Chapter 6: Non-State Actors and Initiatives: NGOs, Corporations, and Individuals

Although climate change law is made by governments, non-state actors play a critical role in its creation, implementation, and ultimate success. The term non-state actor generally refers to entities that are not part of the state or any subunit thereof such as a province or municipality. Nongovernmental organizations (NGOs), corporations, and individuals are key categories of non-state actors that contribute in a variety of ways to the development of climate law and policy.

A. Non-Governmental Organizations

NGOs are generally private, non-profit, voluntary interest groups. The purposes of NGOs cover the entire range of human interests and may be domestic or international in scope. In this section, the NGOs of most interest are those that seek to influence domestic and international policymakers towards enacting new climate change law. It is worth noting that many business NGOs have also formed to influence climate law, often in the other direction. Business NGOs are discussed along with corporations in Section B.

1. Influence on United States Law

In the United States, environmental NGOs, including those advocating for climate change policy, serve in a variety of roles. They shape legislation and regulation at federal, state, and local levels; bring litigation to enforce and/or develop environmental standards; and raise public awareness. Well-established NGOs in the U.S. have developed extensive expertise in climate change and new single-issue NGOs have also emerged to work on this issue. The following excerpt from a speech by the Executive Director of the Natural Resources Defense Council (NRDC), a leading environmental NGO, describes the history of environmental NGOs' impact in the United States.

Peter Lehner, *Environment, Law, and Nonprofits: How NGOS Shape Our Laws, Health, and Communities*, 26 PACE ENVTL. L. REV. 19 (2009).

Now let me turn to the theme for tonight--the role of non-profits, or as they are more commonly known in the rest of the world, non-governmental organizations (NGOs), in shaping environmental law and in shaping our environment. Let me start with a timely observation that the role of NGOs in the environmental sphere, while not unique, is rare and is missing in other areas of U.S. law, perhaps most notably today securities and finance. We do not have organizations representing the public who have been watch-dogging our government's oversight of the financial markets. We don't have organizations that enforce against violators the mandates of insurance law to advance the public good, rather than just their private interests. We don't have people who know the banking system every bit as well as the bankers and the purported regulators, but who are there to speak for the public.

And imagine how different things would be right now if, over the last 25 years, we'd had such voices. Voices who pushed back at what has become an almost religious faith in unregulated markets; voices who asked loudly and persuasively whether some of the claims being made were not factually baseless; voices who were part of the negotiations when rules were being established to ensure there was transparency, fairness, and accountability.

That comparison with the financial world may be the best way I can describe the role environmental NGOs have had. For in the environmental arena, while we have not made all the progress we need to have made and while we have new and daunting challenges, we have not faced a full meltdown yet. We've done an okay job of cleaning up sewage and industrial pollution; we've created parks and other protected areas; cars are cleaner and air quality has improved in many areas; we've developed recycling programs and energy efficiency standards. As I'll mention, we now face the challenge of climate change, and we have far more to do to achieve clean air and water and preserve open space and wild species. But we face these challenges knowing what to do--if we can garner the political will--and with a track record of successes and failures on which to build.

Looking backwards, as we'll do together in a minute, we'll see that NGOs have had a critical role in shaping U.S. environmental laws, both in drafting them, and in transforming the sterile legislative words into meaningful protections, binding judicial precedent, and effective practices. And NGOs fundamentally altered what had been a bilateral, often isolated dialogue between polluter and regulator into a trilateral and often multilateral debate that included those affected in ways other than solely their pocket book. And looking forward, we'll see that NGOs, and the rest of the environmental law community cannot rest on their laurels or rely on only the tried-and-true. We have new challenges that will affect the very foundations of our country, our economy, and indeed our planet. I'll offer a few thoughts on what to do.

[A] a critical step in the birth of environmental law occurred only [w]hen the Scenic Hudson Preservation Conference challenged a pump-storage facility on Storm King Mountain[. Before this case], only economic interests could get into court. Yet Scenic Hudson's members had other interests - "aesthetic, conservational, and recreational." In a seminal decision written in 1965 by Judge Oakes, the Second Circuit Court of Appeals held that such interests were sufficient for standing. Environmental litigation was born.

That case had another long-term ramification as well. Many of the lawyers in that case - Wall Street lawyers working largely pro bono - realized that environmental interests could not be protected by the occasional efforts of corporate lawyers; the environment needed full time

environmental lawyers, experts in the field, but always representing the public. The lawyers who fought the Scenic Hudson battle--Stephan Duggan, Whitney North Seymour Jr, and David Sive--were some of the founders of NRDC, and at about the same time other environmental NGOs were also formed. So, not just environmental litigation, but environmental litigators were born.

It was in this setting that a group of about fifty people gathered, in 1969, at the Airlie House in Virginia's Shenandoah Mountains. Many of the lawyers who went on to work for NRDC, as well as for the Environmental Defense Fund and the Sierra Club Legal Defense Fund (now EarthJustice), hammered out legal approaches to defend the environment--whether to rely on the public trust, to build from common law, or to bring cases on the Fourteenth Amendment. Notables of the group, like former Vermont Governor Phillip Hoff and California Congressman Pete McCloskey, felt that in the then current political climate, new legislation was necessary and possible.

This was about 1970 and the time of the first Earth Day. Rachel Carson's 1962 Silent Spring had opened the nation's eyes to the impact of toxins. The image of the Cuyahoga River fire burned across Time Magazine. The public demanded action. And Congress, guided in large part by these new public interest environmental lawyers, responded by writing the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, and other anti-pollution laws. Environmental laws, not just wilderness conservation laws. Thus, not just environmental litigation and environmental litigators, but modern environmental legislation was born.

Each of these new pieces of legislation, and the debates that preceded them, were heavily influenced by NGOs pressing for fast action, clear and aggressive targets, health-based mandatory standards rather than cost-based aspirational goals, frequent monitoring and public availability of environmental permits and records. NRDC, for example had a huge role in drafting the 1972 Clean Water Act. NGOs largely shaped the 1990 Clean Air Act. There is a lot to be said about the role of NGOs in the legislative process, but, as others have covered that, let me focus instead on the role of NGOs in bringing the words on paper to life. Let me give just a couple of examples.

In 1971, the Calvert Cliffs Coordinating Committee brought suit under NEPA against the Atomic Energy Commission. That case converted what was thought of by the agency as a “paper tiger” into a major tool to get better decisions that strengthened the ability of NGOs to influence regulation. The requirement of environmental consideration “to the fullest extent possible” was no longer an escape hatch, but a mandate to set the highest standard for agencies. Tony Roisman, then a staff attorney at NRDC recalls of this era, “Government couldn't write a passable EIS. You could stop almost anything. Injunctions flowed like water from the courts.” NEPA thus went from a vague hope to a major negotiating tool, shifting the balance of power between future polluters and the public. (This by the way continues to today - next week NRDC will be arguing a NEPA case in the U.S. Supreme Court.)

In the same year the Citizens to Protect Overton Park challenged the decision of the Federal Department of Transportation to build a freeway through a public park in Memphis. The citizens sued, arguing that the law prohibited DOT from putting the road through the park unless all other options were truly infeasible. The DOT brushed off this feasibility analysis. The Supreme Court reversed the decision of the DOT and said that Congress meant what it said. The Court transformed Section 4(f) of the federal transportation law from mere aspiration to a law with teeth and, as you all know, also established a framework of review to be used in future decisions. This case would only have been brought by an NGO.

The following year, 1972, in the Sierra Club v. Morton challenge to a ski resort in the Sierras, the Supreme Court ruled against the Sierra Club, but in so doing clearly laid out exactly what NGOs needed to do to get into court in the future: prove themselves or their members to be among those who would be injured by the challenged action. In his dissent to the majority opinion, Justice William O. Douglas noted the importance of this voice for the public, "[B]efore these priceless bits of Americana are forever lost. . ., the voice of the existing beneficiaries of these environmental wonders should be heard."

Similarly, when utilities figured out how to get around the regulations of the original Clean Air Act--by building their smokestacks higher, thereby pushing the pollutants higher into the atmosphere and dispersing them but also creating acid rain--NGOs, not EPA, pushed back. In 1974, NRDC sued the Tennessee Valley Authority, the largest violator, and ensured that the goal of the statute-- cleaner air--was actually achieved. That win eliminated over one million tons of pollutants, and led to one of the largest sulfur dioxide cleanup programs in United States history.

And when, despite the Clean Air Act's mandate about ambient air quality standards for pollutants contributing to endangerment of public health, and despite ample evidence of the impact of lead on children's health and IQ, EPA did nothing, it was NGOs who gave life to the Act. In 1978 NRDC sued EPA to promulgate a National Ambient Air Quality Standard (NAAQS) for lead and also rules for controlling lead emissions in car exhaust. Thus, it was litigation and relentless pressure by NGOs that finally resulted in the phase-out of lead from gasoline. The result: in 1976 the average level of lead in the typical American was 12.8 micrograms/liter. By 1988 that level dramatically dropped to 2.8. And as NGOs continue to keep lead from other household substances, that level continues to drop.

And consider the Clean Water Act. It requires dischargers to have permits and to monitor their discharges. By comparing the reports to the permits, it is fairly easy to find violations. But polluters weren't used to the law and many did not take it seriously. The governments did not take it seriously either. So NGOs used the citizen suit provision to enforce the law against violators. Riverkeeper, often represented by the Pace Environmental Litigation Clinic, brought hundreds of cases to clean up this region. At one point, NRDC alone had more Clean Water Act enforcement cases than all of the Department of Justice. And look at the case law--it's almost all in cases brought by NGOs.

All these efforts required attributes that only the environmental NGOs possessed. They required a level of expertise in the science, the law--both the legislation and its regulations, and the reality of what was happening on the ground. This level of expertise is very hard for individuals, usually with other jobs or occupations, to obtain. These cases also require a dedication to the public interest, not to short-term political expedience, administrative turf, or corporate profits. And they required constant vigilance.

These NGOs were critical not just at the first decade of environmental law, but throughout our recent history. Take a story from the last forty-eight hours in Congress before passing the 1990 Clean Air Act amendments. Three NRDC lawyers knew the statute inside and out, and were keeping a close eye on the negotiated drafts. It was ten o'clock on a Friday night when the other side dropped what they called "technical amendments." At first glance it seemed to be highly-detailed, inconsequential editorial corrections. But David Hawkins, our Director of Air and Energy read it again. He caught a semi-colon inserted into a paragraph of 45 words. That semi-colon changed the entire meaning of the paragraph, expanding the eligibility for power plants to delay compliance. He called Congressional allies and they put that semi-colon in its grave. Imagine the level of expertise it takes to remove a semi-colon at 10pm on a Friday night.

Here's another example. In the 2007 Energy Act, there is a provision that will require lighting to be 25% more efficient by 2012 and 75% more efficient by 2020, effectively banning inefficient incandescent bulbs. This will save consumers billions of dollars and eliminate millions of tons of carbon dioxide pollution. It was also negotiated by NRDC and industry, and then was adopted almost verbatim by Congress. This followed a long-line of similar energy efficiency laws dating back to the 1970s negotiated by NGOs and industry and adopted by Congress.

And the work of environmental NGOs continues to the present. In the last eight years, for example, the Bush Administration has waged an unprecedented war on the environment. This is a non-partisan statement; this is simple fact. Environmental NGOs, very often NRDC and EarthJustice, but others as well, sometimes accompanied by other entities such as states, have had repeatedly to sue EPA and other federal agencies to overturn efforts to promulgate new regulations weakening the Clean Air Act, the Clean Water Act, the Endangered Species Act, and a host of other statutes. I've been personally involved on many of these challenges so it's tempting to go into them in more detail, but I'll spare you. Suffice it to say that, despite the deference usually paid to EPA in such cases (more on that later), we usually won. And as a direct result, millions of people will breathe cleaner air, enjoy healthier water, and have opportunities to be refreshed by real wild places.

This role of environmental NGOs is crucial and must continue in the future. The 2008 Climate Security Act that would cap CO_2 pollution and require emitters to purchase allowances for their CO_2 emissions, for example, was heavily influenced by NRDC as well as other NGOs. Without the NGOs, the bill would have looked very, very different, if existed at all. The cap would be higher, there would be fewer interim caps, there would be more allowances given away for free to polluters, fewer incentives for energy efficiency or clean energy. It's not just that NGOs represented the public interest, but that they had the scientific, technical, legal and political expertise to make their voice persuasive. The bill did not pass Congress, but it will soon--a carbon cap must become law very soon or we are all in deep trouble--and when it does, it will show the role and importance of environmental NGOs.

The same is true at the state level. The RGGI, the Regional Greenhouse Gas Initiative, recently created the first CO_2 auction in the U.S. It just announced that it brought in $38.6 million in revenue. Not bad for the first week. The RGGI also was heavily influenced by NGOs. And on the other side of the country, Governor Schwarznegger just signed a law actually sponsored by NRDC and another NGO--that sort of thing can happen in California--establishing incentives for alternative transportation, green buildings and Smart Growth.

And the same important role of environmental NGOs can be seen at this local level as well. Hundreds of smaller local NGOs, often using legal tools created and refined by the larger national NGOs, have worked to clean up thousands of local streams or protects parks and forests. These local NGOs, while independent of the larger national ones I'm discussing, often followed the model and cultural trend set by larger groups. (And the larger NGOs, of course, benefit from the local knowledge and enthusiasm of the smaller groups.)

Climate change has been a harder issue to rally the public around than other important environmental issues, perhaps in part because climate change and human health are linked in a complex chain of causation over a substantial period of time. Namely, carbon dioxide and other greenhouse gases collect in the atmosphere and change its radiative qualities in a way that affects

climate. Human health, in turn, depends on a predictable climate in a multitude of underappreciated ways. In contrast, it is straightforward to understand that breathing automobile exhaust harms respiration or that swimming in polluted water causes skin rashes. The link between climate change and environmental harm is also more complicated. Many people do not immediately see how a change in climate harms the environment. It is easier to understand the harm of deforestation or overfishing.

Moreover, climate-concerned NGOs have sometimes been divided on how to respond to the climate threat. Many environmental NGOs have traditionally opposed nuclear energy, an energy source viewed by others as climate-friendly. NGOs concerned with landscape aesthetics or wildlife may contest the siting of solar or wind energy facilities. With respect to regulatory policy, NGOs vary in the extent they are supportive of market-based regulation such as cap-and-trade programs or emissions taxes.

In the 2000s, litigation was the advocacy approach through which U.S. environmental NGOs had the most success in advancing climate change law. U.S. environmental law has a history dating to the 1970s of allowing citizens to sue governmental agencies and/or private interests believed to be violating the law. Also, the Administrative Procedure Act (APA) of 1946 authorizes citizens to challenge judicial review of agency actions as being ‘‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”

In the face of inadequate federal action on climate change in the 2000s, American environmentalists have taken the climate issue to court. The next reading contains the profiles of the seventeen NGOs that petitioned the EPA in 1999 to regulate greenhouse gas emission from new motor vehicles. This petition ultimately led to the Supreme Court’s landmark climate change decision in 2007, *Massachusetts v. EPA*, which is discussed in depth in Chapter Three.

International Center for Technology Assessment, et al., Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions from New Motor Vehicles under § 202 of the Clean Air Act, October 20, 1999

Pursuant to the Right to Petition Government Clause contained in the First Amendment of the United States Constitution, the Administrative Procedure Act, the Clean Air Act, and the Environmental Protection Agency (EPA) implementing regulations, petitioners file this Petition for Rulemaking and Collateral Relief with the Administrator [of the Environmental Protection Agency] and respectfully requests her to undertake the following mandatory duties:

(1). Regulate the emissions of carbon dioxide (CO2) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;
(2). Regulate the emissions of methane (CH4) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;
(3). Regulate the emissions of nitrous oxide (N20) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;
(4). Regulate the emissions of hydrofluorocarbons (HFCs) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

PETITIONERS

Petitioner *International Center for Technology Assessment* (CTA) … Formed in 1994, CTA seeks to assist the public and policy makers in better understanding how technology affects

society. CTA is a non-profit organization devoted to analyzing the economic, environmental, ethical, political and social impacts that can result from the application of technology or technological systems.

Petitioner *Alliance for Sustainable Communities* … The Alliance was formed five years ago in order to bring together representatives of government at all levels, citizens and innovators to develop projects which express the primary relationship between people and the earth.

Petitioner *Applied Power Technologies, Inc.* (APT) … APT is a research & development concern bringing new energy conversion systems to the air-conditioning industry on behalf of the natural gas industry. APT will advent the deregulation and decentralization of power production by producing nearly pollution-free air-conditioning, refrigeration and related appliances which will convert clean natural gas into electric offsetting heat energy on-site of actual end usage.

Petitioner *Bio Fuels America* … Bio Fuels America is a not for profit, self funded, advocacy group that promotes renewable energies such as wind, sun and biomass.

Petitioner *The California Solar Energy Industries Association* (CAL SEIA) … CAL SEIA is a solar industry trade association with 70 member companies who do business in California. CAL SEIA's members include manufacturers of both solar thermal and photovoltaic technologies, as well as distributors, contractors, architects, engineers and utilities.

Petitioner *Clements Environmental Corporation* … Clements Environmental Corp. is a small environmental engineering firm specializing in the conversion of Municipal Solid Waste and other waste organics to biofuels and biochemicals.

Petitioner *The Earth Day Network* … The Earth Day Network [EDN] is a global alliance of environmental organizations. Under the banner "Clean Energy Now!", EDN is promoting a dramatic increase in energy efficiency and a rapid transition to renewable energy and away from reliance on coal and oil. The organization intends to use Earth Day 2000 to marshal 500 million people around the world to support policies that improve the environment and reverse global warming.

Petitioner *Environmental Advocates* … Environmental Advocates serves the people of New York as an effective and aggressive watchdog and advocate on virtually every important state environmental issue. Through advocacy, coalition building, citizen education and policy development, we work to safeguard public health and preserve our unique natural heritage. With thousands of individual supporters and over 130 organizational members, Environmental Advocates is truly the voice of New York's environmental community.

Petitioner *Environmental and Energy Study Institute* (EESI) … EESI is a non-profit organization founded in 1982 by a bipartisan group of Members of Congress. EESI promotes public policy that sustains people, the environment and our natural resources. EESI's wide-ranging audience includes Congress and other national policymakers, as well as state and local officials, industry leaders, the public interest community, the media, and the general public. EESI

draws together timely information, innovative public policy proposals, policymakers, and stakeholders to seek solutions to environmental and energy problems.

Petitioner *Friends of the Earth* … Friends of the Earth is a national environmental organization dedicated to preserving the health and diversity of the planet for future generations. As the largest international environmental network in the world with affiliates in 63 countries, Friends of the Earth empowers citizens to have an influential voice in decisions affecting their environment.

Petitioner *Full Circle Energy Project, Inc.* … Full Circle Energy Project, Inc. is a non-profit organization founded to enable environmentally sensible and sustainable energy resources to supply at least 50% of the total energy used in the United States. Its primary focus is on reducing the amount of fossil fuels used by the transportation sector.

Petitioner *The Green Party of Rhode Island* … The Green Party of RI is a part of the international Green Party movement. In Rhode Island it has run candidates for a variety of offices, always focusing on environmental issues as well as justice, non violence, and democracy issues. Petitioner Greenpeace USA is located at 1436 U Street, NW, Washington, DC 20009. Greenpeace is one of the world's major environmental organizations with offices in 33 countries, including the United States of America, and over 3 million donating supporters worldwide. Greenpeace is a non-profit organization devoted to the protection of the environment with an emphasis on global environmental problems such as climate change and protection of the stratospheric ozone layer, prevention of nuclear, chemical and biological pollution, and defense of biodiversity.

Petitioner *National Environmental Trust* (NET) … NET was established in 1994 to help move specific environmental issues, ripe for action, into the public spotlight. Through use of opinion research, media relations, a grassroots network and government relations, NET has helped to advance policies which protect the environment in each of its campaign areas: global warming, clean air, forests protection and children's environmental health.

Petitioner *Network for Environmental and Economic Responsibility of the United Church of Christ [UCC]* … The Network for Environmental and Economic Responsibility (NEER) is a grassroots, volunteer movement committed to mobilizing UCC persons, networks and resources for a holistic ministry of learning, reflection, and action cognizant of the earth and its creatures. Network members believe that all living things on our planet are interdependent in a vast web of life.

Petitioner *New Jersey Environmental Watch*… New Jersey Environmental Watch is a church based organization in New Jersey that seeks better air in their area and elsewhere. Recently, it recorded 40 percent of our Sunday School children had been hospitalized for asthma. It is also in cancer alley and have greatly elevated cancer rates. The 14-lane New Jersey Turnpike passes through Elizabeth, NJ the bottom 40 percent of the Newark Airport is located there as well, and Elizabeth is immediately downwind of the huge Bayway Tosco refinery in Linden.

Petitioner *New Mexico Solar Energy Association* (NMSEA) … NMSEA is an all volunteer organization working to further solar and related arts, sciences, and technologies with concern for the ecologic, social and economic fabric of the region. It serves to inform public, institutional and government bodies and seeks to raise the level of public awareness of these purposes.

Petitioner *Public Citizen* … Public Citizen, founded by Ralph Nader in 1971, is a non-profit research, lobbying, and litigation organization based in Washington, DC. Public Citizen advocates for consumer protection and for government and corporate accountability, and is supported by over 150,000 members throughout the United States.

Petitioner *Solar Energy Industries Association* (SEIA) … The Solar Energy industries Association (SEIA), founded in 1974, is the U.S. industry organization composed of over 150 solar-electric and solar thermal manufacturers, component suppliers, national distibutors (*sic*) and project developers, and an additional 400 companies in the SEIA--affiliated state and regional chapters covering 35 states.

Petitioner *The SUN DAY Campaign* …. The SUN DAY Campaign is a non-profit network of 850+ businesses and organizations founded in 1991 to promote increased use of renewable energy and energy efficient technologies. Areas of work include research on sustainable energy technologies, electric utility restructuring, climate change, and the federal energy budget. Projects include publication of a weekly newsletter, an annual series of directories of sustainable energy organizations, and other studies.

NOTES AND QUESTIONS

1. Do you agree with Lehner's positive assessment of the contribution of NGOs to environmental law? Not all commentators celebrate the environmental litigation filed by NGOs. For example, at the other end of the spectrum, American Enterprise Institute scholar Michael Greve characterizes environmental NGOs as "bounty hunters" that are motivated to litigate by private economic reward rather than public benefit. Michael S. Greve, *The Private Enforcement of Environmental Law*, 65 TUL. L. REV. 339 (1990). What role do you think NGOs should play in the development of climate change law?

2. Another criticism of U.S. environmental NGOs is that they are not sufficiently diverse or focused on concerns of low-income communities of color. The environmental justice movement, which emerged in the United States in the 1990s to address the disproportionate distribution of environmental harms and benefits, lagged both the environmental and civil rights movements in this country. For an exploration of ongoing diversity concerns, see Faith R. Rivers, *Bridging the Black-Green-White Divide: The Impact of Diversity in Environmental Nonprofit Organizations*, 33 WM. & MARY ENVTL. L. & POL'Y REV. 449 (2009). Given the environmental justice concerns that arise both domestically and internationally in the context of climate change, how should U.S. NGOs work to address diversity concerns in their composition and agendas?

3. Note the many differences among the NGOs that jointly filed the U.S. EPA petition. A few are very large national NGOs; others appear to be small and operate in only one state. A few are traditionally environmentally-focused; many are business NGOs advocating on behalf of alternative energy companies. The list of petitioners also includes a public policy think tank, a political party, and a religious group. How do you think these petitioners came together to collaborate on this petition?

   As discussed in depth in Chapter Three, NGOs have initiated many other legal cases relating to climate change with a wide variety of legal theories. The Center for Climate Law at Columbia University has assembled an exhaustive U.S. Climate Change Litigation Chart, available at http://www.law.columbia.edu/centers/climatechange/resources/LitChartUS. In addition to the Clean Air Act, U.S. environmental groups have filed lawsuits to force the federal government to take action on climate change under the Endangered Species Act, Marine Mammal Protection Act, Clean Water Act, Global Change Research Act, Freedom of Information Act, Alternative Motor Fuels Act, and Energy Policy Act. *See, e.g.*, *Natural Resources Defense Council v. Kempthorne*, 2009 U.S. Dist. LEXIS 78424 (E.D. Cal, 2009); *Center for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105 (N.D. Cal, 2007); *Center for Biological Diversity v. Office of Management and Budget*, 546 F. Supp. 2d 722 (N.D. Cal, 2008).

   NGOs have also initiated many lawsuits to ensure compliance with the National Environmental Policy Act, *see e.g.*, *Center for Biological Diversity v. National Highway Safety Administration*, 538 F.3d 1172 (9th Cir., 2008), *Friends of the Earth v. Mosbacher*, 488 F. Supp. 2d 889 (N.D. Cal, 2007); and to prevent the government from authorizing new coal-fired power plants, *see e.g.*, *Sierra Club v. Johnson*, 541 F.3d 1257 (11th Cir., 2008); *Appalachian Voices v. Chu*, 262 F.R.D. 24 (D.D.C., 2009). Finally, in key public nuisance cases filed by state attorney generals such as *California v. GM* and *Connecticut v AEP*, NGOs have worked behind-the-scenes to help do research and develop legal theories. See Kal Raustiala & Natalie Bridgeman, *Nonstate Actors in the Global Climate Regime*, UCLA School of Law Research Paper No. 07-29 (2007). Aside from litigation, NGOs have played very important roles in policy research, public education and information dissemination. Professor Daniel Esty finds that NGOs act as "intellectual competitors in the policymaking domain" by offering "alternative data or information, competing analyses, and new policy options." Esty also observes that NGOs are often more adept at disseminating important information about environmental problems and policy decisions than government. See Daniel C. Esty, *Toward Optimal Environmental Governance*, 74 N.Y.U. L. REV. 1495 (1999).

4. Environmental NGOs have played an important role in countries around the world. While a full analysis of this role is beyond the scope of this book, this note suggests a couple examples of the scholarly literature on environmental NGOs operating in other countries. For discussion of access to courts by environmental NGOs in the EU context, see Bilun Müller, *Access to the Courts of the Member States for NGOs in Environmental Matters under European Union Law, Judgment of the Court of 12 May 2011--Case C-115/09 Trianel and Judgment of 8 March 2011--Case C-240/09 Lesoochranarske Zoskupenie*, 23 J. ENVTL. L. 505 (2011). For an article about the role of environmental NGOs in the Botswanan context,

Zein Kebonang & Kabelo Kenneth Lebotse, *Reflections on the Legislative Environment for Nongovernmental Organizations in Botswana*, 12 INT'L J. NOT-FOR-PROFIT L. 54 (2010).

2. Influence on International Law

NGOs emerged as a force at the Earth Summit in 1992 in Rio de Janeiro where the United Nations Framework Convention on Climate Change was signed. Nearly 1,500 NGOs were accredited to attend meetings, lobby governmental representatives, present documents, and meet among themselves. *See* Chiara Giorgetti, *Organizational Summary: The Role of Nongovernmental Organizations in the Climate Change Negotiations*, 9 COLO. J. INT'L ENVTL. L. & POL'Y 115, 125 (1998). Professor Kal Raustiala observes: "As has long been the case in domestic [U.S.] environmental law, NGOs are now major actors in the formulation, implementation, and enforcement of international environmental law." Kal Raustiala, *The Participatory Revolution in International Environmental Law*, 21 HARV. ENVTL. L. REV. 537, 538 (1997).

In the next reading, which predates the Kyoto Protocol and recent negotiations, Professor Raustiala categorizes NGO contributions to global climate change policy. He describes five roles that they play.

Kal Raustiala, *Nonstate Actors in the Global Climate Regime, in* INTERNATIONAL RELATIONS AND GLOBAL CLIMATE CHANGE 95-117 (Urs Luterbacher & Detlef F. Sprinz eds., 2001).

NGOs [Non-Governmental Organizations] activities directly relating to global climate policy and the FCCC [Framework Convention on Climate Change] process can be divided into five basic categories:

· Helping to set the international agenda and raise awareness of environmental challenges
· Providing policy advice and information
· Influencing the process of international negotiation through political pressure
· Monitoring governmental actions
· Assisting in the process of implementation

Setting the Agenda [Environmental] NGOs have been great popularizers of environmental problems, and as such have focused—in conjunction with the news media and with scientific epistemic communities—significant public and government attention on climate change. They have often been the conduit between climatologists and the public, providing (at times oversimplified) distillations of the latest research and stimulating political action. In doing so they have kept the issue of climate change alive as one of the important problems governments must address, or at least appear to address. In the words of one former U.S. official, describing the NGO-organized Villach and Bellagio meetings that helped initiate the international climate change policy process that led to the FCCC: "The two workshops, the meetings of the Advisory Group on Greenhouse Gases and other activities . . . indeed played a significant catalytic role in establishing the IPCC [Intergovernmental Panel on Climate Change]. . . . Governments could no longer permit . . . NGOs to drive the agenda on the emerging climate issue." While NGOs vary widely in their approach to agenda setting, their public activities help frame issues politically and

motivate political action. Greenpeace is often the most flamboyant. The day before COP-1 [the first conference of the parties to the FCCC] began, for example, three Greenpeace activists occupied a coal plant chimney near Cologne to focus attention on the source of a chief greenhouse gas, CO2. At the opposite end of the spectrum are relatively dry and technical conferences and presentations held, often at the negotiations themselves, on various alternative energy sources and policy issues. The more private lobbying efforts of NGOs, which also vary substantially, can influence governmental assessments of the "climate change problem" and hence negotiating calendars and topics.

Providing Policy Recommendations Climate change is a complex multidimensional problem that challenges governments to develop flexible, effective, and efficient policy responses. The nature of the problem, its depth and severity, the potential costs, and the potential impact of various solutions are all subject to great uncertainty. NGOs, to varying degrees, have devoted attention to these and other issues and often seek to develop and promote particular substantive assessments and practical policy measures. For governments that lack resources and expertise in this area, especially of the smaller, less developed states, NGOs in the aggregate may provide useful information that is relatively "costless." NGOs engage in and fund scientific research; NGOs in the United States have been particularly active in this regard. NGOs may serve as a "voice for the voiceless," or for those with limited political power, and thereby seek, in their own view, to provide both a human face and a concern for justice to the often technocratic and abstract process of regulation. Just as frequently, however, they are voices for the powerful.

In practice, as noted above, NGOs have made use of the access they have received to provide government delegations with policy analyses and recommendations, as well as critiques of proposed policies. These have come from both environmental and business NGOs. Since the FCCC has come into force meetings have proliferated, and NGO participation, both formal and informal, has become fairly regularized. For example, meetings of the Ad Hoc Group on the Berlin Mandate (AGBM), which negotiated the Kyoto Protocol, nearly always included at least one formal NGO intervention. These interventions typically addressed specific issues under negotiation and offered suggestions as well as critiques…

…

Members of NGOs have also appeared on several government delegations and have acted as consultants for governments. One of the most prominent examples is the relation between the London-based Foundation of International Environmental Law and Development (FIELD) and the Alliance of Small Island States (AOSIS). Members of FIELD, mostly international lawyers, consulted extensively with members of AOSIS, appeared on their delegations, and at times acted as the delegation of certain AOSIS members. The tiny member governments of AOSIS, often lacking much indigenous expertise about climate change and the policy possibilities, became a more powerful negotiating force in conjunction with FIELD. Business NGOs have also played this role—for example, members of the U.S.-based Global Climate Coalition have been present on U.S. delegations to FCCC meetings.

Political Pressure NGOs can apply political pressure both directly and internationally—at negotiations themselves—as well as indirectly and domestically through national-level lobbying and media action. The ultimate impact of direct pressure at negotiations is debatable. While many participants in international environmental negotiations emphasize the social pressures and atmosphere of negotiations, and NGOs can influence that atmosphere, ardor often cools. In the

end, the efficacy of international accords rests on their ratification, implementation, and subsequent interpretation—actions relatively immune to the specific social climate of the negotiation process. National-level pressure has a firmer base in domestic politics. Particularly in the developed democracies, NGOs can be powerful organizations with a large and politically active membership. While climate change is currently low on the political radar in many states, in some industrialized democracies issues retain political salience. If the underlying problem is itself not politically salient, possible solutions including: gasoline taxes, mass transit subsidies, and the like, are controversial issues in nearly every industrial economy. These proposed solutions become domestic political issues on which NGOs often weigh in. Since international responses are the collective result of many national decisions, this indirect pathway of influence can be significant.

Indeed, the political power of environmental NGOs and the access they have gained in the climate negotiations has stimulated the activities of business NGOs to the point that the majority of observers at recent meetings are those representing business interests. In short, the international response to climate change has taken place in a politicized atmosphere, with many divergent interests represented. NGOs are important domestic actors that governments listen to in addition to, and regardless of, the "useful" roles enumerated above and below.

Monitoring Government Actions Like most international environmental agreements, the FCCC uses a reporting process in which governments self-report on their actions with limited collective oversight. Other governments, therefore, have few means by which they can assess their counterparts' actions in a formal and transparent way. NGOs have helped "multilateralize" information about national actions by preparing analyses of what governments have claimed to do, what they have actually done, and what is likely in the future. For example, the Climate Action Network, a consortium of many environmental NGOs, has prepared comprehensive reports of climate pledges and actions, and has made them readily available to governments, private interests, and the media (e.g., Climate Action Network US and Climate Network Europe 1994). While "enforcement" is too strong a word for this role, and often too much is made of NGO monitoring activity, through these and similar efforts NGOs have the potential to aid in achieving compliance with and implementation of the FCCC.

Implementation Activities International agreements generally must be put into practice if they are to be effective. The implementation of accords and the resulting policy feedback is a central part of the politics of environmental cooperation. NGOs have, in other issue areas, played important roles in the implementation of environmental commitments. For the Convention on International Trade in Endangered Species (CITES), for example, NGOs have both been granted "bureau duties" (essentially running the CITES secretariat) and have played critical roles in CITES' monitoring and enforcement apparatus. Often, however, NGOs fail to sustain the same level of interest in regime implementation that they do in regime negotiation.

The FCCC did not contain clear programmatic or emissions commitments, beyond national reporting requirements and a vague emissions reduction pledge for industrialized states, until the negotiation of the Kyoto Protocol in 1997. The Kyoto Protocol, should it enter into force, will greatly expand the range of implementable obligations. The implementation of the Kyoto Protocol will depend heavily on the evolution of emissions trading, joint implementation programs, and the Clean Development Mechanism. As these mechanisms develop, NGOs may have greater opportunities to influence the implementation of the FCCC.

NOTES AND QUESTIONS

1. Non-state actors lack legal personality in classic international law. However, they have been able to participate in the development of the international climate treaties through their status as "observers." The admission of observers is governed by Article 7.6 of the UNFCCC:

> Any body or agency, whether national or international, governmental or non governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties as an observer, may be so admitted unless at least one third of the Parties present object.

UNFCCC accreditation is a continuous process, and to date about 1,300 NGOs have been admitted as observers. The NGOs include representatives from business and industry, environmental groups, farming and agriculture, indigenous populations, local governments and municipal authorities, research and academic institutes, labor unions, women's groups, and youth groups. See http://unfccc.int/parties_and_observers/items/2704txt.php .

The UNFCCC's procedural rules set forth how observers may participate. Rule 7(2) provides that "observers may, upon invitation of the President [of the Conference of the Parties], participate without the right to vote in the proceedings of any session in matters of direct concern to the body or agency they represent, unless at least one third of the Parties present at the session object." Under Rule 30, COP meetings are ordinarily open to observers. How do you think the UNFCCC Parties—the sovereign states that are trying to negotiate the international agreement—perceive and deal with the participation of NGOs? How does NGO participation in treaty negotiations raise issues of accountability and legitimacy?

2. For a historical discussion of NGO access to international environmental treaty meetings, see Kal Raustiala, *The Participatory Revolution: in International Environmental Law*, 21 HARV. ENVTL. L. REV. 537, 543-552 (1997). Other important works focusing on NGO participation in international climate change law include Chiara Giorgetti, *The Role of Nongovernmental Organizations in the Climate Change Negotiations*, 9 COLO. J. INT'L ENVTL. L. & POL'Y 115 (1998); Chiara Giorgetti, *From Rio to Kyoto: A Study of the Involvement of Non-Governmental Organizations in the Negotiations on Climate Change*, 7 NYU ENVT. L. J. 201 (1999); Thomas Princen and Matthias Finger, ENVIRONMENTAL NGOS IN WORLD POLITICS: LINKING THE LOCAL AND THE GLOBAL (1994); and Michele M. Betsill and Elisabeth Corell, NGO DIPLOMACY: THE INFLUENCE OF NONGOVERNMENTAL ORGANIZATIONS IN INTERNATIONAL ENVIRONMENTAL NEGOTIATIONS (2008). For a broader discussion of NGOs and international law, see Steve Charnovitz, *Nongovernmental Organizations and International Law*, 100 AM. J. INT'L L. 348 (2006).

3. NGOs and the Development of the Kyoto Protocol

The role of environmental NGOs has been particularly apparent in recent international climate change negotiations under the UNFCCC. In perhaps the most important example, NGOs significantly influenced the development of the Kyoto Protocol, which as discussed in depth in Chapter Two, is the only climate change agreement with binding targets and timetables. In the reading that follows, Professor Michele Betsill analyzes how NGOs participated in the negotiation of the Kyoto Protocol and the influence they had on treaty outcomes.

Michele Betsill, Environmental NGOs and the Kyoto Protocol Negotiations: 1995 to 1997, *in* NGO DIPLOMACY: THE INFLUENCE OF NONGOVERNMENTAL ORGANIZATIONS IN INTERNATIONAL ENVIRONMENTAL NEGOTIATIONS 46–64 (Michele M. Betsill & Elisabeth Corell eds., 2008).

ENGOs [Environmental NGOs] were extremely active participants in the Kyoto Protocol negotiations. More than forty organizations sent representatives to at least two of the negotiating sessions, with the largest delegations coming from Greenpeace, Friends of the Earth, and the World Wide Fund for Nature. The environmental community was dominated by northern NGOs. Only one-fourth of the ENGOs came from the South, and these organizations typically sent only one or two representatives to the negotiations. The climate change secretariat provided some funds (raised from individual countries) for NGO participation; however, the funds were often insufficient.

ENGOs coordinated their participation in the Kyoto Protocol negotiations under the umbrella of the Climate Action Network (CAN). CAN was formed in 1989 for environmental organizations interested in the problem of climate change and today has more than 280 members [note from editor: CAN had more than 700 members by 2011]. CAN is a loose organization divided into eight regions, each with its own coordinator: Africa, Australia, Central and Eastern Europe, Europe/United Kingdom, Latin America, South Asia, Southeast Asia, and the United States/Canada. CAN served as the voice of the environmental community during the Kyoto Protocol negotiations. Members met daily during each negotiating session, and these meetings were an important forum for sharing information, debating issues, and coordinating lobbying efforts. In between negotiating sessions, some CAN members met regularly with other members in their respective regions (e.g., Europe) to devise strategies for lobbying particular governments.

During the period 1995 to 1997 CAN had four objectives. First, CAN argued that the Protocol should include commitments for industrialized countries to reduce their GHG emissions 20 percent below 1990 levels by 2005. Second, they argued for strong review and compliance mechanisms to enhance the implementation of the commitments contained in the Protocol. Third, ENGOs objected to proposals to allow industrialized Parties to meet their commitments through emissions trading. Finally, CAN also opposed the idea of permitting Parties to get credit for emissions absorbed by sinks. The latter two objectives reflected CAN's position that industrialized states should achieve the majority of their emissions reductions through domestic policy changes. Throughout the negotiations CAN members framed the problem of climate change as an environmental crisis requiring immediate action.

CAN members employed a variety of strategies for promoting their position during the negotiations. Perhaps their most visible activity was the publication of a daily newsletter, *ECO*, at each of the negotiating sessions. *ECO,* which was widely read by all participants to the

negotiations, served two purposes. First, it was a useful way for delegates to keep up with the day-to-day progress of the talks. Second, and most important in terms of exerting influence, CAN used *ECO* as a political forum for promoting their positions on a variety of issues, to discredit arguments put forth by opponents of emissions reductions (e.g., the oil producing states and the fossil-fuel industry and to put pressure on delegations to take aggressive measures to mitigate global climate change. Each issue contained a "fossil of the day" award given to the country that had most obstructed the negotiations the previous day. In addition CAN members used the pages of *ECO* to highlight their framing of climate change as an environmental crisis, regularly pointing to potential impacts such as more intense heat waves in Shanghai, stress to the Rocky Mountain ecosystem in the United States, damage to the Polish economy from more frequent floods, and significant declines in agricultural productivity in Africa and Asia.

CAN members also provided technical information to delegates. They publicized the potentially devastating impacts of climate change and conducted research on other scientific issues, such as the capacity of forests to serve as sinks. In addition several ENGOs produced their own cost-benefit analyses of various mitigation strategies and critiqued analyses produced by other organizations, highlighting how different assumptions lead to different predictions. During formal negotiating sessions, ENGOs held a variety of "side events" on technical issues related to the negotiations, although it should be noted that these events primarily attracted other NGOs and journalists rather than state delegates. CAN members devoted considerable time to evaluating proposals and identifying potential loopholes in the draft negotiating texts. As the negotiations progressed, such specialized knowledge was in demand by delegates who had to choose among policy options. It is important to note, however, that ENGOs did not have a monopoly on this type of knowledge and information during this period. Members of the scientific and business communities were also providing information on the physical impacts of climate change and the potential economic effects of various mitigation and adaptation options. These actors often provided contradictory information making it difficult for policy makers to uncover the "truth."

ENGOs had limited access to delegates during the negotiations, much more so than had been the case during the UNFCCC negotiations. This reportedly stemmed from an incident at a negotiating session prior to COP-1 where UN officials accused a prominent fossil-fuel lobbyist of orchestrating the floor debate by sending notes to OPEC delegates. As a result NGOs were denied access to the floor during plenary sessions, and by the sixth negotiating session, delegates met primarily in closed-door, "nongroup" sessions from which NGOs were excluded altogether. Formally, NGOs were kept up-to-date through daily briefings with the Chair of the negotiations, as well as their respective state delegations. Informally, CAN members relied on the relationships they had developed with members of state delegations over the years, gathering information through corridor meetings and cell phone conversations. The use of cell phones was one particularly notable innovation during the Kyoto Protocol negotiations. On several occasions government delegates reportedly called environmental representatives to get their opinion on proposals being discussed in closed-door sessions, which enabled ENGOs to contribute to debates while not physically in the room.

In addition CAN members resorted to more "subversive" measures; they lurked in corridors, hotel lobbies, and restrooms hoping to overhear conversations and/or corner key delegates; they even searched for draft documents and memos in trashcans and copiers. Overall, the problem of access was not insurmountable for the environmental community; as one representative noted, it just "wastes our time." CAN members had to devote considerable time and resources to following the

negotiations. Nevertheless, they continued to keep up to date on the status of the talks and were often able to prepare strategies to counter proposals before they were formally introduced.

CAN members did have a few opportunities to participate directly in the Kyoto Protocol negotiations through informal roundtables and workshops organized to debate specific issues and proposals as well as formal statements delivered during plenary sessions. For example, during COP-2, Kiliparti Ramakrishna of the Woods Hole Research Center chaired a roundtable on possible impacts of industrialized emissions reductions on developing countries. Noting the involvement of the NGO community in this roundtable, Ramakrishna stated, "I hope delegates will agree with me that the inclusion of panelists from the nongovernmental community helped to enrich and enliven the discussion". CAN representatives (like all NGOs) were permitted to deliver a formal statement to the plenary during each of the negotiating sessions, usually one statement by a representative of a northern ENGO and one from a representative of a southern ENGO. CAN used this platform to highlight the latest scientific information on climate change impacts, as well as the potentially negative economic impacts on developing countries if industrialized states failed to limit their GHG emissions.

While specialized knowledge was the primary source of leverage employed by CAN during the negotiations, there is some evidence that ENGOs also capitalized on their perceived role as shapers of public views about climate change and the appropriateness of governments' responses. Several governments complained about how they were portrayed by CAN. For example, at the second negotiating session, both the Philippines and the Netherlands objected that their positions on targets had been misrepresented in ECO. Some environmental groups also organized demonstrations and protest activities to draw public and media attention to the negotiations and the issue of climate change, although these were largely done on an individual basis rather than through CAN.

Assessing ENGO Influence

In the Kyoto Protocol negotiations ENGOs were active participants in that at each of the negotiating sessions they provided a great deal of written and verbal information to the negotiators. Although their ability to interact directly with the delegates was somewhat compromised, the problem of access was not insurmountable. These factors are only part of the story in assessing NGO influence in international environmental negotiations. This section examines whether these activities had any effect on the negotiation process and/or outcome….

The core issue in climate change negotiations between 1995 and 1997 was the establishment of binding targets and timetables for reducing GHG emissions. The central questions concerned who should be required to reduce their emissions and by *how much*?....

The Protocol text requires that industrialized countries reduce their aggregate GHG emissions 5.2 percent below 1990 levels by the period 2008-2012, with each country committing to an individual target between an 8 percent decrease and a 10 percent increase (Article 3). This was largely a Japanese-brokered compromise between the American and EU positions, and by most accounts, a case of political horsetrading during the tough bargaining in closed-door sessions involving the EU leadership, the United States, and Japan over the final days (and ultimately hours) of COP-3 [in Kyoto]. The targets are not based on scientific or economic analysis and are far below what the international scientific community says is necessary to stabilize atmospheric concentrations of GHGs.

The CAN proposal for 20 percent reductions was never seriously considered during the Kyoto Protocol negotiations because many delegates questioned its political feasibility. While CAN members framed the threat of global warming as an imminent environmental crisis requiring immediate action, this same sense of urgency was not reflected in the statements made by state delegates. Most states appeared to accept global warming as a legitimate environmental threat, though they did not sense that climate change was an impending crisis, noting uncertainty about the timing, magnitude, and distribution of climate change impacts. They were more concerned instead about how to mitigate the economic costs of controlling GHG emissions.

In the absence of CAN, the Kyoto Protocol targets might have been even weaker. Specifically, ENGOs appear to have played an important role in shaping the positions of the United States and the European Union, two key actors in the negotiations. An important turning point in the negotiations came with the decision of then-US Vice President Al Gore to attend the Kyoto meeting and to instruct the American delegation to be more flexible in its negotiating position. Several observers suggested that ENGOs were instrumental by generating media attention to the negotiations, which in turn may have increased the pressure for Vice-President Gore to attend the meeting. One insider argued that the environmental community had nothing to do with Gore's decision to attend the meeting. According to this version of the story, Gore had always planned to attend but did not want to raise expectations in case something came up and he was unable to make the trip.

Even if ENGOs did not influence Gore's decision to attend COP-3, they do appear to have influenced what he said once he arrived. The Vice President's speech included a last-minute addition (i.e., it was not included in the prepared text that was distributed before the speech) stating, "I am instructing our delegation right now to show increased negotiating flexibility if a comprehensive plan can be put in place…" Evidence suggests that American ENGOs convinced Gore to make this addition. Prior to his speech, the pages of ECO had been filled with calls for the United States to be more flexible in the negotiations, particularly in its opposition to a reduction target. High-level representatives of two American organizations reportedly conveyed this message to the Vice President (with whom they had established a close relationship during his tenure in the Senate) in a phone conversation during Gore's trip from the Osaka airport to the Kyoto convention hall. Indeed, when Gore uttered the word "flexibility," two executives from one of these organizations smiled, shook hands and gave each other congratulatory pats on the back. Following Gore's visit, the US delegation announced for the first time that it would agree to include targets for emissions reductions (rather than stabilization) in the Protocol.

In addition ENGO pressure seems to have been important in getting the European Union and developing countries to hold out for reduction targets before giving in on sinks and trading. By promoting an even higher reduction target, ENGOs made the EU proposal for 15 percent reductions look moderate. Moreover, Europeans are particularly concerned about how they are portrayed by the environmental community and thus were more willing to maintain a strong position than might otherwise have been the case. Commenting on the negotiations, EU Environment Commissioner Ritt Bjerregaard noted, "We are fortunate to have a lot of activist NGOs to push nations along." Interestingly, many environmentalists expressed satisfaction (and sometimes shock) that the Protocol contained any reduction commitments at all.

This analysis highlights the interaction between domestic and international channels of NGOs influence. At the domestic level, the environmental community failed to shape the US position, losing out to an aggressive campaign by members of the American fossil-fuel industry. Groups

like the GCC [Global Climate Coalition] succeeded in framing the issue of climate change as a significant economic threat and mobilized opposition in Congress and the public, which in turn limited the ability of the Clinton administration to put forward a progressive position on targets and timetables. However, at the international level, the GCC did not have sufficient resources and organizational capabilities to ensure that the United States stuck to its position of opposing any reduction targets. Through CAN, American ENGOs joined their European counterparts in regular meetings with EU delegates, promoting their position that the Protocol must contain reduction targets and reminding European decision-makers that their constituents supported a commitment (thanks in large part to the domestic work of European ENGOs). In turn, the EU states (along with the G-77) maintained pressure on the United States to accept reduction targets. . . .

NOTES AND QUESTIONS

1. Betsill concludes that CAN and other ENGOs had an important impact on the Kyoto negotiation process. Why do you think ENGOs have had more success influencing the development of climate change policy at the international level than at the domestic level in the US?

2. In the COP-15 meeting in Copenhagen in 2009, NGO participation in negotiations was unexpectedly curtailed. See Dana R. Fisher, *Cop-15 in Copenhagen: How the Merging of Movements Left Civil Society Out in the Cold*, GLOBAL ENVIRONMENTAL POLITICS 10:2 (May 2010). A record number of NGO observers registered for the meeting: 20,000 individuals, about four times the number that registered for the COP-13 meeting in Bali in 2007. Unfortunately, conference organizers were not prepared to accommodate the high number of registrants, and they had to sharply limit attendance at negotiating sessions. Partly because of this shutout, and partly because of prior mobilization, the Copenhagen meeting featured large public protests outside the negotiation venue. Dana Fischer suggests that these events at Copenhagen will change UNFCCC policies regarding observer access in the future: "To ensure the safety of the Parties negotiating *inside*, the regime has little choice but to limit access to members of civil society. Ironically, the more civil society actors try to participate… the less access they are likely to have." *Id.* at 16. How important do you think it is to have civil society access to treaty negotiations? What are the benefits and costs of such access?

3. As apparent from the fact that so many NGOs that are not strictly environmental NGOs have been admitted by the UNFCCC as observers (see above), climate change is no longer viewed as just (or even primarily) an environmental issue. Rather it is a human problem—a problem of human and social development. Framed in this way, civil society interest in climate change is poised to grow significantly. Most notably, the emerging "climate justice" movement is built around the powerful idea that those who are least responsible for causing climate change are also those most likely to suffer directly from its early impacts. See J. Timmons Roberts, *The International Dimension of Climate Justice and the Need for International Adaptation Funding*, ENVIRONMENTAL JUSTICE 2:4 (2009).

B. Corporations

Businesses with a wide variety of stakes in the policy outcome have mobilized to monitor and influence climate law and policy proceedings. The major interested industries include, among others, fossil fuels (coal, oil, natural gas), automobiles, insurers, power generation, and renewable energy suppliers (hydroelectric, solar, wind). Many businesses are also mobilizing internally. Even where not required by law, many businesses are developing plans and taking actions to participate in carbon markets and reduce greenhouse gas emissions. This section explores the drivers of corporate climate-related activities and their implications.

1. The Oil Companies and other Carbon-Intensive Industries

Perhaps the businesses most naturally opposed to new climate change policies that would restrict emissions are those that constitute the fossil fuel industry. Climate change policy represents a direct effort to limit the sale and use of their products. The oil industry, which consists of several giant companies such as BP, Exxon-Mobil and Chevron, have indeed played a very significant role in influencing the debates about climate change policy in the United States and throughout the world. The following reading by Professor Simone Pulver, however, shows that the policy positions of oil companies have varied.

SIMONE PULVER, AN ENVIRONMENTAL CONTESTATION APPROACH TO ANALYZING THE CAUSES AND CONSEQUENCES OF THE CLIMATE CHANGE POLICY SPLIT IN THE OIL INDUSTRY 52-55, ORGANIZATION & ENVIRONMENT, Vol. 20 No. 1, March 2007

When climate change first emerged as an international policy concern in the late 1980s, the oil industry interpreted climate change as a threat to its primary product, gasoline… In the face of the business threat embodied by climate change, oil companies from around the globe played an expected, obstructive role. They stood united in their opposition to any international effort to regulate carbon dioxide and other greenhouse gases. Led by the American oil majors Exxon, Mobil, Chevron, and Texaco, the oil industry argued against international action on climate change and questioned the findings of climate scientists. However, in the summer of 1997, the picture shifted. That May, John Browne, the Chief Executive Officer of British Petroleum (BP), made international headlines by announcing that his company was splitting from the rest of the oil industry and would support international greenhouse gas regulation. After BP's announcement, Royal Dutch/Shell (Shell) and a few other oil companies also broke ranks and spoke out in support of international action on climate change. To date, there are two factions in the oil industry; those companies that support international and domestic climate regulation and those that oppose it…

Implications of Greenhouse Gas Regulation for the Oil Industry

Understanding the implications of global climate change and greenhouse gas regulation for the oil industry requires an assessment in three timeframes: short term (5 to 10 years), medium term (50 years), and long term (70 to 100 years). Least controversial are the short-term implications of greenhouse gas regulation for the oil industry. In the immediate future, the production and consumption of fossil fuels will continue as usual. The structural dependence of national economies and transportation systems on coal, oil, and natural gas makes unlikely any dramatic

changes in supply, demand, and price for fossil fuels during the next 5 to 10 years. Slightly more open to debate are the long-term implications of greenhouse gas regulation. The most plausible long-term scenario is that industrial and industrializing societies will shift away from fossil fuels to an economy based on alternative energy resources, such as renewable or nuclear energy. Under this scenario, global demand for coal, oil, and natural gas will decline. Concurrently, on the supply side, many regional oil reserves will have been exhausted. Other, less plausible, visions of the long-term future assume minor changes in the business-as-usual role of fossil fuels in the economy. They predict that as conventional oil supplies decline, synthetic fuel and unconventional sources of liquid fuels, such as tar sands, oil shale, and other hydrocarbons, will augment conventional oil supplies…

Most controversial are the medium-term effects of greenhouse gas regulation on the oil industry. Of greatest concern to oil companies are medium-term demand and price effects. The standard wisdom predicts that Kyoto-type greenhouse gas regulation will cause shifts in fuel demand from coal to oil to natural gas. However, modeling and analysis by the International Energy Agency suggest otherwise. Pershing argues that "a number of issues may affect whether there will be an impact on any individual fuel, what that impact will be, how that impact will vary across countries." Factors that will influence future fossil fuel demand include changes in regional distribution of reserves in the next 20 years, growth in demand because of economic growth, allocation of demand depending on the marginal cost of production and transport, price sensitivity of demand, and fuel-specific concerns not related to climate change (for example, coal demand may decline because of local air quality concerns rather than global climate regulation)…

Beyond demand and price effects, oil companies are also concerned about medium-term effects on both shareholder value and facility regulations. Environmental costs related to spills, fines, and pollution abatement have long been a component of the profitability of the oil industry in terms of bottom-line operating costs. More recently, overall environmental performance has also been incorporated into assessments of shareholder value. In addition, the fate of the tobacco industry has inspired a set of arguments focusing on oil companies and climate change liability. Environmental advocates contend that oil companies, especially those that deny climate science and oppose climate regulation, are the potential targets of climate change–related litigation. Although the idea of liability for damages caused by changes in climate is purely speculative at this point, the financial burden of those damages could potentially exceed $100 billion....

The Split in the Oil Industry

Overall then, in the early and mid-1990s, the prospects for and implications of greenhouse gas regulation were uncertain. First, although binding greenhouse gas emissions reductions were under discussion, the prospects for a successful negotiation of a binding international climate treaty remained uncertain up until the final days of the December 1997 Kyoto negotiations. Second, the concrete effects on the oil sector of Kyoto-type greenhouse gas reductions remain uncertain to date. In the face of this uncertainty, oil companies pioneered very different policy responses to the climate issue, which I categorize as either adversarial or cooperative (see Table 2).

ExxonMobil best exemplifies an adversarial climate policy. Since the first U.N. meeting on climate change in 1991, representatives from ExxonMobil have consistently questioned global assessments of climate science, describing them as uncertain and of doubtful validity and have argued that a policy approach of mandated reductions in greenhouse gas emissions is

premature and likely to cause significant economic upheaval. ExxonMobil has communicated this message in a variety of ways, including direct interventions at meeting of the IPCC, through business lobbying groups like the Global Climate Coalition and International Petroleum Industry Environmental Conservation Association, through advertisements in leading newspapers, and through influence on national politics. In terms of its long-range strategy, ExxonMobil expects to continue as an oil company and is investing in technologies that complement a fossil fuel economy. They are investing capital in unconventional fossil fuel projects, including oil shale and tar sands, in fuels cells as an alternative to internal combustion engines, and in carbon capture and storage projects. However, the company is not diversifying into solar, wind, and other alternative energy technologies. Within the wider group of major oil companies, support for ExxonMobil's adversarial stance comes from the national oil companies of Saudi Arabia (Saudi Aramco), Venezuela (Petroleos de Venezuela), Iran (National Iranian Oil Corporation), and Indonesia (Pertamina), all members of the Organization of Petroleum Exporting Countries. In addition, PetroChina holds an adversarial position based on the claim that developing countries should not bear the burden of international climate regulation.

In contrast to the adversarial oil companies, BP, Shell, Norway's national oil company Statoil, and Mexico's national oil company Pemex are pursuing cooperative climate policies. They actively support the Kyoto Protocol, the international climate treaty that requires its industrialized country signatories to meet binding greenhouse gases emissions reduction targets and accept the findings of the IPCC, a collaborative effort among several thousand scientists who advise the U.N. climate change negotiations. In addition, both BP and Shell have committed to precautionary action on climate change, including investment in renewable energy technologies as alternatives to fossil fuels. In May 1997, Shell announced its commitment to invest $500 million in renewable energy during the next 5 years, establishing Shell International Renewables as a new core business area. Six months later, BP publicly committed to investing $160 million in solar energy. BP, Shell, and Pemex have also adopted emissions reduction targets. BP pledged to reduce company-wide greenhouse gas emissions by 10% from 1990 levels by 2010. Shell made a similar pledge but set itself a target date of 2002. Mimicking the international policy process, both companies piloted internal emissions trading systems as the policy tool to meet their targets. In addition, the cooperative companies have enlisted the collaboration of environmental NGOs in developing their emissions trading systems and their climate policies more broadly. In terms of long-range plans, both BP and Shell have referred to their future transformations from oil companies into energy service providers.

Table 2: Elements of Adversarial vs. Cooperative Oil Company Climate Policies

Adversarial Climate Policy	*Cooperative Climate Policy*
Critical of climate science, particularly of assessment reports issued by the Intergovernmental Panel on Climate Change (IPCC)	Accept findings of IPCC and argue that current state of climate science merits precautionary action
Oppose regulation of greenhouse gas emissions, in particular the 1997 Kyoto Protocol formulated in the	Support mandated reductions in greenhouse gas emissions and have taken on company-wide emissions reductions targets; support the

U.N.-sponsored international climate change negotiations	Kyoto Protocol
Reject renewable energy technologies as viable alternatives to fossil fuels energy	Invest significant new funds into renewable technologies
Work independently, relying on in-house expertise	Partner with leading environmental NGOs such as Environmental Defense and World Wide Fund for Nature

NOTES AND QUESTIONS

1. In this article, Pulver also analyzes why the oil companies' approaches differed. Economic theory suggests that the answer would lie in market forces or firm-specific operational characteristics. Pulver however finds that economic factors do not explain the divergence between BP and ExxonMobil. Rather, she concludes that each company's decision-makers were embedded in different climate science and policy networks that led them to make different assessments of what course of action would be profitable. Why do you think BP and several other oil companies viewed a cooperative stance as the better approach? What are the various ways that these companies might have benefitted from this approach?

2. Oil companies, particularly ExxonMobil, have been accused of mounting a misinformation campaign about climate change science. In January 2007, the Union of Concerned Scientists released a report claiming that ExxonMobil used the tobacco industry's disinformation tactics and "funneled about $16 million between 1998 and 2005 to a network of ideological and advocacy organizations that manufacture uncertainty on [climate change]." Union of Concerned Scientists, *Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to 'Manufacture Uncertainty' on Climate Change* (Jan. 2007).

   In February 2008, the city of Kivalina, Alaska and a federally recognized tribe, the Alaska Native Village of Kivalina, sued ExxonMobil Corp. and eight other oil companies, 14 power companies and one coal company. In addition to alleging a public nuisance, the lawsuit also accuses several of the defendants, including ExxonMobil and BP America, of a conspiracy to mislead the public regarding the causes and consequences of global warming. The lawsuit was dismissed by the district court in September 2009, *Kivalina v. ExxonMobil et al.*, 663 F. Supp. 2d 863. Plaintiffs appealed to the Ninth Circuit in March 2010.

   How much do you think that businesses with very strong corporate interests in the outcome of climate policy should try to influence the public's perception of the science of climate change? Do you think companies should be legally liable if the information that they disseminate is inaccurate? For more on potential legal liability see Angela Lipovich, *Smoke Before Oil: Modeling a Suit Against the Auto and Oil Industry on the Tobacco Tort Litigation is Feasible*, 35 GOLDEN GATE U.L. REV. 429 (2005); J. Kevin Healy & Jeffrey M. Tapick, *Climate Change: It's Not Just a Policy Issue for Corporate Legal Counsel – it's a Legal Problem*, 29 COL. J. OF ENVTL. L. 89 (2004).

3. Among energy sector companies, oil and coal suppliers have been most strongly opposed to mandatory emissions reduction; the coal companies have been more monolithic in their opposition than oil companies, likely in part because the coal industry is less diversified and has a smaller profit margin. Natural gas supplies have been more likely to support emissions reductions because they would gain a competitive advantage based on the lower carbon content of their product. Nuclear and renewable energy companies have tended to be advocates of emissions reductions requirements, as they stand to profit from the transition away from fossil fuels. In a similar way, some automobile companies have been more amenable to binding emissions reductions because they are further along in developing low-emissions vehicles. Power utilities may vary in their support for mandatory emissions reductions depending on their potential access to renewable energy sources. On how companies identify their comparative advantages and devise corporate strategy in the face of climate change and other environmental problems, see Daniel C. Esty and Andrew S. Winston, GREEN TO GOLD: HOW SMART COMPANIES USE ENVIRONMENTAL STRATEGY TO INNOVATE, CREATE VALUE, AND BUILD COMPETITIVE ADVANTAGE (2006); USEPA, A BUSINESS GUIDE TO U.S. EPA CLIMATE PARTNERSHIP PROGRAMS, EPA-100-B-08-001 (June 2008), available at http://www.epa.gov/partners/Biz_guide_to_epa_climate_partnerships.pdf.

2. Business-Environment Coalitions

Part of the corporate strategy of some companies has been to work closely with climate-concerned NGOs on developing climate law and policy. The most important such collaboration in the United States has been the U.S. Climate Action Partnership (USCAP). In 2007, six major environmental NGOs joined forces with 27 major oil companies, chemical companies, utilities, automobile manufacturers, and consumer product firms to issue "A Call for Action" urging "prompt enactment of national legislation in the United States to slow, stop and reverse the growth of greenhouse gas (GHG) emissions over the shortest time reasonably achievable." USCAP, A CALL FOR ACTION: CONSENSUS PRINCIPLES AND RECOMMENDATIONS FROM THE U.S. CLIMATE ACTION PARTNERSHIP: A BUSINESS AND NGO PARTNERSHIP (2007), available at http://docs.nrdc.org/globalwarming/files/glo_07012201A.pdf.

In 2009, USCAP released a detailed framework for U.S. legislation to address climate change:

US Climate Action Partnership, Summary Overview: USCAP Blueprint for Legislative Action, January 19, 2009

The Blueprint is a direct response to requests by federal policymakers for a detailed consensus that could help inform legislation. While USCAP is a diverse organization, it does not include all stakeholders and we acknowledge that the Blueprint is not the only possible path forward. However, we believe the integrated package of policies we are recommending provides a pragmatic pathway to achieve aggressive environmental goals in a responsible and economically sustainable manner.

The United States faces an urgent need to reinvigorate our nation's economy, enhance energy security and take meaningful action to slow, stop and reverse GHG emissions to address climate change.

USCAP agrees that the science is sufficiently clear to justify prompt action to protect our environment. Each year of delayed action to control emissions increases the risk of unavoidable consequences that could necessitate even steeper reductions in the future, with potentially greater economic cost and social disruption.

To address these challenges successfully will require a fundamental shift in the way energy is produced, delivered and consumed in the US and around the globe. Thoughtful, comprehensive and tightly linked national energy and climate policy will help secure our economic prosperity and provide American businesses and the nation's workforce with the opportunity to innovate and succeed.

While we recognize that achieving the needed emission reductions is not free of costs, we also believe well‐crafted legislation can spur innovation in new technologies, help to create jobs, and increase investment and provide a foundation for a vibrant, low‐carbon economy.

International Principles

Climate change presents a global problem that requires global solutions. USCAP believes that international action is essential to meeting the climate challenge. U.S. leadership is essential for establishing an equitable and effective international policy framework for robust action by all major emitting countries. For this reason, action by the U.S. should not be contingent on simultaneous action by other countries. In our Blueprint we offer a set of principles to guide Congress and the Administration to address the global dimension of this problem.

Cap and Trade System Design

We believe the strongest way to achieve our emission reduction goals is a federal cap‐and‐trade program coupled with cost containment measures and complementary policies for technology research, development and deployment, clean coal technology deployment, lower‐carbon transportation technologies and systems, and improved energy efficiency in buildings, industry and appliances. In a cap‐and‐trade system, one allowance would be created for each ton of GHG emissions allowed under the declining economy‐wide emission reduction targets (the "cap"). Emitters would be required to turn in one allowance for each ton of GHG they emit. Those emitters who can reduce their emissions at the lowest cost would have to buy fewer allowances and may have extra allowances to sell to remaining emitters for whom purchasing allowances is their most cost‐effective way of meeting their compliance obligation. This allows the economy‐wide emission reduction target to be achieved at the lowest possible cost.

Targets and a Timetable for Action

USCAP believes the legislation should establish a mandatory, national economy‐wide climate protection program that includes aggressive emission reduction targets for total U.S. emissions and for capped sectors. Equally important, it is imperative that the costs of the program be manageable. USCAP believes the recommended targets are achievable at manageable costs to the economy provided that a robust offsets program and other cost containment measures, along

with other critically important policies as recommended in the Blueprint are enacted. In addition, Congress should require periodic assessment of emerging climate science and U.S. progress towards achieving emission reduction targets, and social, environmental and economic impacts in order to determine if legislative revisions are necessary to improve the nation's climate protection program.

Scope of Coverage and Point of Regulation

USCAP recommends the cap - and - trade program cover as much of the economy's GHG emissions as politically and administratively possible. This includes large stationary sources and the fossil - based CO2 emitted by fuels used by remaining sources. The point of regulation for large stationary sources should be the point of emission. The point of regulation for transportation fuels should be at the refinery gate or with importers. Congress should establish policies to ensure carbon - based price signals are transparent to transportation fuel consumers and other end users, thereby encouraging them to make informed GHG - reduction choices. Emissions from the use of natural gas by residential and small commercial end users can be covered, for example, by regulating the utilities that distribute natural gas, often referred to as local distribution companies (LDCs).

Offsets and Other Cost Containment Measures

Adequate amounts of offsets are a critical component of the USCAP Blueprint. Emissions offsets are activities that reduce GHG emissions that are not otherwise included in the cap. USCAP recommends all offsets meet strong environmental quality standards (i.e., they must be environmentally additional, verifiable, permanent, measurable, and enforceable). We recommend that Congress should establish a Carbon Market Board (CMB) to set an overall annual upper limit for offsets starting at 2 billion metric tons with authority to increase offsets up to 3 billion metric tons, with domestic and international offsets each limited to no more than 1.5 billion metric tons in a given year. …

Allocation of Allowance Value

Emission allowances in an economy - wide cap - and - trade system will represent trillions of dollars in value over the life of the program. USCAP believes the distribution of allowance value should facilitate the transition to a low - carbon economy for consumers and businesses; provide capital to support new low - and zero - GHG - emitting technologies; and address the need for humans and the environment to adapt to climate change.

USCAP recommends that a significant portion of allowances should be initially distributed free to capped entities and economic sectors particularly disadvantaged by the secondary price effects of a cap and that free distribution of allowances be phased out over time. …

Complementary Measures

USCAP believes that policies and measures that are complementary to a cap - and - trade program are needed to create incentives for rapid technology transformation and to ensure that actual reductions in emissions occur in capped sectors where market barriers and imperfections exist that prevent the price signal from achieving significant reductions. …

Our Commitment
We, the members of the U.S. Climate Action Partnership, pledge to work with the President, the Congress, and all other stakeholders to enact an environmentally effective, economically sustainable, and fair climate change program consistent with our principles at the earliest practicable date.

NOTES AND QUESTIONS

1. One of the founding members of USCAP was the Pew Center for Global Climate Change. The Pew Center was established in 1998 as a non-profit, non-partisan and independent organization with the mission of providing "credible information, straight answers, and innovative solutions in the effort to address global climate change." See http://www.pewclimate.org/about/history_and_mission. The Pew Center has published over 100 reports and policy briefs relating to climate change and serves as host to the Business Environmental Leadership Council (BELC), which is the largest U.S.-based association of corporations focused on addressing climate change. In 2010, the Pew Center on Global Climate Change was named the world's top environmental think tank in a global survey of hundreds of scholars and experts conducted by researchers at the University of Pennsylvania. See ThomasNet News, *Pew Center Named Top Environmental Think Tank* (March 23, 2010), *available at* http://news.thomasnet.com/companystory/Pew-Center-named-top-environmental-think-tank-574532 (last visited Dec. 30, 2011).

2. The publication USCAP's Blueprint provided an important impetus to the political process. HR 2454, the bill proposed by Representatives Waxman and Markey and passed by the House in 2009 followed many of the recommendations set forth by USCAP (see Chapter 3). In 2010, as prospects dimmed for a new federal climate change law, three companies dropped out of USCAP. See Steven Mufson, *ConocoPhillips, BP and Caterpillar quit USCAP*, WASHINGTON POST (February 17, 2010).

3. The U.S. Chamber of Commerce opposed the Waxman Markey bill. As it stated,

> We opposed this specific legislation because it would not reduce the global level of greenhouse gases in the atmosphere. It is neither comprehensive nor international, and it falls short on moving renewable and alternative technologies into the marketplace and enabling our transition to a lower carbon future. It would also impose carbon tariffs on goods imported into the U.S., a move that would almost certainly spur retaliation from global trading partners.

The Chamber also stated that it supports a "comprehensive legislative solution that does not harm the economy, recognizes that the problem is international in scope, and aggressively promotes new technologies and efficiency." See U.S. Chamber of Commerce, Five Positions on Energy and the Environment, available at http://www.uschamber.com/issues/environment/five-positions-energy-and-environment In the fall of 2009, several high-profile companies dropped their membership with the U.S.

Chamber of Commerce to protest and voice their disagreement over the Chamber's position on climate legislation.

The Chamber's opposition to climate law extends to the possibility of regulating greenhouse gases under the existing Clean Air Act. In 2010, the Chamber filed a petition with the EPA asking the agency to reconsider its 2009 "endangerment finding" that greenhouse gas emissions endanger public health and welfare. In July 2010, EPA rejected the Chamber's petition and the Chamber sued.

Is the Chamber of Commerce taking an unduly short-term view of its members' economic interests? In the medium to long term, does a governmental failure to control greenhouse gas emissions serve the interests of U.S. business? What responsibility does the Chamber of Commerce have to represent the interests of existing and future companies that stand to gain from new climate change policies?

3. Voluntary Corporate Commitments

Some companies have gone even further: they have committed to reducing their emissions in the absence of governmental emissions reductions requirements. The Chicago Climate Exchange (CCX), founded in 2003, provided companies that set voluntary emissions reductions target with a trading mechanism through which to meet it. CCX members that reduced below their targets had surplus emissions allowances to sell or bank. CCX members that emitted above their targets could comply with their target by purchasing allowances. In the reading below, Professor Tseming Yang examines further how CCX operated.

Tseming Yang, *The Problem of Maintaining Emission "Caps" in Carbon Trading Programs Without Federal Government Involvement: A Brief Examination of The Chicago Climate Exchange And The Northeast Regional Greenhouse Gas Initiative,* 17 FORDHAM ENVTL. LAW REV. 271 (2006)

As one alternative to a federally created carbon market, the Chicago Climate Exchange (CCX) is an example of a market created primarily by private entities. Commonly referred to as the "brainchild" of Richard Sandor, a former economist with the Chicago Board of Trade, it has received much publicity since it was created. The CCX describes itself as a "voluntary pilot Greenhouse Gas emission reduction and trading program for North America" that is "legally binding." It seeks to:

a) demonstrate unambiguously that a cross-section of North American private and public sector entities can reach agreement on a voluntary commitment to reduce Greenhouse Gas emissions and implement a market-based emission reduction program;

b) establish proof of concept by demonstrating the viability of a multi-sector and multi-national Greenhouse Gas emission cap-and-trade program supplemented by Project-based emission offsets.

The CCX began operating in 2003. Its members include not only large Fortune 500 companies such as Ford, DuPont, International Paper, American Electric Power, and BP

America, but also smaller entities like Green Mountain Power and Central Vermont Public Services, both Vermont electric utility companies. Governmental entities participate as well, including the cities of Chicago, Berkeley, Oakland, and Aspen. In addition to full-fledged members, the CCX accepts participant members, which provide liquidity to the market and offset credits, and associate members, which have no or negligible emissions but trade for reasons other than compliance with emissions reduction commitments. The CCX allows non-business entities, primarily environmental organizations, to join as associate members. Some of them have purchased emissions allowances as a way of retiring them in much the same way some organizations have done in the acid rain trading program.

…

Like other cap and trade emissions programs, the CCX seeks to achieve environmental gains by gradually reducing program-wide and individual members' emissions limits. The baseline used to measure reductions is the annual emissions average from 1998 to 2001. In 2003, the CCX capped emissions at 1% below the emissions baseline. Each subsequent year, emissions caps have been reduced by an additional 1% from the 2003 baseline. The 2006 cap is 4% below the 2003 baseline.

The original pilot period of the CCX was 2003-2006, after which the CCX was set to expire. However, CCX members have recently extended the operation of the pilot market period to 2010. For 2006 - 2010, emissions reductions are scheduled to progress at varying annual levels, resulting in an overall 6% reduction from 2003 baseline levels by 2010.

There is an annual "true-up" period, the time of reckoning when CCX members must account for whether emissions in the previous year match the number of carbon allowances each member holds. If a member's emissions exceed its individual emissions limit, it is given an opportunity to purchase additional allowances. However, the rules of the CCX impose limits on the purchase of offset and early action credits.

How does the CCX ensure that members do not exceed their overall emissions cap? Since the federal government does not currently limit greenhouse gas emissions, participants voluntarily accept the emissions limits. There is no formal governmental role in the policing of compliance. Rather, as an exempt commercial market under the Commodities Exchange Act, compliance with CCX rules, contained in the Rule Book, is monitored by the CCX itself and by the National Association of Securities Dealers (NASD).

This has given the widespread impression that the commitments undertaken by CCX members are unenforceable. In a recent description, it was said that "unlike Kyoto, CCX has no teeth." As a legal matter, that is incorrect.

Emissions control commitments are voluntarily undertaken by joining the CCX. However, subsequent compliance is arguably not voluntary at all. Because the CCX is a self-regulated, private entity, unsupervised by the CFTC [Commodity Futures Trading Commission] or other regulatory body, it is, in essence, a private contractual arrangement. When entities become CCX members, they agree "to abide by the rules of the Exchange as provided in the CCX Rulebook." Violations of CCX commitments would thus be enforceable as breaches of contractual obligations and lead to corresponding forms of liability. In other words, the CCX is as "voluntary" as any contract commitment is. CCX commitments may be made voluntarily, but they become legally binding once assumed.

What happens when a CCX member fails to limit its carbon emissions as required and then refuses to purchase the requisite carbon allowances? The rules of the CCX do not explicitly address the consequences of non-compliance with emissions limits. Presumably, the procedures governing Exchange rule violations more generally would be triggered. These provisions provide for punitive sanctions, including fines and suspension of trading privileges, when any CCX rules are violated. The ultimate sanction is termination of CCX membership. Since compliance with emissions limits and true-up are a Rulebook requirement, these provisions provide a mechanism for deterring or responding to non-compliance.

Because the CCX is a privately held company, much information about its operations is not publicly available. Thus, it is not clear whether the sanctions mechanism has ever been triggered. But given the small size and voluntary membership, consisting of companies that have a commitment to reducing their own greenhouse gas emissions, it is probably safe to assume that the mechanism has not been used. Even if an emissions limit is missed, the true-up period would provide ample opportunity to purchase the necessary carbon credits. At prices fluctuating between $ 1-4 per ton of carbon equivalent, that would seem to be a minor inconvenience for any company committed to enhancing or maintaining its green reputation. For 2003 and 2004, the CCX has reported the successful reduction of program-wide carbon emissions by over 8% and over 13%, respectively, below the relevant emissions reduction objectives.

NOTES AND QUESTIONS

1. The CCX facilitated corporate environmental self-regulation. Self-regulation differs from governmental regulation in that companies choose their environmental objectives and the methods to achieve them independently of the government, generally to gain some market advantage. *See* Jonathon Hanks, *Promoting Corporate Environmental Responsibility: What Role for 'Self-Regulatory' and 'Co-Regulatory' Instruments in South Africa? in* THE GREENING OF BUSINESS IN DEVELOPING COUNTRIES: RHETORIC, REALITY AND PROSPECTS (Peter Utting ed., 2002). A variety of market-based benefits may motivate self-regulation. For example, companies may be able to market themselves or their products more favorably to customers and investors, and companies may experience cost-savings and/or productivity improvements that derive from their environmental improvements. Another possible benefit of self-regulation is that it may serve to preempt mandatory legislative or regulatory requirements, thus reducing future compliance costs. *See* Anna Alberini & Kathleen Segerson, *Assessing Voluntary Programs to Improve Environmental Quality*, 22 ENVIRONMENTAL AND RESOURCE ECONOMICS 157–184 (2002).

   Which of these reasons do you think motivated the companies that joined CCX? For a critique of self-regulation in the context of industrial pollution control, see Sanford E. Gaines & Clíona Kimber, *Redirecting Self-Regulation*, J. ENVTL L. 13(2): 157-184 (2001). The authors emphasize that industrial firms face significant information and other barriers to self-regulation and that self-regulation impairs public participation in setting environmental goals and assessing their achievement.

2. How does a consumer or citizen tell the difference between real corporate commitment to environmental improvement and greenwashing? Greenwashing is defined as "disinformation

disseminated by an organization so as to present an environmentally responsible public image." CONCISE OXFORD ENGLISH DICTIONARY (Judy Pearsall ed., 10th ed. 2003). Oft-used techniques of greenwashing include making green claims without proof and highlighting an environmentally positive aspect of a product or service while failing to mention other, often larger, negative aspects. Consider a company that advertises itself as a climate-conscious member of the CCX. If it buys allowances instead of reducing its emissions to comply with its target, would you consider the company an environmental leader or would you view this as a case of greenwashing?

3. In October 2010, the CCX announced that it would terminate its emission allowance trading program at the end of 2010 after seven years of operation. See CCX Fact Sheet (October 21, 2010), *available at* http://www.chicagoclimatex.com/news/pdf/CCX_Fact_Sheet_20101021.pdf. Trading volumes and allowance prices had declined precipitously as it became apparent in 2009 that the U.S. Congress would not enact legislation that would support the creation of valuable carbon allowances. While CCX was a voluntary program, it depended in many ways on the expectation that a mandatory cap-and-trade program would be enacted in the future. Imagine yourself as the leader of a company that participated in the CCX. What would have been your reasons to join CCX and how would these reasons hold up after Congress failed to enact a climate change law instituting a federal cap-and-trade program?

C. Individuals

We, as individuals and households, make decisions on a daily basis that have implications for climate change. These choices vary dramatically around the world and even within the developed world. Some people have the resources to make a wide range of consumption choices, while others face limitations based on their economic circumstances and/or the locally available options.

Individuals with a wide range of choices decide which cars to buy and how much to drive them. They decide how much to light, heat, and cool their homes or apartments and how much to invest in efficient appliances. They decide how much stuff to buy. Yet these individual decisions are made in a larger social context. This context helps determine what cars and other consumer products are made; what forms of transportation and housing exist; and even how much consumption people feel like they need to be happy.

This section confronts the difficult questions of how individual behavior affects climate change and how social norms and the law can influence climate-relevant individual behavior. Because people in developed countries produce many more greenhouse gas emissions than those in developing countries, this section focuses largely on the developed country context. It examines how to measure individual impact, how to transition to carbon neutrality, and how to use law as a tool of achieving these goals. However, its approaches could also apply to the wealthier individuals in transitional and developing countries that emit more than the per capita norm.

1. Measuring Individual Impact

For many years, much of U.S. environmental law, particularly air pollution law, has focused on regulating corporate emitters. To reduce the sulfur dioxide and nitrogen oxide emissions that cause acid rain and smog, for example, power plants and major industrial facilities have been heavily regulated. To some extent, greenhouse gas emissions are also an industrial pollution problem. Electricity generation by the electric power sector accounted for about one-third of U.S. greenhouse gas emissions and the industrial sector accounts for about one-fifth. EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2009 ES-14–ES-15 (2011), *available at* http://epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Complete_Report.pdf.

But individual choices— particularly by those who have the economic resources to consume heavily—also produce a great deal of emissions. The following excerpt from an article by Professors Michael Vandenbergh and Anne Steinemann explores the role of individual emissions in the overall U.S. emissions profile.

Michael P. Vandenbergh and Anne C. Steinemann, *The Carbon-Neutral Individual*
82 N.Y.U. L. REV. 1687, 1687-1695 (2007)

A recent New York Times editorial on climate change referred to the sources of carbon emissions as "industrial emissions," as if industrial emissions are synonymous with all emissions. This Part demonstrates that individual behavior is a discrete, overlooked source of enormous quantities of carbon dioxide emissions. It then presents a model that estimates the releases of carbon dioxide attributable to the average individual in the United States and to all individuals in the aggregate. The Part concludes by evaluating the significance of these emissions.

A. Individual Behavior as a Source Category

The framing of pollution sources exerts a powerful influence on the regulatory and social forces brought to bear on them. Identifying a source begins the process of attributing a quantity of emissions to that source, assigning blame for the harms caused by those emissions, and directing regulatory resources toward emissions reductions. Sources that are perceived as the largest emitters naturally attract the most public and regulatory attention.

Since the explosion of environmental regulation in the early 1970s, policymakers have focused most regulatory prescriptions on large industrial sources. In contrast, they have focused little regulatory attention on individuals and households. Framing pollution as an industrial problem generates remedies that involve industrial regulation. Thus, controlling emissions from automobiles becomes a matter of adopting technology-based standards on motor vehicle emissions, with little emphasis on the number and use of the vehicles. Controlling emissions from residential electricity use becomes a matter of adopting technology-based or market-allowance-based controls on electrical utilities, with far less emphasis on the amount of energy consumed in the home.

Assessments of the sources of carbon dioxide emissions have followed this traditional pattern. The presentation of 2004 carbon dioxide emissions data by the Energy Information Administration (EIA) of the Department of Energy demonstrates the point. Although the EIA identified industrial, commercial, transportation, and residential categories of emitters, it failed to

identify individual behavior as a discrete source. Rather, it distributed the emissions attributable to individual behavior among at least two sectors: (1) residential (e.g., household electricity and direct energy use), and (2) transportation (personal driving, flying, and mass transportation). By dividing the emissions from individual behavior into two categories, one of which (transportation) includes emissions from many types of sources other than individuals, this framing obscures the size of the total emissions from individuals as a discrete source category. Other organizations that report emissions data also follow this approach. For example, a 2006 UN report divided greenhouse gas sources into several categories, none of which includes individual behavior as a discrete category.

A viable alternative is to begin by framing the sources of carbon emissions based on the types of policies or regulatory measures that might be effective in controlling them, and to work backward to determine the emissions that may be generated by these types of sources. If regulators begin by assuming that changing individual behavior is a viable means of achieving desired environmental outcomes, the analysis shifts. Then the question becomes, What behaviors are under the individual's control? With this framing in mind, the magnitude of the total contribution from individual behavior will come into focus as emissions from household activities and personal transportation are aggregated. The model presented below estimates the contribution of individual behavior using this approach.

B. A Model of Individual Carbon Dioxide Emissions

Not surprisingly, given the lack of attention to individuals' contributions to global warming, policymakers and scholars have developed few tools to assess the aggregate contribution of individual behavior to greenhouse gas emissions. To evaluate whether the carbon emissions from individual behavior are worthy of regulatory attention, we present the results of a model that estimates the carbon dioxide emissions in 2000 from the average individual in the United States and the aggregate emissions from all individuals. We provide an overview of the model here …

1. Individual Behavior Defined

We define individual behavior to include only those behaviors that are under the direct, substantial control of the individual and that are not undertaken in the scope of the individual's employment. As a result, we include emissions from personal motor vehicle use, personal air travel, and mass transport. We exclude emissions from motor vehicle use and air travel undertaken in the course of employment (e.g., driving for a delivery service or flying on a business trip). Similarly, we include emissions attributable to household electricity use, but we exclude emissions attributable to the industrial production of household goods (e.g., the emissions resulting from the production, shipping, and retailing of appliances and food).

Although this conservative approach excludes many activities that contribute to climate change (e.g., the releases attributable to household appliance production), the emissions from these activities often vary widely depending on where and how the goods are produced, and the degree of individual control over them is often very limited. Furthermore, making individuals responsible for all emissions derived from consumer choices would make it possible to attribute

virtually all emissions to individuals, yet it would not satisfy the initial objective of including only emissions that can be changed through laws and policies directed at individual behavior. For ease of analysis, we divide the emissions from individual behavior into household and transportation emissions.

a. Household Emissions

We estimate household emissions by using both top-down and bottom-up approaches. For the top-down approach, we calculate household energy consumption using EIA data for residential fuel consumption. We then convert household energy use into individual energy use. We use U.S. Census data indicating that the U.S. population in 2000 was roughly 281 million, and our calculation that the United States had just under 109 million households.

We divide household energy use into two categories: primary use and electricity use. The primary use category includes household energy consumption that does not require an external power generation source. Examples include space and water heaters, washing machines, and stoves that utilize coal, natural gas, petroleum, or wood. The EIA provides data on primary use. Using EIA conversion coefficients, we convert these forms of energy use into the amount of carbon dioxide emitted per household and per person.

We next obtain the total residential electricity use for 2000 using EIA data. We convert this electricity use into carbon emissions using the EIA coefficients, accounting for the fuel type used in the electricity generation. For example, electricity generated from fossil fuels generates carbon dioxide emissions, but sources such as nuclear energy and hydropower do not. We then calculate the total amount of carbon dioxide emissions from electricity consumption in pounds per household and pounds per individual.

To validate the top-down approach, we also calculate household carbon dioxide emissions using a bottom-up approach. We use EIA data on end-use electricity consumption for households in 2001 (2000 data were unavailable). For large numbers of household appliances, EIA data include the average use per household in kilowatt hours and the number of households utilizing these appliances. Thus, we can determine the amount of carbon dioxide emission-producing electricity used by each appliance and convert these values into total carbon dioxide emissions, emissions per household, and emissions per individual using the EIA conversion coefficients.

Our individual figure is a blended individual average that allocates to every person a share of carbon dioxide emissions regardless of behavior. The totals for the top-down and bottom-up approaches are remarkably similar, suggesting that the household estimate is reliable. We use the top-down approach in calculating the overall individual total.

b. Transportation Emissions

We divide individual transportation into three categories: automotive, air, and other. We include in the automotive category all personal vehicle use. We include in the air transportation category all air travel except business travel and freight. We assign rail and mass transit to the "other" category.

We translate EIA data on motor fuel consumed by personal vehicle use into pounds of carbon dioxide using the same conversion factors used in the household calculations, and we then convert the totals into pounds per person. We calculate emissions for domestic passenger air travel by multiplying energy intensity per passenger mile by the total number of domestic passenger miles, after reducing the total number of miles to exclude business travel. We convert the resulting figure into total pounds of carbon dioxide for all passenger air travel using the EIA coefficients. We then divide the total by the U.S. population to yield pounds of carbon dioxide per person. We calculate the rail and mass transit totals using a similar approach, although we do not reduce these totals for business travel.

2. Results

Table 1 presents the results of the individual behavior model. As it indicates, by merely including the behaviors over which individuals have direct, substantial control, the total emissions for the average American in 2000 equaled over 14,000 pounds (seven tons) of carbon dioxide.

Table 1: Individual Carbon Dioxide Emissions

Household	Pounds of CO2 per Person
Primary	3494
Electricity	1922
Subtotal	5416
Transportation	
Automotive	7869
Air	857
Other	381
Subtotal	9107
Total (Mean Individual)	14,523
Total (All Individuals)	4.1 trillion

The total emissions for all 281 million Americans in 2000 was 4.1 trillion pounds. If calculated using 2006 data, the figure would likely be higher. The U.S. population reached roughly 300 million in 2006, while per-capita emissions have decreased only slightly since 2000.

C. Implications

Although the 4.1 trillion pound total is a tremendous amount, its importance is even more apparent in context. The 4.1 trillion pounds emitted by individuals constitute 32% of the roughly 12.7 trillion pounds emitted annually in the United States. By comparison, the entire industrial sector released 3.9 trillion pounds in 2000. The individual behavior figures also dwarf the

subsectors that constitute the industrial sector. For example, the chemical-manufacturing and petroleum-refining industries, which were the top emitters among the manufacturing industries, emitted 686 billion pounds and 672 billion pounds of carbon, respectively, in 2002. Other industrial sectors had even lower totals, including iron and steel production (143.9 billion pounds), cement manufacture (90.8 billion), and aluminum production (13.7 billion).

Even more striking is the comparison of emissions from individual behavior in the United States with other sources worldwide. The United States released 24.4% of the world's carbon dioxide in 2000, suggesting that individual behavior in the United States accounted for roughly 8% of the world's carbon dioxide emissions. The significance of the 8% is clear when compared to the emissions of other continents and countries. The 4.1 trillion pounds attributable to U.S. individual behavior is larger than the total for sub-Saharan Africa (1.1 trillion pounds), South America (1.6 trillion), and Central America (1.0 trillion, including the Caribbean) combined, and it is roughly a third of all carbon dioxide emissions in Asia (15.6 trillion) and Europe (12.1 trillion).

NOTES AND QUESTIONS

1. You can become more aware of your individual impact by calculating your "carbon footprint." Try out a carbon footprint calculator at http://www.nature.org/initiatives/climatechange/calculator/, http://www.safeclimate.net/calculator/, or http://www.epa.gov/climatechange/emissions/ind_calculator.html. Once you input information relating, for example, to your motor vehicle and household energy use, these calculators estimate the total annual carbon emissions associated with your activities.

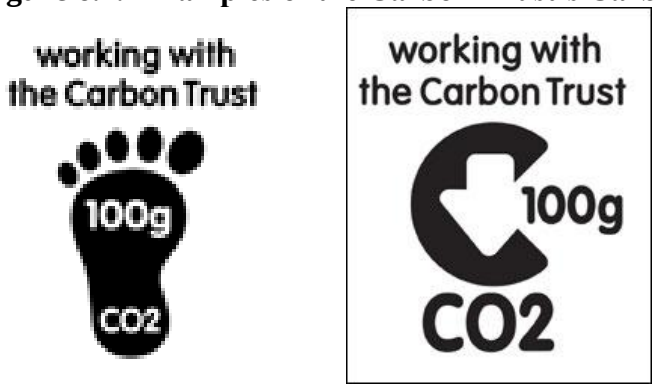
   How do these calculators vary in what they include and in their level of detail? How does your footprint vary when you use different calculators? What are the biggest contributors to your footprint and to what extent do you control those choices?

2. From calculating your carbon footprint, it becomes clear that its size will depend to some extent on characteristics of the built environment which in many ways are not freely chosen by individuals. The average U.S. resident produces three times the amount of CO_2 emissions as a person in France or Denmark, in large part because people in the United States tend to live in bigger houses and drive bigger cars longer distances. *See What Makes Europe Greener than the US?*, GUARDIAN ENV. NETWORK, Sept. 29, 2009, *available at* http://www.guardian.co.uk/environment/2009/sep/29/europe-greener-us (last visited Dec. 20, 2011). What can individuals do to change the built environment to make it more climate-friendly?

3. A component of the carbon footprint that is more under the control of each individual relates to consumption. Should consumer products be labeled in a way that communicates their "embedded carbon," the amount of carbon dioxide emitted in their manufacture and distribution? While labeling schemes may be imposed by government, many times NGOs initiate them and businesses voluntarily agree to participate. In 2007, the United Kingdom's

Carbon Trust developed the "Carbon Reduction Label" (see Figure 6.1). The label indicates the total greenhouse gas emissions from every stage of the product's life cycle, including production, transportation, preparation, use, and disposal. Companies that display the label also commit to reducing the carbon footprint of the labeled product. A wide range of products have been labeled, including paving products, clothing, and foods. What are the limitations of a consumer-led approach of this sort?

Figure 6.1. Examples of the Carbon Trust's Carbon Reduction Label



4. How does the fact that individual behavior is so implicated make it difficult to develop climate change policy in the U.S.? Do Americans fear that the government will seek to control their lifestyle choices? Professor John Dernbach argues that Congress should write a climate change law that consciously engages individuals:

> [T]he legislation should contain findings and statements of purpose that pertain not just to the problem and proposed reductions, but also to the available opportunities and the important role that individuals can play. Climate change legislation, at a minimum, should also contain the same provisions for citizen participation as other environmental laws. In addition, Congress should consider supplementing national targets and timetables for emissions reductions with supplemental targets for per capita energy consumption and GHG emissions.
>
> The legislation should also require (1) the development and publication of a variety of public information; (2) public information about overall GHG emissions, including per capita GHG emissions and trends in those emissions; (3) more and better information about energy use and GHG emissions from goods and services, as well as information about individual GHG or carbon impacts; (4) more and better information about the choices that consumers have; and (5) information about the impacts of climate change in particular regions and economic sectors.
>
> Finally, the legislation should also provide individuals with as many incentives as possible to use those alternatives, including tax credits and other comparable

incentives. Similarly, individuals should be able to generate and trade allowances for activities that are highly energy efficient or reduce GHG emissions in some other way. The government should also authorize the distribution of proceeds from allowances in ways that would, for example, reduce the cost of certain energy efficient products. Finally, the legislation should provide for rigorous analysis and monitoring of the effectiveness of various behavioral incentives, and for adjustments and modification of efforts in light of feedback and new information.

John C. Dernbach, *Harnessing Individual Behavior to Address Climate Change: Options for Congress,* 26 VA. ENVTL. L.J. 107, 109 (2008).

Do you agree with Dernbach's approach? What would be its benefits and limitations?

2. An Ethic of Carbon Neutrality?

A growing number of individuals and organizations are seeking to become carbon-neutral, which means that their net emissions (including offsets they purchase) are zero. However, critics express skepticism about what carbon neutrality, and especially its heavy dependence on buying offsets, actually accomplishes. The following excerpt, also from Vandenbergh and Steinemann's article, explores the complexities of defining carbon-neutrality, the prospects for carbon-neutrality to become interwoven into society as a standard of appropriate behavior, and the limitations of this approach.

Michael P. Vandenbergh and Anne C. Steinemann, *The Carbon-Neutral Individual,* 82 N.Y.U. L. REV. 1687, 1717-1725 (2007)

a. The Rising Popularity of Carbon Neutrality

The norm of carbon neutrality involves a perceived obligation to achieve zero net carbon emissions through a combination of reductions in carbon emissions and purchases of carbon offsets. The carbon-neutrality norm reflects the idiosyncrasies of the carbon emissions problem. Unlike many behaviors that contribute to environmental harms, individuals can achieve carbon neutrality not just by eliminating emissions but also by a combination of emissions reductions and offset purchases. Carbon neutrality has spread rapidly in the last several years, although largely among those who were already likely to adhere to environmental protection norms. Surveys on the adoption of the carbon-neutrality norm are not yet available, but a variety of sources provide anecdotal indications that the norm is becoming widespread. "Carbon neutrality" was Oxford Dictionary's "word of the year" for 2006. More than half a dozen companies, ranging from the predictable (Ben & Jerry's) to the surprising (Rupert Murdoch's News Corporation), have adopted carbon neutrality as an overall corporate goal. Many more firms have adopted programs that rely on customers to pay more at the time of purchase to help customers move in the direction of carbon neutrality by offsetting the carbon footprint of particular goods or services. Sports organizations, including the Australian Football League, FIFA (for the 2006

World Cup), and the National Football League have also begun adopting carbon neutrality for particular events or seasons.

Not-for-profit organizations and governments also are adopting carbon neutrality. California's most recent gubernatorial inauguration was carbon neutral. Several governments attempted to make a recent international summit meeting carbon neutral, although the effort faced political obstacles. New Zealand, the Vatican, the Canadian province of British Columbia, and at least one British town have announced their intention to become carbon neutral. The presidents of more than 150 colleges and universities in the United States have signed a statement committing to take steps toward achieving carbon neutrality.
...

b. The Characteristics of Carbon Neutrality

Several features of carbon neutrality may explain its rapid adoption. First, the concept is easy to understand and express. Studies suggest that simplicity is essential for many types of socially induced behavior changes because it enables individuals to notice, understand, and remember information. The simplicity comes at a cost, however: It may be possible to achieve the short-and long-term global emissions reduction targets through very large individual reductions rather than actual neutrality. A norm phrased as "no harmful carbon emissions" or "no more than your fair share" might accurately express this concept. Alternatively, some might argue that individuals in developed countries must become carbon negative to account for the needs of the developing world. Communicating the precise permissible levels of emissions to hundreds of millions of people in a way that generates desired levels of behavior change, however, would be impossible. Moreover, even if precise optimal emissions levels could be calculated, they would change from year to year.

Carbon neutrality also squares well with the abstract personal-responsibility norm: it enables individuals to be confident that regardless of others' behavior, they are not contributing to the harm. In short, carbon neutrality enables individuals to take personal responsibility for their contributions to climate change without reliance on uncertain or shifting estimates of the necessary reductions or of others' behavior.

Carbon neutrality may have achieved its current level of popularity because compliance is achievable without significant sacrifice for many individuals. Because carbon neutrality can be achieved through a mix of emissions reductions and offsets, it does not require massive behavior changes or financial costs. Many behavior changes can generate substantial emissions reductions at low cost. Furthermore, although the retail price of carbon offsets is likely to rise, it recently has been as low as $ 4 per ton of carbon. For example, some individuals may not be able to reduce motor vehicle use, but at least one retailer is selling offsets for the annual carbon emissions from a standard car for roughly $ 50.

Not surprisingly, psychological studies demonstrate that eliminating the barriers and availability of excuses for inaction are critically important steps for behavior change. Studies also demonstrate that once individuals have committed to a particular viewpoint or action, they tend to continue engaging in the behavior long after the original period of commitment has ended.

Compliance with the carbon-neutrality norm does not require that individuals adopt other environmental beliefs, norms, or lifestyles that are inconsistent with their own. Moreover, it allows individuals to maintain control over the mix of behavior changes that they will use to achieve compliance. These points are essential. By adopting the carbon-neutrality norm, Ed Begley's wife can reduce her carbon footprint without making fences out of plastic milk jugs. More important, she can no longer assume that those who are unwilling to take the milk-jug route do not have an obligation to reduce their carbon footprint.

Empirical and theoretical studies support this analysis. Concrete norms that require wholesale changes in worldviews or clusters of abstract norms have little prospect for success. Those who do not subscribe to a worldview compatible with environmentalism will be more likely to reject information about climate change if they are forced to change their worldview rather than simply adopt new norms. Similarly, individuals are likely to reject a new norm that appears to divest them of control over daily life activities, as might be required if carbon neutrality could only be achieved through eliminating all carbon emissions. In some cases, individuals not only reject these types of behavior changes but also engage in reactance, acting in opposition to the perceived directive.

c. Criticisms of Carbon Neutrality

Carbon neutrality is not without critics. One concern is that offsets may not always provide genuine emissions reductions. For example, offsets may purport to displace a carbon-emitting activity that would not have occurred without the offset in the first place. Alternatively, the offset-generating activity may have uncertain scientific validity. In a worst-case scenario, offsets may be generated from the destruction of greenhouse gases that were only produced in the first place because of the market value of the offsets. A recent study identified substantial variation in the quality of the offsets available on the retail market, and a private standard is under development for retail carbon offsets. Thus far, personal carbon calculators have received less attention, but a forthcoming study concludes that these calculators lack transparency and vary widely in methodology and outputs.

A second concern is that even if offsets do reduce climate forcing at the levels advertised, the availability of offsets may undermine public support for government regulatory efforts and for individual behavior change that reduces emissions instead of offsetting them. These points are worthy of further empirical study, but it is equally likely that individuals who commit to carbon neutrality through offset purchases will become more supportive of government regulation and more likely to reduce their own emissions. Studies demonstrate that when individuals take affirmative steps to reduce their contributions to social harms, they expect reciprocity from others - in this case, industry, government, agriculture, and others. In addition, as discussed above, when individuals make a personal or public commitment to take an action, they are more likely to follow through on the action. Offsets that involve public commitments by individuals to reduce their carbon footprint thus may induce direct emissions reductions and may build public support for traditional regulatory measures.

A third concern is that as carbon neutrality spreads and more carbon offsets are purchased, the price of offsets is likely to rise. The price increase has at least two implications. First,

compliance with the norm may decline if it requires higher costs to purchase offsets or more onerous behavior changes to achieve increased emissions reductions. Although an increase in offset prices is likely to occur, the widespread adoption of carbon neutrality will create incentives for private markets and government to provide alternatives for individuals to achieve emissions reductions. In addition, individuals who have adopted the carbon-neutrality norm may resist acting inconsistently with the norm even after it becomes more expensive to comply.

A second implication of the price increase is that it raises distributive justice concerns. If carbon neutrality can be achieved by offsets, and if offsets increase in price, the wealthy will be able to comply with the norm without facing substantial lifestyle disruptions, but the poor will not. Although this is a genuine concern, the remedy is not to abandon carbon neutrality or carbon offsets but rather to provide public or private subsidies to those who cannot afford offsets.

NOTES AND QUESTIONS

1. Although Professors Vandenberg and Steinemann are hopeful about public adoption of the carbon neutrality norm, public complacency is common and apparently growing. One recent study asked "How worried are you about global warming?" and 53 percent were "very worried" or "somewhat worried," while the rest were "not very worried" or "not at all worried." See A. Leiserowitz, et al., *Climate Change in the American Mind: Americans' Global Warming Beliefs and Attitudes in June 2010*, Yale University and George Mason University, New Haven, CT: Yale Project on Climate Change Communication (2010) *available at* http://environment.yale.edu/climate/files/ClimateBeliefsJune2010.pdf (last visited Dec. 30, 2011). The same survey found that 42 percent of Americans "strongly agree" or "somewhat agree" that "The actions of a single individual won't make any difference in global warming." Two years earlier, only 31 percent strongly or somewhat agreed with this statement. *Id.* What are your responses to these questions and would they have been different two years ago?

2. Social scientists have conducted research to understand the barriers that prevent people from developing attitudes and actions that respond adequately to the significant threat of climate change. See Kari Marie Norgaard, *Cognitive and Behavioral Challenges in Responding to Climate Change*, World Bank Policy Research Working Paper 4940 (May 2009). Some of these barriers are psychological or conceptual. For example, people may judge as serious only those problems to which they feel that they can efficaciously respond to: they stop paying attention to global climate change when they realize that there is no easy solution for it. Or individuals may block out or distance themselves from information about climate change in order to maintain desirable emotional states. Other barriers are social and cultural. For example, information on the high carbon footprint of the United States contradicts patriotic national pride and U.S. citizens who fail to respond to the issue of climate change benefit from their denial in economic terms.

3. Individuals and organizations in the U.S. that do seek to be carbon-neutral generally must rely at least partly on the purchase of carbon offsets. For example, an individual that takes a flight can purchase an amount of carbon offsets equivalent to the carbon emitted by the

flight. The money is then spent to reduce emissions by that amount somewhere else, often through landfill methane destruction or reforestation projects. *See* Katherine Hamilton et al., *Building Bridges: State of the Voluntary Carbon Markets 2010*, Ecosystem Marketplace & Bloomberg New Energy Finance (June 14, 2010). However, some studies have suggested that consumers do not always get what they pay for. An investigation by The Christian Science Monitor and the New England Center for Investigative Reporting found that individuals and businesses that participate in global carbon offset market are often "buying into projects that are never completed, or paying for ones that would have been done anyhow." Doug Struck, *Buying Carbon Offsets May Ease Eco-guilt But Not Global Warming*, THE CHRISTIAN SCIENCE MONITOR, April 20, 2010. What could businesses and/or NGOs do to shore up the credibility of carbon offsets?

3. The Role of Legal Mandates

To restrict many types of undesirable behaviors, governments rely on legal mandates and prohibitions rather than on social norms that may be ignored without legal penalty. According to Professor Katrina Kuh, the obstacles to using legal mandates to proscribe harmful individual behavior can be minimized by entrusting their design and enforcement to local rather than state or federal governments.

Katrina Fischer Kuh, *Capturing Individual Harms*, 35 HARV. ENVTL. L. REV. 155, 195-203 (2011)

Traditional command and control regulation of industrial point sources relies heavily on the use of mandates, or direct proscriptions against environmentally harmful activities, and has achieved significant gains in reducing pollution from these sources. Scholars likewise recognize the potential utility of mandates in achieving changes in environmentally significant individual behavior, particularly when deployed in combination with other policy approaches. Most directly, mandates could, by imposing external sanctions for their violation, raise the costs of behaviors that harm the environment and change the calculation of a rational actor deciding whether to undertake the behavior. Coupling mandates with norms can have a synergistic effect because "when law aligns with social norms, the law can use state sanctions to supplement social sanctions" and thereby "increase ... the total sanction from disobeying a norm" and encourage norm compliance.

For example, in a municipality with an anti-idling ordinance, a driver deciding whether to idle would balance the benefits (convenience, ease, etc.) against the costs (the possibility of a ticket). And, as described above, mandates could function in an expressive manner to influence behavior by triggering personal and/or social norms.

Direct proscriptions on environmentally harmful individual behaviors may in fact prove to be a necessary complement to other policy tools for regulating individual behavior, such as informational regulation, norm management, and price signals. Notably, there is uncertainty about the potential efficacy of norm management in changing individual behaviors and even champions of the use of norm management recognize that there are some behaviors that norm

campaigns cannot succeed in changing and concede that a variety of policy approaches, beyond norm management, will likely be needed.

The application of mandates to individuals has, however, received little sustained attention in the literature focused on reducing individual environmental harms. This is likely so because of identified obstacles to the adoption and enforcement of mandates. In the words of one scholar:

> The use of command and control requirements to change individual environmentally significant behavior has been less successful and, at least in the near term, is unlikely to be effective, efficient, or politically feasible. The thousands or millions of potential regulatory targets for any given environmental problem, the widespread belief that individuals are not significant pollution sources, and the cognitive barriers to changing that belief all make individual behavior extremely difficult to regulate through command and control instruments, particularly at the federal level ... . In particular, the cost of enforcement against large numbers of individuals makes behavior change based solely on the threat of formal legal sanctions unlikely. To the extent environmental harms caused by individuals are difficult to detect, enforcement is expensive and intrusive. Even if sufficient resources were devoted to the effort, the intrusiveness of enforcing these regulations may undermine compliance or produce a political backlash.

Numerous other scholars have likewise articulated the difficulties that arise in attempts to mandate changes in individual behaviors. Consistent with these gloomy prognostications, examples of failed or troubled mandates aimed at individual behavior abound, most notably, federal transportation control plans ("TCPs") under the Clean Air Act. In the mid-1970s, EPA imposed TCPs in areas where they found state-developed plans for meeting national air quality standards inadequate. The TCPs "contained a variety of measures, many of which required basic changes in the commuting practices of average citizens or imposed substantial new burdens on state or local governments." Specifically, TCPs included measures such as parking surcharges, elimination or reduction of employee parking, prohibitions on on-street parking by commuters, tolls, the retrofit of older cars with pollution control devices, and gas rationing. The TCPs occasioned immediate and vociferous public protest and were never implemented. Congress and the courts limited EPA's authority to implement transportation controls and EPA largely abandoned its attempts to implement the TCPs.

Mandates, then, receive little attention as a policy tool for addressing environmentally significant individual behaviors not because they would not be useful, but because of pessimism about feasibility. A few scholars have commented, without much analysis, that mandates on individual behavior may be more feasible if adopted and enforced at the local level. Michael P. Vandenbergh, for example, identifies examples of successful local efforts to influence individual behaviors (household waste and motor oil disposal programs) and observes that "some extension of local government controls over individual behavior, where combined with other regulatory instruments, thus may be effective." And in his detailed account of the failure of a federal trip reduction mandate included in the 1990 Clean Air Act Amendments, Craig N. Oren draws a distinction between federal and local mandates. He argues that federal mandates on mobile sources of air pollution (primarily individual drivers) in particular are "acceptable" only under certain conditions, in part because "such mandates impose a cost in loss of local autonomy, and

deprive states and localities of their role as 'laboratories' for innovation." Although his critique of the federal trip reduction mandate is devastating, Oren's analysis leaves room for the possibility that locally tailored trip reduction measures could prove more successful.

A closer examination of the identified obstacles to the use of mandates to address individual behaviors supports the view that mandates may prove more feasible at the local level. Local development and enforcement of mandates addressed to individual behavior can minimize two chief obstacles to imposing mandates on individual environmental behavior, that such mandates are uncomfortably intrusive and difficult to enforce. These obstacles are explained in greater detail below, along with possibilities for minimizing these obstacles through local design and enforcement.

A. Intrusion Objections

Mandates are the most intrusive policy approach for changing behavior. By prohibiting or requiring conduct, mandates foreclose choice and, as applied to individual behaviors, can be "seen as an interference with individual liberty and an invasion of privacy." These objections may be particularly pronounced when the individual behavior subject to regulation "occurs at home or in the immediately surrounding area," as with many environmentally significant behaviors. Additionally, individuals may find government regulation more objectionable where the proscribed behavior is perceived to be in their self-interest, perhaps because it is convenient, is ingrained as a personal habit, or provides other value.

Local governments are, however, in a position to blunt some of the aforementioned intrusion objections. First, local governments already impose restrictions on day-to-day behaviors in myriad ways. Don't park on the south side of the street on Tuesdays between 10 a.m. and 1 p.m. Don't cross the street against the light. Shhhhh -- you're being too loud. Get a license for your dog and keep it on a leash. Put your trash out no earlier than 5 p.m. the night before collection and retrieve it no later than 9 p.m. on the day of collection. Remove junk from your yard within forty-eight hours. Yard-sale signs must be smaller than six square feet in area, must be posted no earlier than 12 p.m. the day prior to the sale and taken down no later than 12 p.m. the day after the sale, and cannot be placed within ten feet from the street pavement. Indeed, localities already impose mandates on individual behaviors that harm the environment, including anti-idling, recycling, and air pollution ordinances. Many of these local mandates on behavior seem ripe for intrusion objections because the behavior being regulated occurs in or near the home and/or complying is inconvenient. However, these types of local rules are widely accepted. In a sense, then, individuals are already habituated or conditioned to accept local restrictions on behavior.

By way of specific example, imagine a hypothetical municipal ordinance setting an upper limit on water heater temperature. The ubiquity of municipal building, electrical, and fire codes that impose a variety of detailed requirements on property maintenance and operation makes the prospect of this type of regulation seem far less jarring and intrusive than, for example, a similar federal requirement. This may be especially true in particular areas (the Sagebrush Rebellion West) or moments in time (perhaps the present, as evidenced by the Tea Party movement) where opposition to an expanded role for the federal government characterizes the political mood.

Additionally, for many of the same reasons that local information can help identify barriers to behavior change, local information may also prove crucial when ascertaining whether a particular restriction will trigger insurmountable intrusion objections in a community and/or when designing mandates to avoid intrusion objections. For example, the Albion, New York Municipal Code cited above imposes a requirement that dogs be leashed, but includes an exception for hunting. It provides that a dog must be leashed "unless [it] is accompanied by its owner or a responsible person and under the full control of such owner or person. For the purpose of this chapter, a dog or dogs hunting in company of a hunter or hunters shall be considered as accompanied by its owner." Local knowledge about the use of hunting dogs is reflected in the design of the ordinance and helps to avoid resistance to the rule by avoiding interference with a locally-valued behavior. Knowledge about community attitudes and practices can thus help local governments select and structure mandates to be less intrusive.

Finally, while behavioral mandates can take the form of "straightforward coercion" such as bans or requirements, they can also impose less intrusive "time, place, and manner restrictions" that channel behavior while preserving some individual choice. As one scholar describes, with respect to how the law influences consumption, "lawmaking [can] frame[] individual choices in a way that directs them in a socially desirable way," or "benevolently guide[]" the decisions of its citizens. With respect to individual GHG emissions, for example, a municipality could reduce driving without altogether prohibiting it by closing roads to vehicle traffic during certain times, eliminating or reducing on-street parking, or barring single-occupancy vehicles from parking facilities at, for example, large sports arenas. The design and implementation of these types of restrictions is inextricably local.

B. Enforcement

Enforcement -- in terms of both its practical and political feasibility -- is frequently identified as the chief obstacle to mandates on environmentally significant individual behavior. A law aimed directly at individual behavior would need to be enforced against individuals. Individuals are, however, numerous, and may engage in environmentally significant behaviors in private spaces. Monitoring individual behavior can thus prove costly and pose serious logistical challenges. Significantly, however, local design and enforcement of mandates on individual behaviors can minimize the key enforcement challenges of expense, numerosity, and (in)visibility.

Local governments already possess an infrastructure that brings them into regular contact with their citizens and provides opportunities for both observation and enforcement. Local governments, for example, usually control household garbage collection, enforce local ordinances that address everything from noise to parking, issue permits for activities like sporting events, concerts, and parades, own and operate local parks and recreation facilities, and maintain local police, fire, and emergency response forces. Moreover, a variety of local special-use districts (school districts, water districts, local electric utilities, etc.) touch even more aspects of citizens' daily lives.

This existing infrastructure and contact could reduce both the expense associated with the enforcement of mandates on individual behavior and the challenges posed by numerosity. Enforcement of new mandates might be piggybacked on the enforcement of existing municipal

rules and requirements, thereby potentially reducing expense. Local governments do not, for example, need to hire new "tire inspectors" to enforce a requirement that tires be kept inflated to appropriate levels. Tickets could be issued by the existing police force during traffic stops that would occur anyway. A requirement to lower water heater temperatures could be incorporated into the enforcement of the existing building code. And with respect to numerosity, local governments are accustomed to enforcing myriad laws on those individuals. Local governments are also in a better position to assess the visibility of behavior and make determinations about whether behavior can feasibly be subject to enforcement. As explained above, whether and how conduct is "visible" may depend on a variety of community-specific variables that local governments are in a better position to understand.

Local governments can also capitalize on knowledge of existing local norms to design laws so that they will be reinforced by existing norms. "Law might purposefully choose rules -- that law would on its own have avoided -- in order to gain this reinforcement ... . There is, in other words, a cost to law's straying from norms, and law best does whatever it is that it is trying to do by [avoiding] these costs." Localities can deploy knowledge of local norms to craft mandates to piggyback on those norms, thereby increasing the likelihood of compliance apart from any independent enforcement efforts.

Finally, law may function to influence behavior even absent meaningful enforcement. Public involvement in state and federal policymaking is perhaps more limited and constrained than at the local level, where there may be more opportunities for democratic participation. Involvement at the local level may encourage compliance with local laws (regardless of opportunities for enforcement) because "people are more likely to comply with decisions and agreements they have played a role in formulating." Also, as described above, laws can influence behavior through their expressive function even in the absence of consistent enforcement. And, for a variety of reasons, the expressive value of local law may be particularly powerful. As one scholar argues, local laws may provide "a stronger signal of the local attitudes that matter most," and "an individual cares primarily about local attitudes because judgments of approval and disapproval are mostly local." Thus, we might expect "a larger expressive effect from local laws than state or federal laws, from local ordinances regulating smoking, recycling, and dogs more than state or federal statutes regulating speeding, motorcycle helmets or drunk driving." Accordingly, local governments may not only be in a better position to identify circumstances where enforcement is not feasible, they may also be best able to influence behavior through concededly unenforceable mandates by relying on their expressive function.

NOTES AND QUESTIONS

1. Many individuals may be willing to incur certain costs to reduce their individual and household carbon emissions, but they feel that unless many others do the same, their actions will not have a real impact in terms of reducing climate change. Legal mandates help solve this collective action problem, but they come up against the problems of intrusiveness and enforcement discussed by Professor Kuh. Do you agree with Professor Kuh that legal mandates relating to individual behavior will be acceptable to people if they are designed and enforced at the local level? Which of the following individual and household behaviors do you think local

governments could regulate effectively using mandates? Which do you think would better addressed at the state or federal level using policies such as taxes and subsidies that affect the prices consumers pay?

- Choosing a fuel-efficient car
- Adopting efficient driving practices
- Reducing driving by carpooling
- Weatherizing your home
- Replacing inefficient household appliances
- Replacing inefficient heating and cooling units
- Setting back thermostats
- Washing laundry at lower temperatures
- Line drying laundry
- Installing low-flow showerheads and toilets
- Eating less meat
- Recycling all recyclables

2. Another way to directly use law to change individual and household behavior is through legal mandates that expand or reduce the consumer choices of individuals. California, for example, passed a zero-emissions vehicle (ZEV) mandate in 1990 that required major automobile makers to offer electric vehicles in order to continue sales of their gasoline-powered vehicles in the state. To learn about this mandate and its fate, see the film "Who Killed the Electric Car?" Similarly, government could ban the sale of very low-mileage passenger vehicles such as Hummers. The Energy Independence and Security Act (EISA) of 2007 set efficiency standards that will phase out traditional incandescent light bulbs between 2012 and 2014. Although the relevant provisions of the Act are expected to save $13 billion in energy costs and prevent 100 million tons of carbon emissions, they have been held up as a symbol of big government that overreaches and intervenes in the private lives of Americans. Do you think that Congress should set efficiency standards for light bulbs, appliances, cars and other products that effectively restrict consumer choices?