officials, such as campaign contributions and other forms of political support. They will seek to use those advantages to influence government decisions favorable to them.

The public choice theory of government decision making sometimes comes close to elevating this point into a universal law, suggesting that the general public interest can never prevail over powerful special interests. In the period of the late 1960s and early 1970s, however, Congress enacted numerous significant environmental laws, laws that continue to form the backbone of federal policies toward environmental problems. These laws were truly innovative in their policies and their designs, and they pitted the general public interest in improving environmental quality against powerful, special interests. In each case, the general public interest was able to prevail.

This policy "window" did not stay open for long. It was quickly succeeded by an extended period in which enacting additional innovative statutes has proven nearly impossible, which continues to this day. Yet we need innovative approaches to address continuing and emerging environmental problems more than ever. This is self-evidently true with

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respect to the problem of global warming and climate change. The questions worth asking are whether we can identify the factors that once made policy innovation possible in the late 1960s and early 1970s and if those factors can be produced once again.

For the public's David to be able to stand up against the special interest Goliaths, a broad base of the public must first be mobilized, and then that mobilization must be sustained, which typically occurs when the public embraces a sense of great urgency. Urgency can be generated when the public appreciates that failure to address a problem threatens them or their loved ones with significant harm. Media attention plays a key role in creating the public's awareness of any urgent problem. These factors can succeed in putting general concerns of the public on the public agenda, at which time acceptable proposals for workable solutions need to be available. When the first window for policy innovation opened up in the late 1960s and early 1970s, each of these favorable factors was present for many of our conventional pollution problems. At the same time, the strength of the special interests was at a low ebb.

This Essay argues that under current circumstances, the conditions for policy innovation are not yet as favorable as they were in this earlier period. Strong presidential leadership may be capable of altering those conditions, but as yet the public's concern about the adverse effects of climate change does not appear to have achieved the same strength or intensity as comparable concerns over conventional pollution problems had earlier.

In this opening decade of the twenty-first century, our nation and the entire globe faces a daunting array of environmental problems. They present some steep hills to climb, with disruptive climate change looming as the largest. This Essay concentrates on that problem, but we do well to remember that this is far from the only severe environmental problem that we face. For example, the World Health Organization estimates that each day 3000 African children are dying of malaria and other water borne diseases, diseases that the Organisation for Economic Co-operation and Development (OECD) member countries have conquered but that still hold the less developed countries in a death grip.[1] If you want to gain some sympathy for why the developing economies of the world are reluctant to agree to limits on carbon emissions to help address disruptive climate change, you need look no further than their desire to raise their standard of living so that they can enjoy some of the basic indicators of well being that Americans take for granted.

The OECD countries have their own persistent problems, of course. Just take the United States. Forty years after Congress enacted the Clean Air Act[2] about 130 million Americans live in counties that are not meeting the health-based ambient air

[1] Brett Parris, *In the Eye of the Storm*, OECD OBSERVER, Nov. 2001, at 40, 40–41; Press Release, World Health Org., Malaria Is Alive and Well and Killing More than 3000 African Children Every Day (Apr. 25, 2003), http://www.who.int/mediacentre/news/releases/2003/pr33/en/ (last visited Apr. 19, 2009).

[2] 42 U.S.C. §§ 7401–7671q (2006).

quality standards for ozone.[3] Endocrine disruptors remain perplexing; we know that persistent organic pesticides and other varieties of chemical compounds interfere with the human endocrine system, but we are still groping for reliable ways to test for and classify these environmental stressors.[4] Asthma incidents have increased despite the air being generally cleaner due to efforts under the Clean Air Act, and we are not entirely sure why.[5] The United States Environmental Protection Agency (EPA) is moving toward lowering the ambient standard for lead by nearly 90% because consensus science ties lead exposure to IQ and other cognitive defects at much lower levels than the current standard.[6] EPA's most recent assessment of the nation's water quality, based on state reported data, lists just under half of the assessed rivers and lakes as "impaired," which is EPA's lowest classification.[7] States only assessed about 19% of their rivers and 37% of their lakes,[8] so we are uncertain whether the problem is much worse than this or not—but it is probably no better.

Adequately addressing each of these problems, as well as others, may stretch beyond the existing environmental legal framework's capabilities. At the same time, however, the prospect of significantly new and innovative measures to cope with this daunting agenda seems to be quite dim. For the past twenty or thirty years the United States has been experiencing a deep partisan divide on environmental matters,[9] making constructive progress difficult to achieve. The practical political obstacles that environmental legislation confronts are often are accompanied by a theoretical explanation. The theory of public choice, very popular within the academy, sketches a view of politics and policy in which pushing environmental legislation through the legislature is practically impossible.[10] Public choice theory

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[3] U.S. Envtl. Prot. Agency, Green Book: 8-Hour Ozone Nonattainment Areas, http://www.epa.gov/oar/oaqps/greenbk/gntc.html (last visited Apr. 19, 2009).

[4] *See* John P. Myers, Sheldon Krimsky & R. Thomas Zoeller, *Endocrine Disruptors—A Controversy in Science and Policy: Session III Summary and Research Needs*, 22 NEUROTOXICOLOGY 557, 557–58 (2001). EPA proposed plans in draft form for testing endocrine disruptors in December of 2007, but the plans are still awaiting final agency action. *Bush to Leave Office with Key EPA Proposals in White House Review Limbo*, INSIDE EPA WKLY. REP., Jan. 16, 2009, at 10.

[5] *See* U.S. Envtl. Prot. Agency, Measure D1: Percentage of Children with Asthma, http://www.epa.gov/envirohealth/children/child_illness/d1-background.htm (last visited Apr. 19, 2009) (summarizing studies proposing various explanations for the increased incidence of asthma). The number of children reporting an asthma incident in the last twelve months nearly doubled between 1980 and 1995. *Id.* The National Health Interview Survey estimated that 9.3%, or 6.8 million children, had asthma in 2006. *Id.*

[6] *See* National Ambient Air Quality Standards for Lead, 73 Fed. Reg. 29,184, 29,187, 29,199 (May 20, 2008).

[7] *See* 40 C.F.R. § 130.7(b) (2008) (listing the reporting requirements for states under the Clean Water Act); *EPA Water Report May Spur House Action on Nonpoint Source Pollution*, INSIDE EPA WKLY. REP., May 18, 2007, at 16 (describing EPA's water quality assessment for 2007, which indicates 45% of the nation's assessed streams and rivers, 47% of assessed lakes, and 32% of assessed estuary square miles are impaired).

[8] U.S. ENVTL. PROT. AGENCY, NATIONAL WATER QUALITY INVENTORY: REPORT TO CONGRESS 7, 11 (2007), *available at* http://www.epa.gov/305b/2002report/report2002pt3.pdf.

[9] *See generally* MICHAEL E. KRAFT, ENVIRONMENTAL POLICY AND POLITICS 104–07 (4th ed. 2007) (describing the political divisions over environmental policy during the last several decades).

[10] *See* Michael A. Livermore, *Reviving Environmental Protection: Preference-Directed Regulation and Regulatory Ossification*, 25 VA. ENVTL. L.J. 311, 345 (2007); Christopher H. Schroeder, *Rational Choice Versus Republican Moment—Explanations for Environmental Laws, 1969-73*, 9 DUKE ENVTL.

views legislation as a good to be sold in the political market to the highest bidder.[11] It is a marketplace skewed in favor of smaller groups of economically powerful interests who stand to lose a great deal—and hence have great reason to oppose legislation—and biased against much larger groups of individuals, each of whom has a comparatively small amount to gain. The smaller group can organize more easily, can assemble the necessary resources to fight legislative battles more easily, can contribute to legislators' campaigns more effectively, and will win all the major legislative battles waged between it and the larger, but more diffuse group. According to the public choice logic, "regulatory policy outcomes that deliver broad benefits to unorganized citizens at the expense of organized interest groups would run contrary to the theory's clear expectations."[12]

This description fits most environmental legislation to a tee. Take air quality legislation as an illustration. Most air quality laws aim at benefiting a great many of us by making the air a little healthier for each of us to breathe. On the other hand, that legislation imposes substantial costs on public utilities, automobile manufacturers, energy companies, steel mills, and the like. Public choice theory posits that these concentrated groups of economically powerful industrial and commercial interests will prevail in a straight up contest with us air-breathing citizens.[13]

Public choice is onto something important; Bismarck warned us that sausage making and legislation making are not pretty sights, and a great deal of what makes the latter seem so distasteful is due to the influence of special interest groups.[14] But public choice also leaves out some important things, too. As an overall account of actual political decision making, it is just wrong.

Evidence of the problems with public choice accounts of environmental policy making can be found in abundance in the massive amount of environmental policy innovation that Congress passed in the early days of the modern environmental era. In a tremendous burst of lawmaking between 1969 and 1980, Congress enacted several dozen significant federal laws to cope with just about all the major environmental problems as they were understood at that time. During this span of

L. & POL'Y F. 29, 30 (1998) ("Rational choice has been the hottest stock in the political science portfolio for the past 30 years.").

11 For summaries of the brand of public choice described in this paragraph, see STEVEN P. CROLEY, REGULATION AND THE PUBLIC INTERESTS: THE POSSIBILITY OF GOOD REGULATORY GOVERNMENT 15, 19–21 (2008); Daniel A. Farber, *Politics and Procedure in Environmental Law*, 8 J.L. ECON. & ORG. 59, 61, 65 (1992); and Schroeder, *supra* note 10, at 34–35.

12 CROLEY, *supra* note 11, at 23. The bleak picture of public choice depicted here has been influential, but there are also less bleak—and more plausible—variants of public choice. For a more realistic articulation of the political market place from a public choice perspective, see generally Nathaniel O. Keohane, Richard L. Revesz & Robert N. Stavins, *The Positive Political Economy of Instrument Choice in Environmental Policy*, *in* ENVIRONMENTAL AND PUBLIC ECONOMICS 89, 90–116 (Arvind Panagariya, Paul R. Portney & Robert M. Schwab eds., 1999) (analogizing political outcomes to market principles and predictions).

13 CROLEY, *supra* note 11, at 23.

14 While the famous remark about laws and sausages has been widely attributed to Otto von Bismarck—see, for example, then-Judge Scalia in *Community Nutrition Institute v. Block*, 749 F.2d 50, 51 (D.C. Cir. 1984)—in fact, the occasion when Bismarck uttered the remark has never been confirmed. *See, e.g.*, JEREMY WALDRON, LAW AND DISAGREEMENT 88 n.2 (1999). Some have attributed it to Benjamin Disraeli and Winston Churchill. *Id.*

just a little over ten years, the National Environmental Policy Act of 1969,[15] the Clean Air Amendments of 1970,[16] the Federal Water Pollution Control Act Amendments of 1972,[17] the Federal Environmental Pesticide Control Act of 1972,[18] the Endangered Species Act of 1973,[19] the Safe Drinking Water Act,[20] the Toxic Substances Control Act,[21] the Resource Conservation and Recovery Act of 1976,[22] and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980,[23] among others, all came into existence.

These laws are something of an embarrassment to public choice theory's bleak account of how narrow special interests conquer the general interest. The environmental laws pitted the interests of the general public against the interests of concentrated, economically powerful industries, sometimes arraying just about all of the economically powerful industries in the American economy against citizens who wanted cleaner air, cleaner water, and fewer toxic products—and yet they were enacted.[24]

The environmental laws passed in the early 1970s defy conventional public choice wisdom. And yet, there they are. Public choice is not wrong in thinking that special interests have advantages compared to diffuse interests, but it is wrong in thinking that those advantages are always going to be decisive. Special interests can be defied; the general interests of the public at large can be enacted—but only under certain conditions. When those conditions are present, a policy window opens up in which environmental measures aimed at benefiting the general public and working for the greater good can be enacted.

In the 1970s, such a policy window opened up, but it did not stay open for long. Environmental policy innovation slowed to a crawl around 1976.[25] While the notoriety of Love Canal helped generate enough momentum for the Superfund legislation in 1980,[26] Congress has produced remarkably little innovative environmental legislation since.[27] As a result, we are living with environmental

15 Pub. L. No. 91-190, 83 Stat. 852 (1970).

16 Pub. L. No. 91-604, 84 Stat. 1676 (1970).

17 Pub. L. No. 92-500, 86 Stat. 816 (1972).

18 Pub. L. No. 92-516, 86 Stat. 973 (1972) (amending the Federal Insecticide, Fungicide, and Rodenticide Act).

19 Pub. L. No. 93-205, 87 Stat. 884 (1973).

20 Pub. L. No. 93-523, 88 Stat. 1660 (1974).

21 Pub. L. No. 94-469, 90 Stat. 2003 (1976).

22 Pub. L. No. 94-580, 90 Stat. 2795 (1976).

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

24 For good accounts of the political dynamics of this period, see generally RICHARD LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 94–97 (2004) (describing the opposition to the new environmental laws passed in the 1970s); MARY GRAHAM, THE MORNING AFTER EARTH DAY 34–50 (1999) (describing the social and political dynamics between 1960 and 1970 that led to the creation of multiple, major environmental laws); and ROBERT PERCIVAL, CHRISTOPHER H. SCHROEDER, ALAN S. MILLER & JAMES P. LEAPE, ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY 88–98 (5th ed. 2006) (describing the various stages in the development of environmental law in the United States).

25 *See generally* LAZARUS, *supra* note 24, at 93–94, 97 (describing how industry's efforts to oppose environmental laws had little "perceptible impact on environmental laws themselves during the 1970s").

26 *See* RICHARD ANDREWS, MANAGING THE ENVIRONMENT, MANAGING OURSELVES 247–48 (1999).

27 *See generally* LAZARUS, *supra* note 24, at 106, 110 (describing the limited number of significant environmental laws enacted in the 1980s, while noting that "Congress substantially amended in the 1980s the Clean Water Act; [the Comprehensive Environmental Response, Compensation, and Liability

statutes and regulatory structures that are getting old, exhibiting signs of their age, and perhaps are just not up to the tasks lying ahead. Many people fervently hope that we can open a second policy window for innovative approaches to our remaining environmental challenges. What conditions do we need to open that window? We can learn some things by studying the conditions that created the last one.

Major policy initiatives fare better if they exhibit two features. First, the idea behind the initiative and the proposed method for implementing it need a strong basis in sound public policy. Is the policy a good response to a problem sufficiently important to justify government action? Having a good idea is always the best starting point, but it is almost never enough. If you are the President of the United States, there are things that you can accomplish by Executive Order with the stroke of a pen, without having to cope with Congress or even your own sometimes recalcitrant bureaucracy.[28] Presidents can even act in the face of a disapproving public, although they do not go this route too often because it can extract a high price from the President's ability to accomplish other parts of his agenda. In any event, Executive authority can only go so far; much innovating in the area of environmental policy is going to require involvement by Congress, and in the congressional environment, even the very best of ideas is going to need further assistance.

The second feature for successful policy innovation is this further assistance. There needs to be enough active and enduring support to push through the barriers that stand between many good ideas and their enactment into law. Sometimes a relatively small group of very motivated people can be successful in the legislative arena, shepherding a good idea to final passage.[29] When important interest groups oppose policy change because of the costs that it will impose on them, however, and when those groups are themselves highly organized and alert to threats to their well being, it takes something powerful to break the policy monopoly that such groups can enjoy.[30]

When organized interests sense that legislative innovation will cause them losses, one can be confident that they will strongly resist. This, too, is characteristic

Act]; the Federal Insecticide, Fungicide, and Rodenticide Act; the Resource Conservation and Recovery Act; the Safe Drinking Water Act; and the Toxic Substances Control Act"). Although legislative innovation slowed, existing environmental statutory regimes continued in place throughout this period. *See id.* at 116 (discussing environmental law's "surprising persistence" throughout the 1980s despite political opposition from Reagan).

[28] For treatments of the President's capacities to act independently of the Congress, see generally *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 587–89 (1952) ("In the framework of our Constitution, the President's power to see that the laws are faithfully executed refutes the idea that [the President] is to be a lawmaker."); Graham G. Dodds, *Executive Orders from Nixon to Now*, *in* EXECUTING THE CONSTITUTION 53, 53–66 (Christopher S. Kelly ed., 2006) (describing various presidents' use of "executive orders for a variety or purposes, often with little explicit constitutional or legislative authority"); and Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2346–52 (2001) (describing the president's power relative to the administrative branch and Congress).

[29] *See, e.g.*, Daniel Lipinski, *Navigating Congressional Policy Processes: The Inside Perspective on How Laws Are Made*, *in* CONGRESS RECONSIDERED 337, 347–52 (Lawrence C. Dodd & Bruce I. Oppenheimer eds., 2009) (describing how the author and a colleague shepherded legislation mandating energy-efficient light bulbs in federal buildings through the congressional process).

[30] FRANK R. BAUMGARTNER & BRYAN D. JONES, AGENDAS AND INSTABILITY IN AMERICAN POLITICS 8–9 (1993) ("[T]here is no reason to assume that those originally favored by the political system will not be able to use their superior resources and political connections to their advantage.").

of environmental legislation; it is nearly impossible to produce major domestic policy change in fields like energy and the environment without redistributing to some extent, and sometimes to a major extent, competitive advantages and disadvantages. If the groups that the law will adversely affect are concentrated and well organized, they will have great motivation to resist change, as well as sophisticated means for doing so. Sophisticated opposition ruined President Bill Clinton's effort to reform the health care system in 1993. Clinton's bill would have effected major changes in health care and health care delivery in this country,[31] and for every group the bill benefited there was another that the bill harmed. In the end, the failed legislation proved once again that it is much easier to block legislative change than it is to push it through.[32]

The defeat of Clinton's health care plan was a victory for oppositional interest groups, and illustrates the public choice prediction that in struggles to enact legislation, concentrated economic interests will prevail. Once again, although it over-reads the evidence to generalize that concentrated interests will always dominate efforts at legislative change, they will always be formidable opponents. No one denies that special interests have distinct advantages in the battle over legislative change, nor that legislative change is particularly difficult to achieve where powerful interests stand to lose. Utility companies, energy companies, steel mills, hospitals, and insurance companies carry a great deal of clout. While this means that the broad public interest faces stiff opposition, the evidence from the early environmental era also stands as testimony for the ability of the broad public interest to overcome that opposition—if conditions are ripe. One crucial condition focuses on garnering active and enduring support.

Thus, in conditions where interest groups are as free to organize as the rest of us, an excellent innovative environmental idea is only the beginning. The idea needs powerful support. Some of that support may come from advocates of good government who endorse and support an idea because it seems likely to advance a vision of the good society that they embrace. Against powerful entrenched interests, though, that typically will not be enough. For ideas that stand to benefit the wider society as a whole, a natural candidate for broadening the base of support is to find a way to enlist broad public support. If that can be successfully done, "[e]ven where a political battle pits economically powerful Goliaths against much poorer Davids, the victory of Goliath is not to be taken for granted."[33]

It can be very difficult to mobilize enough Davids, however. When each person in a large group has relatively little at stake, group inertia is high and group effectiveness will not be commensurate with its size. In order to overcome this inertia, someone has to get the attention of individuals in the group and then to retain and sustain their interest long enough to form and maintain a winning

31 *See, e.g.*, Steven Greenhouse, *The States' Stakes In Clinton Health Plan*, N.Y. TIMES, Oct. 10, 1993, at E5.

32 Any careful account of the Clinton health care reform effort identifies a number of factors contributing to its failure, but clearly the opposition of well-financed interests was chief among them. *See, e.g.*, HAYNES JOHNSON & DAVID S. BRODER, THE SYSTEM: THE AMERICAN WAY OF POLITICS AT THE BREAKING POINT, at xi (1996) ("[A]s our narrative will show . . . responsibility [for the health care bill defeat] rested on weaknesses in the Democratic Party, defections among its allies, and especially on the ability of well-financed opponents to fan public fears of Big Government and bureaucracies.").

33 BAUMGARTNER & JONES, *supra* note 30, at 9.

coalition. This often means a period of concerted public education, as those dedicated to the merits of the idea work to diffuse an appreciation of it among a larger public. The educational process, furthermore, needs to go well beyond conveying information and improving the ability of people to provide informed answers about the state of the environment. People are busy; we have lots of things on our minds. We are constantly being told that we have to prioritize, engage in time management, and take the most important things first. How do you get an issue to the top of someone's priority list? To *mobilize* people requires a sense of urgency. Even better, people ought to see the issue as one of *great urgency*—the sort of problem that, if you do not address it now, it is going to be too late and you are going to deeply regret your failure. If it is not important, people will not invest enough in doing something about it, let alone invest in action that may well be costly to them.

A big reason the 1970s policy window opened is that people thought environmental problems were both important and urgent. The 1960s had been a period of awakening to some truths about the planet—especially the truth that the planet's resources are finite and can be used up. Such ecological ideas penetrated into the popular consciousness.

The enthusiasm for the Apollo project to land a person on the moon by the end of the 1960s provides an illustration of part of the dynamics useful for mobilizing broad citizen support for bold initiatives. The American people were enthusiastically behind the Apollo project because they were convinced of the urgency of the mission. In 1957, at the height of the Cold War, the Soviet Union successfully launched Sputnik I.[34] Americans became alarmed at the potentially adverse consequences of trailing behind the Soviet Union in command of outer space, and so the space race between the United States and the Soviet Union began with a great sense of urgency. What is more, in a manner unanticipated by the project's boosters, the Apollo effort then played a critical role in stimulating the great environmental legislative innovations a decade later.

The Apollo lunar missions sent a stunning series of photographs back to Earth. These photographs were visible objects that mediated between the space race and the environmental movement. The first of these photographs, known as "Earthrise," was shot from Apollo 11 in December 1968.[35] The most famous photograph, though, is called the "Blue Marble."[36] It was shot from the Apollo 17 mission in 1972, and is reputed to be among the most duplicated and reproduced photographs in history, showing an Earth of remarkable beauty that somehow also conveys a sense of great fragility.[37] These images changed our conception of the planet, shifting away from Frederick Jackson Turner's idea of the importance of an

[34] Nat'l Aeronautics & Space Admin., Sputnik and the Dawn of the Space Age, http://history.nasa.gov/sputnik/ (last visited Apr. 19, 2009).

[35] Nat'l Aeronautics & Space Admin., Image of the Day Gallery, http://www.nasa.gov/multimedia/imagegallery/image_feature_102.html (last visited Apr. 19, 2009).

[36] Nat'l Aeronautics & Space Admin., Visible Earth: The Blue Marble, http://visibleearth.nasa.gov/view_rec.php?id=2429 (last visited Apr. 19, 2009).

[37] Nat'l Aeronautics & Space Admin., Visible Earth: The Blue Marble from Apollo 17, http://visibleearth.nasa.gov/view_rec.php?id=1597 (last visited Apr. 19, 2009); *see, e.g.*, Nat'l Aeronautics and Space Admin., History of the Blue Marble (2009), http://earthobservatory.nasa.gov/Features/BlueMarble/BlueMarble_history.php (last visited Apr. 19, 2009).

ever expanding frontier[38] toward Kenneth Boulding's picture of a finite world in the form of a Spaceship Earth.[39] Many historians believe that the worldwide modern environmental movement began the moment that Earthrise was sent back home.[40] It was as if people all over the world looked at the images and uttered a collective, "Oh, I get it." These pictures began a new way of thinking about our relationship to one another and to our planet.

Shortly before the first Earth Day, the New York Times expressed the connection between the space missions and the ascending ecological movement.[41] Less than two weeks prior to the first Earth Day, the United States had launched Apollo 13.[42] This is the mission that Tom Hanks flew, in which an oxygen tank exploded two days into the mission, forcing the trio of astronauts to move into the lunar module for the rest of the trip around the moon and back to earth.[43] After Apollo 13 returned safely, the New York Times published an editorial entitled Earth Day and Space Day:

> As the disabled Apollo 13 rounded the moon and flew homeward again last week, there was passionate worldwide interest in its "consumables." Was there enough oxygen and water left on their crippled craft to permit Lovell, Haise and Swigert to make it back to earth? Would the available supply of lithium hydroxide suffice to clean their air of carbon dioxide and keep it breathable until splashdown? . . . It is only recently . . . that many people have begun to realize that earth too is a sort of spaceship and that it too has only a limited supply of consumables. . . . Every person understood last week that the scarce supplies on Apollo 13 had to be husbanded carefully, consumed economically, and recycled for reuse wherever possible. Earth Day next Wednesday aims above all to convince the American people that similar prudence is required on Spaceship Earth.[44]

The ability of a broad social movement to come together and stay together long enough to move policy significantly in its direction is often thwarted by inertia. Ordinarily, an awareness of the fragility of the natural environment might not by itself have supplied the momentum needed to overcome this inertia. However, in the policy window that opened in the early 1970s, this general change in consciousness about our planet became linked with a much more immediate and pressing issue—individual health. The media covered a regular stream of stories

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38 Turner advanced his "frontier thesis" in a lecture titled, *The Significance of the Frontier in American History*, delivered at a meeting of the American Historical Association held in conjunction with the Chicago Expedition in 1893. Frederick Jackson Turner, Address at the Meeting of the American Historical Association (July 12, 1893), *in* THE FRONTIER IN AMERICAN HISTORY (1921), http://xroads.virginia.edu/~Hyper/TURNER/ (last visited Apr. 19, 2009).

39 Kenneth E. Boulding, *The Economics of the Coming Spaceship Earth*, *in* ENVIRONMENTAL QUALITY IN A GROWING ECONOMY 3–14 (Henry Jarrett ed., 1966).

40 *See, e.g.*, ROBERT POOLE, EARTHRISE: HOW MAN FIRST SAW THE EARTH 13 (2008).

41 *Earth Day and Space Day*, N.Y. TIMES, Apr. 19, 1970, at § 4, at 16.

42 Gaylord Nelson, *Earth Day '70: What It Meant*, EPA J., Apr. 1980, http://www.epa.gov/history/topics/earthday/02.htm (last visited Apr. 19, 2009).

43 Hanks starred in the 1995 movie recreation of the Apollo 13 mission. The actual mission was piloted by James A. Lovell, accompanied by John L. Swigert and Fred W. Haise. *See* Kennedy Space Center Science, Technology and Engineering, NASA Apollo Mission Apollo-13, http://science.ksc.nasa.gov/history/apollo/apollo-13/apollo-13.html (last visited Apr. 19, 2009).

44 *Earth Day and Space Day*, *supra* note 41.

linking limits on the assimilative capacity of the earth's resources to adverse effects on people's health.[45] Revelations about pesticides and other petrochemicals, about numerous air pollutants, about waterborne diseases, and about toxic chemicals woven into the fabrics of children's clothing came just at a time when people's expectations about their health and well being were themselves changing.[46]

During the same period of time the term "wellness" began to seep into our common vocabulary. The environmental historian Samuel Hays has documented a progression of thinking about individual health, moving from a simple fatalism about disease, to increasing expectations about and demands on the ability of modern medicine to cure illness, to the thought that it ought actually to be possible to aspire to wellness, largely avoiding illness entirely.[47] Management of our own life styles was critical to wellness, but so was eliminating the ways in which the stresses we ourselves were introducing into the environment contributed to adverse health effects, disease, and death.[48] As Hays notes, "[i]t was not just that the environment had become less healthy as time went on but that ideas about what constituted a healthy life had changed."[49] Study after study linked chemicals and other environmental stressors to cancer, which only generated ever greater demands that these exposures be prevented.[50] On the same day that it published its "Earth Day and Space Day" editorial, the New York Times published a cartoon depicting a mother reading to her child a bedtime story that began:

> Once upon a time there lived a little green elf in an old oak tree which had been condemned to make way for Interstate 95. The old oak tree stood by contaminated waters that ran along the edge of the strip mine just twenty-five miles from the heavily polluted air of the city. In spite of his emphysema he was a fairly happy elf . . . .[51]

The revelations of environmental stress frequently had a dramatic, headline grabbing quality and served to keep people's attention. In early 1969, the Santa Barbara channel experienced a major oil spill when an offshore rig lost control of its well, which continued expelling crude oil for eleven days.[52] The spill and the damage it caused to beaches and wildlife made the top of the nightly news for days.[53] Later the same year, Cleveland's Cuyahoga River caught fire.[54] The fire only lasted thirty minutes and it was not the first time the Cuyahoga had burned,

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45 *See* Samuel P. Hays, *Three Decades of Environmental Politics, in* GOVERNMENT AND ENVIRONMENTAL POLITICS 19, 34–37 (M.J. Lacey ed., 1989) (noting that "major chemical threat episodes" increased society's concern for public health).

46 *See* SAMUEL P. HAYS, A HISTORY OF ENVIRONMENTAL POLITICS SINCE 1945, at 29–32 (2000) (discussing generally the role of health concerns in the environmental movement).

47 Hays, *supra* note 45, at 34.

48 *Id.* at 35.

49 HAYS, *supra* note 46, at 29.

50 *Id.* at 29–32.

51 Edward Abbey, *How to Live on This Planet Called Earth*, N.Y. TIMES, Apr. 19, 1970, at 2 (cartoon embedded in story).

52 FRANK T. MANHEIM, THE CONFLICT OVER ENVIRONMENTAL REGULATION IN THE UNITED STATES: ORIGINS, OUTCOMES, AND COMPARISONS WITH THE EU AND OTHER REGIONS 42 (2009).

53 *Id.*

54 Ohio History Central, Cuyahoga River Fire, http://www.ohiohistorycentral.org/entry.php?rec=1642 (last visted Apr. 19, 2009).

but this time it captured the imagination of the country and made Cleveland the butt of dirty river jokes for years to come.[55] Randy Newman memorialized the event in a popular song[56] and Time Magazine painted the grim picture:

> Some river! Chocolate-brown, oily, bubbling with sub-surface gases, it oozes rather than flows. "Anyone who falls into the Cuyahoga does not drown," Cleveland's citizens joke grimly. "He decays." The Federal Water Pollution Control Administration dryly notes: "The lower Cuyahoga has no visible life, not even low forms such as leeches and sludge worms that usually thrive on wastes." It is also—literally—a fire hazard.[57]

These stories are just a few examples of how the media contributed to the heightened awareness and anxiety over the environment. During the mid-sixties, the environment had become the new darling topic of the mainstream media, which eagerly covered breaking news of environmental problems, running with both the Spaceship Earth and the human health dimensions of these problems.[58] One by one, products from major industries were placed under the environmental microscope and examined by the media.[59] Take pesticides. Pesticides have long been called "economic poisons." They are economically valuable to the agricultural economy because they control pests, and that function requires them to be poisonous.[60] However, they are often poisonous to a broader spectrum of flora and fauna, including human beings, than the pests they are purchased to control. Prior to the 1960s, most news stories covered pesticides from the perspective of the benefits that they bring to agriculture—the news stories focused on the "economic" aspect of these "economic poisons."[61] As of 1955, for example, approximately 90% of the coverage of pesticides had a financial and economic focus.[62] But then in the early sixties—along the time of Rachel Carson's book *Silent Spring*[63]—the coverage shifted to the "poison" aspect.[64] By 1960, about 45% of the stories focused on economics and finance, while 55% concerned the health and environmental effects of pesticides.[65]

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55 *See Cuyahoga River Cleaner, but Not Yet Pristine*, COLUMBUS DISPATCH, Mar. 2, 2009, http://www.dispatch.com/live/content/local_news/stories/2009/03/02/cuyahoga_river.html?sid=101 (last visited Apr. 19, 2009) (noting the Cuyahoga was the butt of jokes by Johnny Carson and others).

56 RANDY NEWMAN, *Burn On*, *on* SAIL AWAY (Reprise Records 1972).

57 *The Cities: The Price of Optimism*, TIME, Aug. 1, 1969, at 41.

58 *See, e.g.*, Editorial, *To Save Spaceship Earth*, N.Y. TIMES, June 2, 1968, at E10 (stressing the importance of the International Biological Program to help understand human impacts on Spaceship Earth); Phillip L. Rusden, *Pure Air for Trees*, N.Y. TIMES, July 4, 1965, at X17 (advocating preservation of pure air in part due to the effects air pollution has on human health).

59 *See, e.g.*, Joseph C. Ingraham, *Showdown Near On Auto Fumes*, N.Y. TIMES, Aug, 9, 1964, at L47 (describing a "showdown" in California over how quickly automobile manufacturers could eliminate exhaust fumes from their cars).

60 *See, e.g.*, Cornell University Cooperative Extension, Pesticide Safety Education Program Pesticide Dictionary (1998), http://psep.cce.cornell.edu/Tutorials/dictionary.aspx (last visited Apr. 19, 2009) (defining "pesticide" as "[a]n economic poison defined in most state and federal laws as any substance used for controlling, preventing, destroying, repelling, or mitigating any pest").

61 BAUMGARTNER & JONES, *supra* note 30, at 113 fig.6.1.

62 *Id.*

63 *See* RACHEL CARSON, SILENT SPRING (1962).

64 BAUMGARTNER & JONES, *supra* note 30, at 113 fig.6.1.

65 *Id.*

Once the news coverage shifted focus, its valence also shifted. Economic or financial stories were favorable to the pesticide industry 82% of the time, while health or environmental stories were negative in tone nearly 80% of the time.[66]

In the immediate run up to April 22, 1970, newspapers around the country had a news hook on which they hung numerous stories about environmental problems, with local newspapers finding local angles on which to focus.[67] The national papers provided in depth coverage of such things as the "new science" of ecology, the pervasiveness of pollution problems in air, water and land, and the finite resources of the planet.[68] Newspaper coverage of ecological and public health issues was enormous. Two days prior to the first Earth Day, the New York Times ran a multipage spread providing a comprehensive overview of environmental problems—you could teach an entire environmental law course based simply on the issues and information packed into this coverage.[69]

The first Earth Day, April 22, 1970, had been orchestrated to take advantage of the nation's increasing concerns over ecological and environmental stresses, while at the same time serving as an exclamation point for it. An estimated 20 million Americans took part in some activity—marches, teach-ins, giving up the use of their car for the day—all across America.[70] A photograph of 5th Avenue from 42nd Street, with Central Park in the distance and packed with people, made the front page of the New York Times.[71] It illustrated the outpouring of participation throughout the country on that day.[72] On the first Earth Day, about one in every ten Americans actively participated in some Earth Day event, whether it was a teach-in, the symbolic burying of an internal combustion engine, walking instead of driving to work, marching down a main street in their town, or standing and listening to speakers.[73] These are the kinds of personal investments that indicate a commitment to an issue beyond paying lip service. Critically, they were also the kinds of personal investments that suggested to those involved in electoral politics that the environment had become an issue that might move some voters to vote for or against candidates on the basis of their stand on environmental issues.

Some of the pieces we have been developing can now be put together: One key factor contributing to the policy window opening up in the early 1970s was that people's awareness of the planet and their relationship to it was changing in ways

66 *Id.* at 112 tbl.6.1.

67 *Environmental Paupers: Pollution Trend Denounced*, ST. PETERSBURG TIMES, Feb. 27, 1970, at 4B.

68 Roger Revelle, *Human Ecology and Ethics Are Inseparable*, N.Y. TIMES, Jan. 12, 1970, at 88.

69 Gladwin Hill, *Man and His Environment: Some Basic Facts About a Growing National Problem*, N.Y. TIMES, Apr. 20, 1970, at 33.

70 Joseph Lelyveld, *Millions Join In Earth Day Observances Across the Nation*, N.Y. TIMES, Apr. 23, 1970, at 1. For more on the atmosphere surrounding Earth Day, see LAZARUS, *supra* note 24, at 54, and GRAHAM, *supra* note 24, at 1–2.

71 Patrick A. Burns, *Millions Join Earth Day Observances Across the Nation*, N.Y. TIMES, Apr. 23, 1970, at 1.

72 *Id.*; Gladwin Hill, *Activity Ranges from Oratory to Legislation*, N.Y. TIMES, Apr. 23, 1970, at 1.

73 *See* Finis Dunaway, *Gas Masks, Pogo, and the Ecological Indian: Earth Day and the Visual Politics of American Environmentalism*, 60 AM. Q. 67, 67, 81 (2008); Hill, *supra* note 72; Gladwin Hill, *Nation Set to Observe Earth Day*, N.Y. TIMES, Apr. 21, 1970, at 36; Douglas Robinson, *City Bans Cars in 4 Parks Tomorrow*, N.Y. TIMES, Apr. 21, 1970, at 36; U.S. DEP'T OF COMMERCE, 1970 CENSUS OF POPULATION 1-41 tbl.1 (1972) (noting that the United States's population in 1970 was 203,211,926, of which 20 million people equates to about 1 in every 10 Americans.)

that wedded long-term concerns about Spaceship Earth to their immediate self-interest in the health of themselves and their children. Attention and focus on these problems were tremendously aided by the press and media, which confirmed the people's worst fears by continually reporting vivid and dramatic events being processed by this emerging public consciousness.

Elected officials in Washington, D.C. were also becoming aware of this shift in attitude. On Earth Day, while a large crowd gathered around the Washington monument to hear speeches and enjoy a rock concert, many of Washington's politicians had deserted the city, fanning out across the country to their districts and states to participate and be seen in Earth Day events there.[74] Indeed, Washington had already begun responding to the growing environmental consciousness prior to Earth Day, but after Earth Day the pace of legislation accelerated.[75] Elected officials began competing among themselves to offer legislation or public policy ideas that would be most appealing to the growing segment of the population that was indicating the importance of environmental concerns in their electoral decision making.[76] The problem solving solutions of the time were very much influenced by a broad belief in the power of American technology to conquer any obstacle. Just as the growing ecological consciousness owes much to the Apollo space program, so the passage of innovative legislation owes a great deal to the undeniable spirit of technological optimism that dominated the public psyche. A decade earlier, when President Kennedy had announced his plan to place a man on the moon by the end of the 1960s, he had begun by telling the American people the country had the ability to meet the challenge and win the space race, if only we committed ourselves to the project:

> I believe we possess all the resources and talents necessary. But the facts of the matter are that we have never made the national decisions or marshaled the national resources required for such leadership. We have never specified long-range goals on an urgent time schedule, or managed our resources and our time so as to insure their fulfillment.[77]

President Kennedy had effectively committed the nation to landing a man on the moon by the end of the decade. On July 20, 1969, Neil Armstrong fulfilled that commitment by stepping off the lunar module onto the moon's surface.[78] That step, furthermore, marked the successful achievement of a commitment that had been driven by a government initiative heavily reliant on science and technology. In an irrefutable way, Armstrong's landing came to symbolize enormous optimism in the combination of technology and commitment. Ever since, it has become rather

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74 Richard Harwood, *Earth Day Stirs Nation*, WASH. POST, Apr. 23, 1970, at A1.

75 *See* GRAHAM, *supra* note 24, at 3.

76 E. Donald Elliott, Bruce A. Ackerman & John C. Millan, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 327–28 (1985).

77 President John F. Kennedy, Special Message to the Congress on Urgent National Needs (May 25, 1961), *available at* www.nasa.gov/pdf/59595main_jfk.speech.pdf.

78 Nat'l Aeronautics & Space Admin., Apollo 40th Anniversary, http://www.nasa.gov/mission_pages/apollo/index.html (last visited Apr. 19, 2009).

common for an advocate of some bold national policy to proclaim, "If we can put a man on the moon, surely we can do this as well."[79]

The environmental initiatives of the 1970s took major advantage of this wave of technological optimism. At the same time as the country was coming to believe that we faced serious and urgent environmental problems, it also was convinced that as a nation we possessed the knowledge, resources, and innovative capacities to solve those problems, if only we would make "the national decisions [and] marshal[] the national resources required."[80] Just as in the case of the lunar landing, all that was holding us back from solving our environmental problems was that "[w]e have never specified long-range goals on an urgent time schedule, or managed our resources and our time so as to insure their fulfillment."[81]

On the national scene, technological optimism largely overshadowed other philosophical or intellectual constituents of the broader environmental movement. Some people argued for major changes in individual lifestyles, to move us from a consumption-oriented economy to one that stresses quality of life values, while minimizing the exhaustible resources moving through the economy, sometimes described as a philosophy of doing more with less.[82] Others advocated a steady state or no growth economy.[83] While these ideas have been and remain influential within environmentalism, they have never caught on within the broader public as conceptions of how we could conquer our environmental problems. Instead, technological optimism permitted policy makers and the public to defer the necessity of confronting the ecological limits to growth. This was typified in a press conference held by Senator Ed Muskie (D-ME), one of the leading architects of the environmental policy innovation that was moving through Washington.[84] Responding to reports that "[a] growing number of conservationists have been urging a halt to economic growth to prevent the wasting of our natural resources and the polluting of our air, water and land," Muskie was quick to disagree, countering "that a growing modern technology would be needed to provide a better quality of life for all human beings."[85]

If the earlier influences we have noted—the growing attention of an aroused public, demanding responses to an increasing array of environmental problems—created the demand for congressional action, then technological optimism played a significant role in creating the supply of legislative proposals to meet that demand. It is possible that by themselves these ingredients would have been sufficient to

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79 *See, e.g.*, Rand Simberg, *The Last Scientist On The Moon*, FOX NEWS, Dec. 12, 2002, http://www.foxnews.com/printer_friendly_story/0,3566,72846,00.html (last visited Apr. 18, 2009) ("There were many variations on a saying after the Apollo landings. 'If we can put a man on the moon, why can't we (fill in the blank)?')

80 *Id.* ("If we, as a nation, wanted to return to the moon today, the conventional wisdom is that it would probably take us longer than it did the first time[,]" which leads one to ask, "'If we can put a man on the moon, why can't we put a man on the moon?'")

81 Kennedy, *supra* note 77.

82 *See, e.g.*, ROBERT C. PAEHLKE, ENVIRONMENTALISM AND THE FUTURE OF PROGRESSIVE POLITICS 137–39 (1989) (describing the Conserver Society, with its motto of doing more with less).

83 *See id.* at 124 (describing the concept of a steady-state economy).

84 *See* David Bird, *Muskie Tells Conservationists Economic Growth Must Go On*, N.Y. TIMES, Apr. 19, 1970, at 84.

85 *Id.*

conquer the opposition put up by the concentrated economic interests who would have to bear the costs of the new pollution control requirements, restrictions on construction of new plants, controls to protect drinking water, endangered species, and wetlands that the new environmental measures brought with them. As it happened, though, the 1970s policy agenda also benefited appreciably from the fact that as the window was opening up, the strength of that opposition was at quite a low point within the American polity.

David Vogel has argued that at this particular time business and industry were ill equipped and ill prepared to marshal their vast potential resources to combat the emerging environmental movement.[86] Several factors contributed to industry's weakened state. For one, mistrust of industry was running at high tide, making business leaders reluctant to oppose popular legislation as aggressively as they had as recently as 1967, when the relatively weak Air Quality Act of 1967 showed the influence of successful lobbying by the coal coalition.[87] The public's animosity toward the automobile industry was particularly strong both because the surveillance by Ralph Nader of the country's largest automaker, General Motors, had just been exposed[88] and because the automobile was closely identified with the smog problems of the nation's cities. For another, the very breadth of the agenda covered by the 1970 Act divided industry's interests. For example, stationary sources and auto makers were primarily concerned with different parts of the clean air bill.[89] No umbrella organization existed to present a united package of shared business concerns. In fact, remedying this shortcoming in business' ability to advocate for its interests constituted a significant reason leading to the founding of the Business Roundtable in 1973.[90]

In the case of the Clean Air Act in particular, industry was also taken by surprise by some of the contents of the final legislation, which developed late in the drafting process and which diverged markedly from earlier drafts.[91] The bill that eventually passed by the Senate—the version that set the tone for much of the Conference Committee's work—emerged in August 1970 in a much different form from earlier

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86 *See* David Vogel, *A Case Study of Clean Air Legislation 1967–1981*, *in* THE IMPACT OF THE MODERN CORPORATION 309, 322–23 (Betty Bock et al. eds., 1984) (describing the 1970 Clear Air Act Amendments as "a major political defeat" for various industries).

87 *See id.* at 323 (discussing the "gradual and steady increase in public suspicion of big business" during the late 1960s); *id.* at 319–20 (discussing the coal industry's lobbying efforts); *see also* Robert L. Rabin, *Federal Regulation in Historical Perspective*, 38 STAN. L. REV. 1189, 1293 (1986). While the public interest regulations passed in the 1970s by nature were not particularly friendly to business,

> big business was truly on the defensive as the public seemed responsive to a wide variety of concerns about the quality of life. An entire series of initiatives resulted—on auto safety, product design, air and water pollution control, scenic conservation, and occupational health and safety, to mention only the most significant—which manifested a distinct bias against economic growth. The political climate made it virtually impossible to oppose such programs in principle—and focused objections can always be pursued in the process of agency implementation.

Id.

88 *See* Vogel, *supra* note 86, at 326.

89 *Id.* at 328.

90 *E.g.*, *id.* at 335 (during the drafting of the 1977 Amendments, as opposed to the 1970 Amendments, "the Business Roundtable was available at least to attempt to formulate a series of political positions that reflected the common interests of many larger companies.").

91 *Id.* at 337.

drafts.[92] Industry was simply inadequately prepared and had insufficient time to mount an effective counterattack on the most onerous provisions, although they tried, both by lobbying Congress directly and by working with the Nixon Administration, which unsuccessfully opposed some of the stronger measures.[93]

Yet another reason the early environmental movement had been able to steal a march on business in the 1970 legislation was that up to this point the real action in setting emissions standards under federal law had taken place in the Executive Branch. In 1970, a Republican president was in charge and business had established excellent relations and considerable influence with the president.[94] Thinking this pattern would not change, business and industry surmised that there would be ample opportunity to press for relatively moderate regulatory responses to the perceived crisis of air quality.[95] They did not, therefore, go on full alert during the legislative drafting process, and this contributed to their being caught ill-prepared when the Senate version of the Clean Air Act appeared in the late summer, which sharply curtailed Executive agency discretion over some critical elements in the law.

By the end of the drafting process, business and industry did mobilize and achieve some modest concessions, including an additional year within which the automakers could apply for an extension of the tailpipe emissions mandate, and a lowering of requirements for how durable automobile emissions control equipment had to be in relation to the life of the automobile.[96] Overall, however, the industry effort was too little, too late, and too poorly coordinated to regain much of the ground they had lost in the Senate version of the bill. On December 17, 1970, the Conference Committee reported a bill that adopted the Senate version on practically all of the hotly contested points and the Conference Bill sailed through both the Senate and the House.[97]

This comparative weakness of industry coalitions in the halls of Congress that contributed to the opening of the policy window of the early 1970s did not last long. As intimated earlier by the brief mention of the creation of the Business Roundtable, business interests did not stay disorganized. When the stakes involved in federal legislation became known, business interests organized rapidly.[98] Individual firms and trade associations committed more staff and resources to lobbying.[99] Some, such as the National Automobile Dealers Association and the International Council of Shopping Centers, were well-established and effective organizations that had stayed on the sidelines in 1970 but mobilized vigorously for the 1977 legislation.[100] Whole

92 *Id.*

93 *Id.* at 332–35 ("[Muskie's] subcommittee report came as a total surprise to the industries affected by it.").

94 *Id.* at 328–29.

95 *Id.* at 329–30.

96 *Id.* at 333.

97 *See* H.R. REP. NO. 91-1146, at 42–59 (1970), *reprinted in* 1970 U.S.C.C.A.N. 5356, 5374–91.

98 *See, e.g.*, Business Roundtable, History, http://www.businessroundtable.org/about/history (last visited Apr. 18, 2009) (describing the formation of the Business Rountable).

99 *See, e.g.*, *id.*

100 Vogel, *supra* note 86, at 346, 352.

new organizations, in particular the Business Roundtable[101] and the "Washington Coordinating Committee,"[102] had come into existence principally in order to advocate for positions shared by corporate America. By the mid-1970s, these organizing efforts were beginning to bear fruit.[103]

All of these organizing efforts were consistent with a remarkable memorandum authored by the late Justice Lewis Powell while he was still in private practice and one of the leading corporate lawyers in the country.[104] In 1971, Powell wrote to Eugene Sydnor, Director of the United States Chamber of Commerce.[105] The date was August 23, 1971, just two months before President Nixon nominated Mr. Powell to the Supreme Court.[106] Powell wrote to warn of a threat to business broader than that posed by environmentalism itself, amounting to nothing less than a "broad attack" on the entire American economic system and form of government.[107] After a diagnosis of the threat, the memorandum shifted to a sharp criticism of the boards of directors and chief executives of "corporations great and small and business organizations at all levels" for responding "if at all—by appeasement, ineptitude and ignoring the problem."[108] The memorandum urged that business organize itself, both in individual firms and in larger associations, "to

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101 The Business Roundtable was founded in 1972. Its website provides this description of its objectives:

> [The original founders started the Business Roundtable in the belief that] the business sector should play an active and effective role in the formation of public policy. . . . [They wanted] an organization in which CEOs of leading enterprises could get together, study issues, try to develop a consensus, formulate positions and advocate those views. Business Roundtable was formed with two major goals: 1. To enable chief executives from different corporations to work together to analyze specific issues affecting the economy and business; and 2. To present government and the public with knowledgeable, timely information, and with practical, positive proposals for action.

Business Roundtable, History, http://www.businessroundtable.org/about/history (last visited Apr. 18, 2009).

102 The Washington Coordinating Committee was formed explicitly to influence the 1977 round of Clean Air Act legislation. Its members included individual firms as well as the Chamber of Commerce, the National Association of Manufacturers, and the Business Roundtable. Its major priority was resisting the incorporation of a Prevention of Significant Deterioration program into the statute. Vogel, *supra* note 86, at 357.

103 *See, e.g.*, *id.* at 339 ("[The 1977 clean air legislation was the] most aggressively lobbied and probably among the most complex pieces of legislation approved by Congress in at least a quarter of a century . . . . By the mid-1970s, the enormous stakes involved in federal regulation of air pollution had become much more apparent than they were at the beginning of the decade . . . . For the companies regulated under the provisions of 1970 legislation, the 1977 amendments represented their first important opportunity to modify those particular aspects of the 1970 law, and its interpretation by EPA and the courts, that they regarded as unreasonable.").

104 My thanks to Michael Blumm for reminding me of the relevance of the Powell memorandum.

105 Memorandum from Lewis F. Powell, Jr. to Eugene B. Sydnor, Jr., Chairman, Educ. Comm., U.S. Chamber of Commerce (Aug. 23, 1971), *in* ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY SUPPLEMENT 1 (3d ed. 2004), *available at* http://www.aspenlawschool.com/books/plater_environmentallaw/updates/02.5.pdf [hereinafter Powell Memorandum]; ReclaimDemocracy.org, The Powell Memo, http://www.reclaimdemocracy.org/corporate_accountability/powell_memo_lewis.html (last visited Apr. 19, 2009) (providing background on the Powell memorandum).

106 Powell Memorandum, *supra* note 105, at intro.

107 *See id.* at 1.

108 *Id.* at 3.

counter—on the broadest front—the attack on the enterprise system."[109] It suggested an array of strategies and tactics for the counterattack; here, we can concentrate on its recommendations for the political arena. Lamenting that "few elements of American society today have as little influence in government as the American businessman," Powell urged both "educational programs . . . designed to enlighten public thinking," and also "direct political action . . . [to] assiduously cultivate[]" political power.[110] Whether or not directly influenced by Powell's memorandum, the business community soon took its lessons to heart.

Economic interests learned organizational and political lessons from their experiences in the 1970s upon which they have been building ever since. Therefore, the special conditions that existed during the policy window of the early 1970s in which business influence in policy debates was particularly weak may not be repeated any time soon. That does not necessarily mean, however, that policy that benefits the broad public interest cannot be enacted. Sometimes such legislation furthers the interests of some industry members sufficiently to reduce opposition, and even to generate support, for such measures. And sometimes a social movement can arise with sufficient momentum to drive policy, even in the face of concentrated opposition. As suggested earlier, the early seventies just might have been a period in which substantial environmental progress would have been made even if business had been well organized to resist.

In addition to a relatively weak opposition, our historical survey of the 1970s has emphasized considerations on both the supply and the demand sides as important to policy innovation. On the supply side, the organizing concept of technological optimism made responding to demands for policy innovation seem feasible. On the demand side, a mobilized public pressed home the electoral importance of government actually responding. The public mobilized because of a sense of urgency sustained by its ability to see the connection between policy innovation and values of great concern to them. How does the present compare to the 1970s with respect to these two sets of considerations? Any evaluation of the contemporary situation in either of these dimensions runs a great risk of soon becoming obsolete, because both the available rationales for policy innovation and the public's commitment to strong action are moving targets. Therefore, having by this last sentence warned future readers that everything that follows is subject to being changed by future events, this Essay concludes with a few observations by way of comparing now to then along these two dimensions.

During his winning presidential campaign, Barack Obama deployed the language of technological optimism numerous times, even to the extent of invoking the "If we can put a man on the Moon . . ." refrain that was popular in the wake of the Apollo success.[111] When his opponent, John McCain, called for a $300 million prize for the scientist who builds a long-lasting car battery, candidate Obama brought JFK himself into the argument, replying that "[w]hen John F. Kennedy decided that we were going to put a man on the Moon, he didn't put a bounty out for some rocket scientist to win . . . . He put the full resources of the United States

109 *Id.* at 4.

110 *Id.* at 9–10.

111 *E.g.*, Christopher H. Schroeder, *Third Way Environmentalism*, 48 U. KAN. L. REV. 801, 823 (2000).

government behind the project."[112] President Obama's new Secretary of the Interior, Ken Salazar, continued the allusions to President Kennedy's success by telling the Senate Energy and Natural Resources Committee during his confirmation hearings that, "I would not have taken this job if I was not given the assignment to help craft the energy moon shot that we will take . . . ."[113] Thus, invocations of the Apollo mission remain part of the current environmental discourse. What is less clear is whether people share the conviction that such optimism is warranted, or whether the "if we can put a man on the Moon . . ." rhetoric has become a cliché.

With respect to the demand for policy innovation, the current situation is similarly ambiguous. In recent years, news coverage of climate change continues to grow, and increasingly it seems to have moved beyond treating global temperature rise as something that may or may not happen and toward treating it as a reliable overall prediction, with uncertainty only surrounding the magnitude and rapidity of increase as well as some of the regional consequences. The latest report of the Intergovernmental Panel on Climate Change (IPCC), the strongest consensus statement yet on the seriousness and certainty of the problem,[114] received extensive press coverage, as did the unusual awarding of the Nobel Peace prize jointly to Al Gore and the IPCC.[115] Hurricanes Katrina, Gustav, and Ike have prompted media coverage explaining the connection between global warming and the increased severity of such weather events.[116]

Despite the media frenzy, the climate change issue has not yet generated an aroused intensity equal to that of the 1970s. One significant problem is that while climate change may seem ominous in its implications, it still does not seem imminent. Its implications remain highly uncertain and not yet of enough perceived severity for enough individuals. People who live in low-lying areas prone to hurricanes might have seen a glimpse of the future in Katrina, but people have been experiencing hurricanes, suffering loss of life and property, and then rebuilding in the same places for centuries. Many people still seem to maintain the same sense of fatalism about natural disasters as they used to about the prospects of becoming ill. And for others outside of the hurricane alleys, the harms to worry about from climate change seem either manageable or still too far down the road to squeeze out

112 Senator Barack Obama, Campaign Speech in Las Vegas, Nevada (June 24, 2008), *quoted in* Brent Budowksy, *Moon Shot, Obama*, CONSORTIUM NEWS, June 25, 2008, http://www.consortiumnews.com/2008/062508a.html (last visited Apr. 19, 2009).

113 *Salazar Nomination: Hearing Before the S. Com. on Energy and Natural Resources to Consider the Nomination of Ken Salazar to be Secretary of the Interior*, 111th Cong. 26 (2009) (statement of Senator Ken Salazar), *available at* http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_senate_hearings&docid=f:47254.pdf.

114 INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT (2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf [hereinafter IPCC REPORT].

115 *See, e.g.*, *U.N. Report: Global Warming Man-Made, Basically Unstoppable*, FOX NEWS, Feb. 2, 2007, http://www.foxnews.com/story/0,2933,249659,00.html (last visited Apr. 18, 2009) (covering the IPCC Report); Walter Gibbs & Sarah Lyall, *Gore Shares Peace Prize for Climate Change Work*, N.Y. TIMES, Oct. 13, 2007, http://www.nytimes.com/2007/10/13/world/13nobel.html (last visited Apr. 19, 2009) (covering the joint Nobel Prize award).

116 *See, e.g.*, Bryan Walsh, *Is Global Warming Worsening Hurricanes?*, TIME, Sept. 8, 2008, http://www.time.com/time/health/article/0,8599,1839281,00.html (last visited Apr. 19, 2009).

more immediate problems calling for our attention, or both. What is more, not every part of the globe is going to suffer from climate change. Some parts of the world will benefit,[117] and while many projections have overall costs exceeding benefits for most global warming scenarios,[118] in all cases the impacts are not uniform across the board.[119] So, wishful thinking can convince people that they have better things to worry about. Overall, even for those who accept the reality of climate change, it registers with them first and foremost as a failure of stewardship—a manifestation of humankind's hubris in behaving irresponsibly toward the planet—but lacks the accompanying threat to immediate self-interest that helped boost public arousal during the 1970s policy window.

Even though the science of climate change has become more and more secure in the past twenty years, the nature of the public's reaction to the problem has not noticeably changed. For example, the number of people who worry a great deal about climate change has had its ups and downs over the past twenty years, but overall it simply has not changed much since 1990.[120] In 1990, Gallup registered 30% of respondents "personally worrying a great deal about 'the greenhouse effect' or global warming"; in January of 2008 that figure was 37%; and between these two dates the number has fluctuated between 24% and 41%.[121] More people today think that global warming poses a serious threat to their way of life in their lifetime than thought so ten years ago, but six in ten still think global warming does NOT pose a serious threat.[122]

One significant disadvantage facing climate change policy innovation compared to the environmental policy innovation of the 1970s relates to the time frame within which mitigating measures can have any discernible impact. Climate change is a function of greenhouse gas *levels*, and actually lowering those levels will begin only decades after we begin serious efforts to lower greenhouse gas *emissions*.[123] Unlike the environmental problems faced earlier, therefore, Congress cannot credibly promise quick fixes to solve the problems (the quick fixes promised earlier, of course, failed in their grander ambitions, but progress on them did return tangible results in the short term). On the campaign trail, then-Senator Obama endorsed a goal of an 80% reduction in greenhouse gases by the year 2050, and that is the time frame of many draft climate change bills in Congress today.[124] 2050 is a long way away, and it is harder to energize people around such a distant goal. President Kennedy was himself pressing the edge of the envelope when he

117 *See, e.g.*, IPCC REPORT, *supra* note 114, at 48 ("Climate change is projected to bring some benefits in temperate areas, such as fewer deaths from cold exposure . . . .").

118 *See, e.g.*, *id.* ("Overall it is expected that benefits will be outweighed by the negative health effects of rising temperatures, especially in developing countries.").

119 *See id.* at 32 fig.1.2 (presenting map of "[c]hanges in physical and biological systems and surface temperature 1970–2004").

120 Gallup, Little Increase in Americans' Global Warming Worries, http://www.gallup.com/poll/106660/Little-Increase-Americans-Global-Warming-Worries.aspx (last visited Apr. 19, 2009) [hereinafter Gallup Poll].

121 *Id.* at tbl.

122 *Id.*

123 *See generally* IPCC REPORT, *supra* note 114, at 58, 66.

124 *See* Ben Lieberman & William W. Beach, *Global Climate-Change Bills Before Congress*, HERITAGE FOUND., Oct. 11, 2007, at tbl.1, *available at* http://www.heritage.org/research/EnergyandEnvironment/upload/bg2075_table.pdf.

challenged the nation to put a person on the moon in less than a decade.[125] The most talked about major greenhouse gas goal post is four times farther out than that—and that is only an interim goal, not sufficient to stabilize greenhouse gas concentrations at an acceptable level.[126] The physical nature of the global warming phenomenon suggests that even though the problem may seem real to people and its implications may even seem daunting, it remains remote, lacking a sufficient sense of personal hazard and urgency that may be necessary to mobilize the kind of support required to take the required costly action. Again, the polling data reflect this perspective.[127] The number of people who think immediate and drastic action is required has stayed at around 35% for more than a decade.[128]

In one respect, it may well be an acceptable thing that people do not think drastic action is required, if people remain willing to go along with legislative initiatives that institute manageable moderate action, and thereby stand behind legislation that at least begins to reduce annual greenhouse gas emissions as a preliminary step. There is something to that idea, but once specific climate change measures begin to move in the Congress, the opponents of those climate change measures surely will characterize the proposed actions as both *drastic and costly* in order to defeat them. If those labels stick, public opinion may well side with the opposition. This is in stark contrast to the mood of the country during the earlier innovative policy window, when the country seemed ready for such drastic action. Of course, the public then may have thought that the drastic action would place burdens on others, specifically the industries that were considered the culprits in the story, whom they also thought had been withholding technological innovations from the American people that were well within the capacity of industry to produce. Now, when people think about the actions required, they understand that it will involve higher gas prices, more limited automobile selections, and other life-style changes that will adversely affect them—all to fix a problem that they are yet experiencing as posing a personal hazard to them. Reflecting this attitude, another recent poll, conducted by the Public Opinion and Policy Center of the National Center for Public Policy Research, found that 65% of Americans reject spending even a penny more for gasoline in an effort to reduce greenhouse gas emissions.[129]

Turning now to the opposition, it is clearly much better organized and mobilized than it was in 1970. The pushback against signing the Kyoto Protocol back in 1998 included a significant and effective ad campaign paid for largely by the energy

125 Kennedy, *supra* note 77, at 4.

126 *See* Mark Hertsgaard, *A Global Green Deal*, NATION, Feb. 25, 2009, http://www.thenation.com/doc/20090316/hertsgaard?rel=hp_picks (last visited Apr. 19, 2009) (referring to a speech made by Rajendra Pachauri, chairman of the IPCC, in which Pachauri explains that Obama's goal of 80% by 2050 falls short of the response needed by world leaders and urges Obama to embrace the European Union's goal of reducing emissions to 20% below 1990 levels by 2020).

127 *See* Gallup Poll, *supra* note 120 (reporting 61% of Americans believe the effects of global warming have already begun and more than 33% worry about significant effects ranging from species extinction to loss of tropical rainforest to pollution of drinking water, but over half think global warming will not pose a serious threat during their lifetime).

128 *Id.*

129 Press Release, National Center for Public Policy Research, Overwhelming Majority of Americans Oppose Lieberman-Warner Global Warming Proposal, New Poll Suggests (May 28, 2008), http://www.nationalcenter.org/PR-Poll_Lieberman_Warner_052808.html (last visited Apr. 19, 2009).

companies,[130] and those industries that stand to be negatively affected in the marketplace have remained organized and on the alert ever since. Such opposition has now been built deeply into our political system. Throughout the 1970s, environmental bills were a largely bipartisan effort, with environmental bills passing the Senate by an average vote of 76 to 5 and the House by an average of 331 to 30.[131] Today, there is a sharp partisan divide on environmental policies generally, but also on climate change specifically. For example, a Pew Research Center poll shows that something around one-half of Republicans think that global warming is occurring, compared to an overall national number closer to 70%.[132] Among Republicans those with more education are even more skeptical toward global warming than those with less.[133] Another Pew Research Center study that provides more differentiated figures identifies the greatest divide on global warming to be between conservative Republicans and liberal Democrats. For instance, in early 2007 the Center found that 54% of conservative Republicans believed the earth is warming while 92% of liberal Democrats did.[134] On the other hand, the views of moderate and liberal Republicans, independents, and conservative and moderate Democrats were much closer: 78%, 78%, and 83%, respectively.[135]

The implications of these figures are somewhat discouraging. In the modern political system, the most difficult race that many candidates for office face is the primary within their own party, especially so with respect to the House of Representatives. There, the combination of decennial reapportionment, sophisticated computer programs, and incumbent self-interest have combined to produce election cycles in which the vast majority of seats are safe seats for the incumbent. Accordingly, once an incumbent gets to the general election, he or she typically can anticipate a relatively easy victory. An incumbent's biggest electoral vulnerability comes in the primary, when turnout is very small and party activists—conservatives within the Republican party and liberals within the Democratic party—can dominate the process. These are the constituencies who are most polarized on climate change. Once Congress becomes populated by the selections of the activists of their respective parties, it takes on a greater polarization than is reflected in the country as a whole. Global warming appears to be one of the issues upon which the congressional parties will continue to divide sharply.

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130 *See* Greenpeace, Don't Buy ExxonMobil: Stop Global Warming, *available at* http://www.greenpeace.org/raw/content/usa/press-center/reports4/don-t-buy-exxonmobil-fact-she.pdf (explaining ExxonMobil's massive ad campaign against the United States signing the Kyoto Protocol).

131 Robert V. Percival, *Skeptical Environmentalist or Statistical Spin-Doctor?: Bjorn Lomborg and the Relationship Between Environmental Law and Environmental Progress*, 53 CASE W. RES. L. REV. 263, 281 (2002) ("During the late 1960s and early 1970s, public concern for the environment led Congress to enact a remarkable set of environmental laws with overwhelming, bipartisan support.").

132 THE PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, A DEEPER PARTISAN DIVIDE OVER GLOBAL WARMING 1 (2008), *available at* http://people-press.org/reports/pdf/417.pdf.

133 The Pew Research Center found that 19% of Republicans with a college degree thought that global warming was a product of human activity while 31% of Republicans without a college degree thought so. The comparable figures for Democrats were 75% and 52%, respectively, and for Independents they were 57% and 48%. *Id.* at 3.

134 THE PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, GLOBAL WARMING: A DIVIDE ON CAUSES AND SOLUTIONS 2 (2007), *available at* http://people-press.org/reports/pdf/303.pdf.

135 *Id.*

The current political climate for action on global warming thus displays a number of disadvantages compared to the 1970s: a public less committed and less mobilized by a sense of urgency for drastic action, an organized special interest opposition, congressional polarization, and a problem on which promises for immediate tangible progress—or even tangible progress within a decade—cannot be made. None of these characteristics is immutable, except the last, which is directly derived from the physical characteristics of the problem we are facing.[136] Presidential leadership might provide a stimulus for changing one or more of them. During the policy window of the 1970s, President Nixon was initially a strong advocate of environmental action, as he vied with Senator Edmund Muskie, whom Nixon anticipated would be his Democratic challenger in the next presidential election.[137] After the 1970 midterm elections, President Nixon revised his environmental stance, becoming more resistant to further programs with their high pricetags.[138] By that time, however, a bipartisan consensus was in place and it persisted for a number of years, so that when Nixon vetoed the 1972 Clean Water Act amendments, Congress was able to override his veto.[139] The current partisan divide within the Congress on environmental questions would make duplicating that feat today quite difficult. Should President Obama prove to be as strong an advocate of aggressive climate policy as he was on the campaign trail, Congress would find itself being pushed by the President for more action—more like President Nixon in his first two years in office—rather than having its actions blocked by presidential opposition.

The nature of the climate change problem will continue to present substantial difficulties galvanizing the same degree of heightened public support as was done in the 1970s. It will take strong leadership to bring people to the point where they make the commitments necessary to accomplish dramatic improvements in our carbon footprint, and then repeated leadership to help us stay the course for the road ahead. While conditions for successfully addressing climate change do not yet have a firm foothold, these conditions can change. The exciting aspect of a democratic system is that even one as encrusted with special interest influence as ours currently is can be responsive to the broader public voice, as our experiences during the 1970s surely demonstrate.

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136 There are a number of speculative strategies for dealing with climate change that operate through mechanisms other than reducing greenhouse gas concentrations. Geoengineering strategies, such as introducing massive amounts of sulfate aerosols into the atmosphere to prevent solar energy from reaching the earth's surface, would, if they were successful, counteract the effects of increased greenhouse gas concentrations instead of lowering the concentrations. *See, e.g.*, COMM. ON SCI., ENG'G, & PUBLIC POLICY, THE NAT'L ACADS., POLICY IMPLICATIONS OF GREENHOUSE WARMING 433, 449 (1992). In principle, some of these offsetting strategies could work faster than will strategies to stabilize and then lower those concentrations. These strategies are quite speculative, however, and none of them are under serious consideration for policy action at the present time.

137 *See, e.g.*, Andrew P. Morriss et al., *Regulating by Litigation: The EPA's Regulation of Heavy-Duty Diesel Engines*, 56 ADMIN. L. REV. 403, 465 (2004) ("The Clean Air Act as recreated by the 1970 Amendments was largely the result of a game of political one-upmanship between Republican President Richard Nixon and Democratic Senator Edmund Muskie (D-Me.) . . . .").

138 *See, e.g.*, Kenneth M. Murchison, *Learning from More Than Five-and-a-Half Decades of Federal Water Pollution Control Legislation: Twenty Lessons for the Future*, 32 B.C. ENVTL. AFF. L. REV. 527, 537 n.72 (2005) (noting Nixon vetoed the Refuse Act "because of his opposition to the increase in federal funding for publicly owned treatment works").

139 *Id.* at 537.