

KYOTO OR NOT, HERE WE COME: THE
PROMISE AND PERILS OF THE PIECEMEAL
APPROACH TO CLIMATE CHANGE
REGULATION IN THE
UNITED STATES

Randall S. Abate †

INTRODUCTION	370
I. THE FEDERAL RESPONSE TO CLIMATE CHANGE..	373
II. STATE, REGIONAL, AND LOCAL INITIATIVES TO COMBAT CLIMATE CHANGE	376
A. STATE INITIATIVES.....	376
1. <i>Maine, Massachusetts, and Connecticut: Legislation</i>	377
2. <i>California: Aggressive Regulation</i>	380
3. <i>New Jersey: A Comprehensive Approach</i>	381
B. REGIONAL INITIATIVES	382
C. LOCAL INITIATIVES	384
D. BENEFITS AND DRAWBACKS OF STATE, REGIONAL, AND LOCAL INITIATIVES	385
III. VOLUNTARY COMPLIANCE MEASURES	386
A. EMISSIONS INVENTORIES	387
B. TARGETS AND TIMETABLES TO REDUCE GREENHOUSE GAS EMISSIONS	388
C. PROMOTING CLEAN ENERGY AND ENERGY EFFICIENCY	389
D. EMISSIONS TRADING PROGRAMS AND EARLY REDUCTION CREDITS	391
IV. CLIMATE CHANGE LITIGATION	392
A. DIFFERENT STRATEGIES TO ADDRESS CLIMATE CHANGE IN THE COURTS	392
1. <i>Carbon Dioxide as a Pollutant under the Clean Air Act</i>	393
2. <i>Power Plants and Public Nuisance Theory</i>	394
3. <i>NEPA and Federal Agency Funding of Projects Overseas</i>	395

† Legal Writing Faculty, Rutgers School of Law-Camden. B.A., University of Rochester; J.D., M.S.E.L., Vermont Law School. The author gratefully acknowledges the assistance of Kelly Gower, Christina Mathewson, and Laura Tull in preparing this article.

4. <i>Industry's Response to Climate Change</i>	
<i>Litigation</i>	397
B. PARALLELS TO THE DEVELOPMENT AND SUCCESS OF ENVIRONMENTAL CITIZEN SUITS	398
CONCLUSION.....	400

INTRODUCTION

Climate change is a pervasive, yet controversial, problem. The United Nations Framework Convention on Climate Change defines it as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”¹ In 1995, the United Nations Intergovernmental Panel on Climate Change (IPCC) linked the increased emissions of greenhouse gases—largely attributable to human activities such as fossil fuel use and agriculture—to the late-twentieth century warming trend worldwide.² This 1995 IPCC Report confirming the human influence on climate change catalyzed the negotiation of targets and timetables in the Kyoto Protocol.³

During the six months leading up to the Kyoto negotiations, President Clinton faced a major challenge when he tried to rally support at home for binding reductions on GHG emissions.⁴ The U.S. Senate urged the President not to support a treaty that would be so costly to the U.S. economy, but would not include binding targets on developing countries.⁵ Industry protested that the Protocol would be counterproductive because it would thwart their business interests while letting developing countries continue to develop without mandatory GHG emissions reduc-

¹ United Nations Framework Convention on Climate Change, May 9, 1992, art. 1, 31 I.L.M. 849 (1992) (entered into force Mar. 21, 1994) [hereinafter UNFCCC].

² See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC SECOND ASSESSMENT: CLIMATE CHANGE 1995, 4 (1996), available at [http://www.ipcc.ch/pub/sa\(E\).pdf](http://www.ipcc.ch/pub/sa(E).pdf) (last visited April 9, 2006). Greenhouse gases (GHGs) encompass carbon dioxide, methane, and nitrous oxide. The IPCC noted the following with regard to the worldwide warming trend:

For about a thousand years before the Industrial Revolution, the amount of greenhouse gases in the atmosphere remained relatively constant. Since then, the concentration of various greenhouse gases has increased. The amount of carbon dioxide, for example, has increased by more than 30% since pre-industrial times and is still increasing at an unprecedented rate of an average of 0.4% per year, mainly due to the combustion of fossil fuels and deforestation.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: WORKING GROUP I: THE SCIENTIFIC BASIS (2001), available at http://www.grida.no/climate/ipcc_tar/wg1/044.htm (last visited April 9, 2006).

³ HUNTER, SALZMAN & ZAEKE, INT'L. ENVTL. LAW AND POL'Y 626 (2d ed. 2002).

⁴ *Id.* at 627.

⁵ *Id.*

tions as they transition to industrialized nations.⁶ Despite these concerns, the United States signed the Kyoto Protocol; however, the Bush administration withdrew from the Protocol in 2001.

In stark contrast to this reluctance and apprehension in the United States, the support for the Kyoto Protocol worldwide was overwhelmingly strong. In December 1997, 160 countries convened in Kyoto, Japan to negotiate the text of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, which places mandatory limits on greenhouse gas emissions.⁷ The Kyoto Protocol established the first binding targets and timetables to reduce net GHG emissions for member nations.⁸ The Protocol calculates net emissions by measuring not only GHG emissions by sources, but also removals by sinks associated with those activities.⁹ A sink is “any process, activity, or mechanism which removes ? greenhouse gas . . . from the atmosphere.”¹⁰

Under the Protocol, each Annex I (developed) nation negotiated a net emissions reduction of at least 5 percent below the baseline year, 1990.¹¹ Annex I nations must achieve these emissions reduction commitments in the first reporting period 2008-2012.¹² Before withdrawing from the Protocol in 2001, the United States had agreed to a 7% reduction, while most European nations has agreed to an 8% reduction.¹³

The Protocol identifies common but differentiated emissions reduction commitments for developed and developing countries. To assist nations in meeting their emissions reduction commitments, the Protocol contains flexibility mechanisms. The first such mechanism, joint implementation, allows one Annex I (developed) nation party, or their private entities to sell reductions to another Annex I party or enterprise.¹⁴ Second, the Protocol permits emissions trading between Annex I nations.¹⁵ Finally, the Protocol includes the “Clean Development Mechanism,” which allows Annex I nations, or their private entities, to fund activities in non-Annex I (developing) nations that result in emissions reductions.¹⁶

⁶ *Id.*

⁷ United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22 (entered into force Feb. 16, 2005) [hereinafter Kyoto Protocol]. As of this writing, 162 nations are parties to the Kyoto Protocol.

⁸ *See id.* at art. 3.

⁹ *Id.* at art. 3.3.

¹⁰ UNFCCC, *supra* note 1, at art. 1.8.

¹¹ Kyoto Protocol, *supra* note 7, at art. 3(1).

¹² *Id.*

¹³ HUNTER, SALZMAN & ZAELKE, *supra* note 3, at 630.

¹⁴ Kyoto Protocol, *supra* note 7, at art. 6.1.

¹⁵ *Id.* at art. 17.

¹⁶ *Id.* at art. 12.

Once such emission reductions are certified, the Annex I nation may then use those reductions to contribute to its own compliance.¹⁷

Not only has the United States failed to ratify the Kyoto Protocol, but it also has no comparable federal legislation on point.¹⁸ Instead, its Global Climate Change Policy calls for only modest industrial efficiency improvements, which are significantly less ambitious than the emission reduction targets imposed on industrialized nations under the Kyoto Protocol.¹⁹ If the United States neither ratifies the Kyoto Protocol nor adopts comparable mandatory federal legislation, the international effort will not achieve its goals because the United States is responsible for approximately 25 percent of GHG emissions worldwide.²⁰

Effective federal climate change regulation in the United States has been thwarted because the second Bush Administration is reluctant to recognize the problem, and therefore tends to invest in research over direct regulation.²¹ This limited federal response to climate change, however, has prompted a broad spectrum of climate change efforts at the state, regional, and local levels, among private and public actors. Many states and cities have implemented a variety of laws, including mandatory limits on greenhouse gas emissions, while others promote energy efficiency and the use of renewable energy sources through various incentive programs.²² Several states are also involved in regional initiatives, such as the Regional Greenhouse Gas Initiative (RGGI) in the Northeast and Mid-Atlantic regions, and the Western Renewable Energy Generation Information System (WREGIS) in the western states.²³ In addition, the regulated community, prompted by the threat of possible private litigation and the prospect of eventual mandatory federal regulation, has voluntarily adopted emission reduction programs and other positive climate change measures.²⁴ Finally, in the past few years, plaintiffs

¹⁷ *Id.*

¹⁸ The McCain/Lieberman Climate Stewardship Act, which sought to reduce greenhouse gas emissions to 2000 levels by 2010, was defeated by a vote of 55-43 in October 2003. Climate Stewardship Act, S. 139, 108th Cong. (2003).

¹⁹ Compare U.S. Global Climate Change Policy, available at <http://www.state.gov/g/oes/climate/> (last visited April 9, 2006) with Kyoto Protocol, *supra* note 7, at art. 3(1).

²⁰ See http://www.pewclimate.org/global.warming_basics/faq_s/faqs-policy.

²¹ See Brian DuBose, *Compromises Key to Energy Bill*, WASH. TIMES, June 22, 2005, at A4; Juliet Eilperin, *Administration Shifts on Global Warming*, WASH. POST, Aug. 27, 2004, at A19. But see Andrew Buncombe, *US Insists It Is Serious on CO2 as Kyoto Comes Into Force*, THE INDEPENDENT (U.K.), Feb. 17, 2005 (quoting spokesperson to the effect that measures by the Bush Administration to address global warming include: investment in hydrogen fuel cell technology, tax incentives for renewable energy, tightened fuel economy standards, and a zero emission plan for coal-fired power plants).

²² See generally Part II. A., *infra* for a discussion of RGGI and WREGIS.

²³ See generally Part II. B., *infra*.

²⁴ See generally Part III, *infra*.

have tested several legal theories, both to prompt and to halt climate change regulatory efforts, in the federal courts.²⁵

Part I of the Article analyzes the U.S. federal regulatory approach to climate change. Part II explores representative state, regional, and local attempts to combat climate change, whereas Part III describes voluntary compliance initiatives in the regulated community to monitor and reduce GHG emissions. Part IV focuses on federal lawsuits brought by states, cities, and nongovernmental organizations filed against 1) the federal government seeking to compel a mandatory climate change program or 2) the regulated community seeking to hold companies accountable for the effects of GHG emissions.

The Article concludes that climate change litigation is a more effective tool to bring about a mandatory federal regulatory program than are legislative efforts at the state, regional, and city levels, or voluntary initiatives within the regulated community. The best route to a mandatory federal program is either through the pending suit to compel the EPA to implement such a program under existing statutory authority,²⁶ or for the regulated community to lobby for a mandatory federal program to ensure consistency and predictability in conducting their business. This initiative in the regulated community to go beyond mere voluntary measures would be prompted by fear of the potential bad publicity and financially devastating liability in private climate change litigation.²⁷

Until climate change litigation leads to a mandatory federal program, these climate change lawsuits are worthwhile in their own right as part of a broader public awareness campaign advocating the need for a mandatory federal climate change program in the United States. Similarly, the state, regional, local, and voluntary climate change regulatory measures currently in place in the United States are valuable in the short term, but only as a first step toward a mandatory federal climate change program.

I. THE FEDERAL RESPONSE TO CLIMATE CHANGE

In 2001, the Bush administration rejected the Kyoto Protocol.²⁸ Worse still, although there has been a flurry of mandatory federal legisla-

²⁵ See generally Part IV, *infra*.

²⁶ See notes 190 - 201 and accompanying text discussing the *Massachusetts v. EPA* case, *infra*.

²⁷ See notes 202 - 223 and accompanying text discussing the *Connecticut* and *Watson* cases, *infra*.

²⁸ See HUNTER, SALZMAN & ZAELKE, *supra* note 3, at 630.

tive proposals addressing climate change,²⁹ only voluntary climate change programs have been enacted at the federal level as of this writing.

The federal Clean Air Act³⁰ lacks a mechanism by which to regulate GHG emissions. The principal vehicle for a possible federal GHG emission reduction program is the Clear Skies Act.³¹ The Clear Skies legislation was introduced in both Houses of Congress in July 2002, and reintroduced in February 2003 as a proposed amendment to the Clean Air Act.³² On January 24, 2005, Senators Inhofe (R-Okla.) and Voinovich (R-Ohio) introduced their version of the Clear Skies Act.³³

The Clear Skies legislation proposed a cap-and-trade regulatory program,³⁴ which sets new targets for GHG emission reductions.³⁵ The pollutants it targeted included sulfur dioxide, mercury, and nitrogen oxides.³⁶ It did not include, however, a single measure to reduce, or even limit carbon dioxide emissions—the chief contributor to global warming.³⁷ In addition, the legislation would phase out, over the next

²⁹ See, e.g., Climate Stewardship Act, S. 139, 108th Cong. (2003), available at <http://thomas.loc.gov/home/search.html> (April 9, 2006) and Clean Power Act, S. 150, 109th Cong. (2005), available at <http://thomas.loc.gov/home/search.html> (April 9, 2006).

³⁰ 42 U.S.C. §§ 7401-7671q.

³¹ Clear Skies Act, S. 131, 109th Cong. (2005); see U.S. Env'tl. Prot. Agency, Clear Skies Legislative Info., <http://www.epa.gov/air/clearskies/legis.html> (last visited, April 9, 2006).

³² *Id.*

³³ *Id.*

³⁴ EPA describes the mechanics of a cap-and-trade program as follows:

Cap and trade is a policy approach to controlling large amounts of emissions from a group of sources at costs that are lower than if sources were regulated individually. The approach first sets an overall cap, or maximum amount of emissions per compliance period, that will achieve the desired environmental effects. Authorizations to emit in the form of emissions allowances are then allocated to affected sources, and the total number of allowances cannot exceed the cap.

Individual control requirements are not specified for sources. The only requirements are that sources completely and accurately measure and report all emissions and then turn in the same number of allowances as emissions at the end of the compliance period.

See www.epa.gov/airmarkets/trading/basics.

³⁵ *Id.*

³⁶ *Id.*

³⁷ See NATURAL RES. DEF. COUNCIL, DIRTY SKIES: THE BUSH ADMIN.'S AIR POLLUTION PLAN, <http://www.nrdc.org/air/pollution/qbushplan.asp> (last visited April 9, 2006) (criticizing the Clear Skies Initiative) [hereinafter NATURAL RES. DEF. COUNCIL]; see also SIERRA CLUB, FACTS ABOUT THE BUSH ADMIN.'S PLAN TO WEAKEN THE CLEAN AIR ACT, http://www.sierraclub.org/cleanair/clear_skies.asp (last visited April 9, 2006) (criticizing the Bush administration's plan for failing to set a limit on carbon dioxide emissions).

decade, the New Source Review³⁸ permit and enforcement program for power plants.³⁹

On March 9, 2005, the Environment and Public Works Committee deadlocked, 9-9, on whether to put the Clear Skies Act to the entire Senate.⁴⁰ Chairman of the Committee, James Inhofe (R-Okla.), reported that approximately seven issues divided the Committee, including whether there should be carbon dioxide emission limitations.⁴¹ As of this writing, the Clear Skies initiative remains tied up in Committee.⁴²

In January 2003, Senators Joseph Lieberman (D-Conn.) and John McCain (R-Ariz.) introduced the Climate Stewardship Act of 2003. The Act would cap GHG emissions at their 2000 levels after 2010.⁴³ The bill would also establish a market-based emissions credit-trading system to reduce GHG emissions from power plants, refineries, and other commercial entities.⁴⁴ In October 2003, after modifications, the measure was defeated in the Senate by a 55-43 vote.⁴⁵

On June 22, 2005, the Senate, by a 60-38 vote, defeated a proposed amendment to the Climate Stewardship Act that represented a weaker version of the Kyoto Protocol mandates.⁴⁶ Citing costs, the Bush administration had urged the Senate against placing restrictions on emissions.⁴⁷ Instead, the Senate, by a 66-29 vote, approved an amendment that merely

³⁸ The New Source Review program under the Clean Air Act is the basis by which the regulation of air emissions from existing facilities can be made. See 42 U.S.C. §§ 7470-7515. Under the Clean Air Act, it is rare to impose new emissions requirements on existing sources; however, New Source Review requires that if an older regulated source undergoes changes that increase its emissions, it must upgrade its air pollution controls to comply with current regulatory requirements. Without New Source Review, power plants, which contribute significantly to GHG emissions in the United States, would be excluded from stricter air pollution controls. See generally NATURAL RES. DEF. COUNCIL, *supra* note 37.

³⁹ See *Climate Debate Threatens a Republican Clean-Air Bill*, N.Y. TIMES, Jan. 27, 2005, at A21.

⁴⁰ See Mary Curtis & Tom Hamburger, *Bush's Clear Skies Act Stalls in the Senate; A 9-9 deadlock makes it likely the market-based plan indefinitely stays in committee*, L.A. TIMES, Mar. 10, 2005, at A12.

⁴¹ *Id.*

⁴² Miguel Bustillo, *Court Upholds EPA Change of Air Pollution Policy: An Appeals Panel Oks a Dush Rule Letting Power Plants avoid Installing New Pollution Controls*, L.A. TIMES, June 25, 2005, at A 24.

⁴³ Climate Stewardship Act, S. 139, 108th Cong. (2003), available at <http://thomas.loc.gov/home/search.html> (last viewed April 9, 2006).

⁴⁴ *Id.*

⁴⁵ *Senate Defeats Climate Bill but Proponents See Silver Lining*, N.Y. TIMES, Oct. 31, 2003, at A14. On February 10, 2005, Senators Lieberman and McCain reintroduced this legislation. Climate Stewardship Act, S. 342, 109th Cong. (2005), available at <http://thomas.loc.gov/home/search.html> (last visited April 9, 2006).

⁴⁶ Brian DuBose & Bill Sammon, *Global-Warming Limits Rejected*, WASH. TIMES, June 23, 2005, at A1.

⁴⁷ James Kuhnhenh, *Senate Bill to Curb Global Warming Stalls as White House Cites Costs*, PHILA. INQUIRER, June 22, 2005, at A7.

created tax incentives and loan guarantees to encourage polluters to reduce emissions.⁴⁸

In 2005, three additional measures addressing climate change were introduced in the Senate. The first was a bill introduced by Senators James Jeffords (D-Vt.), Joseph Lieberman (D-Conn.), and Susan Collins (R-Maine) to retain New Source Review and to mandate tougher emission reduction standards.⁴⁹ This bipartisan legislation would also establish a federal cap on carbon dioxide emissions.⁵⁰ If implemented, this legislation would be a good step toward an appropriate mandatory federal climate change program.

The second was a bipartisan resolution, introduced by Senator Dianne Feinstein (D-Calif.), calling on the United States to participate in international negotiations pertaining to GHG emission reductions.⁵¹ Finally, in February 2005, Senators Susan Collins (R-Maine) and Maria Cantwell (D-Wash.) introduced legislation to increase federal funding for abrupt climate change research, authorizing \$10 million per year for the next six years.⁵²

While the federal government continues to debate whether and to what extent a mandatory federal climate change program is necessary, these federal legislative initiatives are only a small step in the right direction. Several States, regions, and cities have already implemented aggressive and comprehensive climate change regulation programs. Moreover, the private sector has adopted voluntary programs. Parts II and III of this Article evaluate these programs.

II. STATE, REGIONAL, AND LOCAL INITIATIVES TO COMBAT CLIMATE CHANGE

A. STATE INITIATIVES

The programs reviewed below are some of the leading examples of a broad range of regulatory strategies that States have implemented to curb GHG emissions,⁵³ including establishing GHG emissions invento-

⁴⁸ *Id.*

⁴⁹ Clean Power Act, S. 150, 109th Cong. (2005), available at <http://thomas.loc.gov/home/search.html> (last visited April 9, 2006).

⁵⁰ *Id.*

⁵¹ United States Should Act to Reduce Greenhouse Gas Emissions, S.J. Res. 5, 109th Cong. (2005).

⁵² The Abrupt Climate Change Research Act, S. 245, 109th Cong. (2005) available at <http://thomas.loc.gov/home/search.html> (last visited April 9, 2006).

⁵³ See generally Laura H. Kosloff, Mark C. Trexler, & Hal Nelson, *Outcome-Oriented Leadership: How State and Local Climate Change Strategies Can Most Effectively Contribute to Global Warming Mitigation*, 14 WIDENER L.J. 173 (2004) (providing an overview of the climate change policy options and strategies available to sub-national governmental entities.); see also Thomas D. Peterson, *The Evolution of State Climate Change Policy in the United States: Lessons Learned and New Directions*, 14 WIDENER L.J. 81, 101 (2004) ("Comprehen-

ries and reporting schemes;⁵⁴ implementing carbon sequestration measures;⁵⁵ and creating renewable energy incentives.⁵⁶ State regulations have targeted the transportation, agricultural, industrial, and business sectors.⁵⁷ The most aggressive State initiatives are those enacting mandatory controls to reduce carbon dioxide emissions.⁵⁸

The lack of a federal response to climate change is not the only reason for State action. State legislatures have cited a number of other reasons for taking action, including promoting economic development, reducing vulnerability to fluctuating energy prices, and preventing damage to the States' valuable resources.⁵⁹

1. *Maine, Massachusetts, and Connecticut: Legislation*

In May 2003, Maine became the first state to enact climate change legislation.⁶⁰ The law sets specific targets and timetables for carbon dioxide emission reductions.⁶¹ The law codified the *Comprehensive Regional Climate Change Action Plan* agreed to by New England governors and Eastern Canadian premiers,⁶² which includes both short- and long-term carbon dioxide emissions reduction goals. In the short

sive state climate plans include the development of: 1) Emissions inventories and baseline forecasts; 2) Mitigation actions and implementation mechanisms; 3) Goals and/or targets; 4) Monitoring and reporting systems for all sectors, gases, and time periods.”).

⁵⁴ Laura H. Kosloff & Mark C. Trexler, *State Climate Change Initiatives: Think Locally, Act Globally*, 18 NAT. RESOURCES & ENV'T 46, 47 (2004) (noting that 39 States have implemented GHG inventories and some States, including California and New Jersey, have established GHG registries.).

⁵⁵ See DOE Announces New Carbon Sequestration Partnerships, 28 PLATTS COAL OUTLOOK 15, June 21, 2004, at 15. (announcing that several States and 13 organizations have joined the Department of Energy's Carbon Sequestration Regional Partnership Program).

⁵⁶ PEW CTR. ON GLOBAL CLIMATE CHANGE, LEARNING FROM STATE ACTION ON CLIMATE CHANGE, IN BRIEF, Number 8 (Dec. 2004), available at http://www.pewclimate.org/what_s_being_done/in_the_states/ (noting that many states have already emphasized commitments to promoting clean power, including the use of “green pricing.”).

⁵⁷ See *infra* notes 60 - 106 and accompanying text.

⁵⁸ See, e.g., CAL. HEALTH & SAFETY CODE § 43018.5(a) (West Supp. 2002) (imposing limits on GHG emissions in car exhaust).

⁵⁹ *Id.*; see also BARRY G. RABE, Pew Ctr. on Global Climate Change, Greenhouse And Statehouse: The Evolving State Government Role in Climate Change (Nov. 2002) (comparing nine states' responses to climate change). Whereas New Jersey views climate change comprehensively and seeks to integrate all sectors of the economy into programs to reduce GHG emissions, Texas has adopted an ambitious renewable portfolio stemming from its desire to ensure long-term energy security for its residents and secure its position as an energy state. *Id.*

⁶⁰ ME. REV. STAT. ANN. tit. 38, §§ 574-789 (West 2005).

⁶¹ *Id.* Officials in Maine worry that failure to regulate the sources of climate change in the United States could raise sea levels in Maine by 16 inches by 2100. Brad Knickerbocker, *States Take Clean-Air Measures Into Their Own Hands*, CHRISTIAN SCI. MONITOR, Apr. 13, 2005, at 3.

⁶² NEW ENGLAND GOVERNORS/EASTERN CANADIAN PREMIERS, CLIMATE CHANGE ACTION PLAN OF 2001 (Aug. 2001), available at <http://www.negc.org/documents/NEG-ECP%20CCAP.PDF>. For a discussion of other regional initiatives, see *infra* Part II. B.

term, Maine seeks to reduce GHG emissions to 1990 levels by January 1, 2010,⁶³ whereas its long-term goal is to reduce GHG emissions as to eliminate any dangerous threat to the climate.⁶⁴ To accomplish this long-term goal, reduction in GHG emissions to 75% to 80% below 2003 levels may be required.⁶⁵

The Maine climate change action plan also requires GHG emissions reductions in each sector⁶⁶ in cost-effective ways, and allows for the sequestration of GHG emissions by sustainably managed forestry, agricultural, and other natural resource activities.⁶⁷ As part of its “lead-by-example” initiative, Maine’s plan also calls for 1) GHG emissions inventories for state-owned facilities and state-funded programs,⁶⁸ 2) carbon emission reduction agreements with at least 50 businesses and nonprofit organizations by January 1, 2006,⁶⁹ 3) participation in an effort to adopt a New England greenhouse gas registry,⁷⁰ and 4) creation of an annual statewide greenhouse gas emissions inventory.⁷¹

In April 2001, Massachusetts became the first State to require power plants to reduce emissions of: 1) soot-forming sulfur dioxide, 2) smog-forming nitrogen oxides, 3) mercury, and 4) carbon dioxide.⁷² Massachusetts has also committed to a variety of other initiatives including: 1) the purchase of 15% of its energy from renewable sources by 2020; 2) creation of a Renewable Energy Trust Fund to encourage energy efficiency and renewable-energy product development; and 3) a carbon dioxide offset program for new utilities.⁷³

On May 6, 2004, Governor Mitt Romney released the long-awaited *Massachusetts Climate Protection Plan*.⁷⁴ The plan outlines a comprehensive strategy to reduce GHG emissions to 1990 levels by 2010.⁷⁵ The strategy involves working with four state agencies – energy, environ-

⁶³ Me. Rev. Stat. Ann. tit. 38, § 576(1).

⁶⁴ *Id.* § 576(3).

⁶⁵ *Id.*

⁶⁶ “Sector” refers to one of the following: transportation, industrial, commercial, institutional, or residential sectors. *Id.* § 574(1).

⁶⁷ *Id.* § 577.

⁶⁸ *Id.* § 574(1).

⁶⁹ *Id.* § 574(2).

⁷⁰ *Id.* § 574(3).

⁷¹ *Id.* § 574(4).

⁷² MASS REGS. CODE tit. 310, § 7.29 (2001).

⁷³ Michael Northrop, *Leading by Example: Profitable Corporate Strategies and Successful Public Policies for Reducing Greenhouse Gas Emissions*, 14 WIDENER L.J. 21, 45-46 (2004).

⁷⁴ THE COMMONWEALTH OF MASS., MASS. CLIMATE PROTECTION PLAN (Spring 2004), available at <http://www.mass.gov/Eocd/docs/pdfs/maclimateprotectionplan.pdf>.

⁷⁵ *Id.*

ment, housing, and transportation – and calls for a variety of actions to present a comprehensive GHG emissions reduction effort.⁷⁶

The Massachusetts plan “combines requirements with incentives, existing programs with new initiatives, regulatory streamlining with tougher performance standards, [and] market tools with demonstration projects.”⁷⁷ Pursuant to the plan, Massachusetts has pledged to “lead by example” in the vehicles it uses, the buildings it constructs, and the growth it pursues.⁷⁸ The plan is divided into ten focus areas, each of which contains “action steps” to implement its objectives.⁷⁹ These ten focus areas are: 1) tough but realistic targets (for GHG emissions reductions); 2) assessing and communicating emissions trends; 3) state sustainability – leadership by example; 4) cities and towns as climate protection partners; 5) business, industry, and institutions as climate protection partners; 6) clean and reliable energy; 7) more efficient buildings: reducing pollution through sustainable design and construction; 8) transportation and sustainable development: increasing choices, reducing emissions; 9) vehicles: supporting clean, efficient new technologies, and 10) natural resource protection as climate strategy.⁸⁰

On June 14, 2004, the Connecticut legislature enacted legislation mandating what had been a voluntary timeline for GHG emissions reductions, and required that the plans to meet short- and medium-term goals be completed by 2005.⁸¹ Complying with this timeline, the Governor’s Steering Committee on Climate Change developed the *Connecticut Climate Change Action Plan of 2005*.⁸² Like Maine’s climate change plan, Connecticut’s plan is geared toward achieving the regional goals of the *Comprehensive Regional Climate Change Action Plan*.⁸³

The plan contains 55 recommended actions that focus on five major areas: 1) transportation and land use; 2) residential, commercial, and industrial energy use; 3) agriculture, forestry and waste emissions; 4) electricity generation; and 5) education and outreach.⁸⁴ In the plan, the Governor’s Steering Committee on Climate Change issued 38 recom-

⁷⁶ *Id.* at 4.

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.* at 8.

⁸⁰ *Id.* at 8-11.

⁸¹ An Act Concerning Climate Change, 2004 Conn. Pub. Acts 04-252, available at <http://www.env-ne.org/Publications/PA%2004-252%20AN%20ACT%20CONCERNING%20CLIMATE%20CHANGE.pdf>. Specifically, the legislation calls for a reduction in GHG emissions to 1990 levels by 2010, 10% below 1990 levels by the year 2020, and, ultimately, to stabilize the climate by reducing emissions by 75-85%. *Id.*

⁸² See THE GOVERNOR’S STEERING COMMITTEE ON CLIMATE CHANGE, CONN. CLIMATE CHANGE ACTION PLAN (2005) (submitted to Connecticut General Assembly on Feb. 15, 2005), at www.ctclimatechange.com/StateActionPlan.html.

⁸³ *Id.* at 2. See *supra* note 62 and accompanying text. .

⁸⁴ *Id.*

recommendations for immediate implementation.⁸⁵ Examples of these recommendations include raising emission standards for new cars, using energy efficient materials and design concepts in the construction of new buildings, increasing the amount of renewable energy supplied to the electricity grid, and promoting awareness of climate change issues through education and outreach programs.⁸⁶ According to Connecticut's Department of Environmental Protection, "[i]mplementation of the recommendations will put Connecticut on target to reduce greenhouse gas emissions to 1990 levels by 2010 and to 10% below 1990 levels by 2020."⁸⁷

2. *California: Aggressive Regulation*

Consistent with its long history of environmental activism, California has adopted an aggressive climate change program. Three key areas of California's climate change portfolio are: 1) its GHG registry,⁸⁸ which is recognized as a model for other state registries and for an improved federal program; 2) its coordination with Oregon and Washington to reduce GHG emissions;⁸⁹ and 3) its law requiring GHG emissions controls on automobiles.⁹⁰

California's program imposing restrictions on GHG emissions from automobile exhaust is an example of aggressive state climate change regulation. On September 24, 2004, the California Air Resources Board implemented the nation's first limits on GHG emissions in car exhaust.⁹¹ The regulations apply to new passenger cars, sports utility vehicles, and pickup trucks sold in the 2009 model year.⁹²

Opponents of California's motor vehicle GHG emissions regulation argue that the "creation of . . . state laws regulating fundamental vehicle

⁸⁵ *Id.* at 4.

⁸⁶ *Id.*

⁸⁷ CON. DEPT. OF ENVTL. PROT., *Connecticut Climate Change Action Plan Finalized* (Feb. 15, 2005), available at <http://www.dep.state.ct.us>. Connecticut also participates in several collaborative efforts with other states. For example, it adopted California's low emission vehicle standards, and is a member of the Regional Greenhouse Gas Initiative. *Id.* Progress on the implementation of Connecticut's climate change initiatives can be tracked at www.ctclimatechange.com.

⁸⁸ CAL. HEALTH & SAFETY CODE §§ 42800-42870 (West Supp. 2002).

⁸⁹ Press Release, California Governor's Office, Governors Davis, Locke and Kulongoski Announce Tri-State Strategy to Reduce Global Warming (Sep. 22, 2003), available at <http://www.governor.ca.gov>, cited in Robert B. McKinstry, Jr., *Local Solutions for Global Problems: The Debate Over the Causes and Effects of Climate Change and Emerging Mitigation Strategies for States, Localities, and Private Parties*, 12 PENN. ST. ENVTL. L. REV. 1, 11-12 (2004).

⁹⁰ CAL. HEALTH & SAFETY CODE § 43018.5(a) (West Supp. 2002).

⁹¹ Kosloff, Trexler & Nelson, *supra* note 53; CAL. HEALTH & SAFETY CODE § 43018.5(a) (West Supp. 2002).

⁹² CAL. HEALTH & SAFETY CODE § 43018.5(b)(1) (West Supp. 2002).

design elements would be harmful to the industry and costly to consumers.”⁹³ In addition, automobile manufacturers asserted that the regulations will likely increase the cost of vehicles by \$3000 while having little impact on climate change.⁹⁴ The automobile manufacturers further asserted that the new regulation is in effect a fuel economy standard, and that the National Highway Traffic Safety Administration is the only agency authorized to regulate fuel economy.⁹⁵

3. *New Jersey: A Comprehensive Approach*

Since 1998, New Jersey has supported the Kyoto Protocol’s emission reduction targets and timetables.⁹⁶ In addition to its early commitment to reduce emission levels to 3.5% below 1990 levels by 2005, the state also has adopted a multi-faceted regulatory approach—calling for interagency coordination, establishment of an emissions banking system in coordination with international efforts, development of clean fuel fleets, energy conservation efforts, and a GHG emissions inventory and reporting requirements.⁹⁷ These requirements allow New Jersey to pinpoint readily available cost-effective strategies to mitigate emissions.⁹⁸ New Jersey also requires sources that report other air emissions to the New Jersey Department of Environmental Protection to report carbon dioxide emissions.⁹⁹

⁹³ *International Automakers Seek to Block California Action to Regulate Greenhouse Gases*, PR NEWSWIRE (U.S.), Feb. 3, 2005, available at <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/02-03-2005/0002947601&EDATE=>.

⁹⁴ See *California Adopts Regulations Controlling Carbon Dioxide, Greenhouse Gas Emissions*, NACS Online, Sept. 28, 2004, available at www.nacsonline.com/nacs/news/daily_news_archives/September2004/nd0928044.htm.

⁹⁵ *Id.*

⁹⁶ NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUSTAINABILITY GREENHOUSE ACTION PLAN (December 1999) at Appendix 8-10 (Administrative Order 1998-09 (Mar. 17, 1998)), available at <http://www.state.nj.us/dep/dsr/gcc/GHG02revisions.pdf>.

⁹⁷ *Id.*

⁹⁸ See PEW CTR. ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE ACTIVITIES IN THE U.S. 2004 UPDATE 9 (Mar. 2004), available at http://www.pewclimate.org/what_s_being_done/us_activities_2004.cfm (last visited April 9, 2006) (explaining that New Jersey’s comprehensive approach to achieving its GHG reduction target includes mandatory GHG reporting) [hereinafter PEW CTR. ON GLOBAL CLIMATE CHANGE]. New Jersey’s GHG emissions registry originally was integrated into its Open Market Emissions Trading regulations, which allowed for the generation and banking of GHG credits along with additional opportunities for trading. Robert B. McKinstry, *Laboratories for Local Solutions to Global Problems: State, Local, and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN. ST. ENVTL. L. REV. 15, 41 (2004). On February 25, 2004, New Jersey repealed the Open Market Emissions Trading Program. See www.nj.gov/dep/aqm/whatsnew.htm. See generally Devin P. DeMarco, *The Origin and Demise of New Jersey’s Open Market Emissions Trading Program*, 35 ENVTL. L. REP. 10032 (2005).

⁹⁹ PEW CTR. ON GLOBAL CLIMATE CHANGE, WHAT’S BEING DONE IN THE STATES, available at http://www.pewclimate.org/what_s_being_done/in_the_states/reporting_map.cfm (last visited April 9, 2006).

On October 18, 2005, New Jersey took an important step forward and adopted regulations classifying carbon dioxide as an air contaminant.¹⁰⁰ The rule excludes carbon dioxide from “the list of chemical species defined as distillates of air” and classifies carbon dioxide as an air contaminant.¹⁰¹ With the new rule, the New Jersey Department of Environmental Protection (NJDEP) confirms that “regulating CO₂ is in the best interest of human health, welfare, and the environment.”¹⁰² NJDEP based its determination on “compelling scientific evidence of existing and projected adverse impacts due to climate change on the environment, ecosystems, wildlife, human health, and enjoyment of life or property in the state.”¹⁰³ This measure could help lay the foundation for a similar classification by the EPA to regulate carbon dioxide at the federal level.¹⁰⁴

While the focus of New Jersey’s climate change initiatives is on power plants, its initiatives also reach other industries. For example, New Jersey’s largest water utility is installing the state’s largest ground-mounted solar electric project.¹⁰⁵ This pilot program, if successful, may lead other treatment plants in New Jersey to use solar energy.¹⁰⁶

B. REGIONAL INITIATIVES

Nine Northeastern and Mid-Atlantic states are currently working to establish a cap-and-trade system for power plant carbon dioxide emissions, known as the Regional Greenhouse Gas Initiative (RGGI).¹⁰⁷ The RGGI is an incremental approach to climate change since it only targets GHG emissions from the power plant industry, as opposed to regulating all industrial sources of GHGs.¹⁰⁸ Under RGGI, power plants will be allocated emission allowances, measured in units of one ton of carbon

¹⁰⁰ Press Release, New Jersey Officer of the Governor, Codey Takes Crucial Step to Combat Global Warming, *available at* http://www.state.nj.us/cgi-bin/governor/njnewsline/view_article.pl?id=2779. This action enabled New Jersey to participate in the Regional Greenhouse Gas Initiative, which regulates carbon dioxide emissions from power plants. *Id.* For a discussion of the Regional Greenhouse Gas Initiative, *see infra* Part II. B.

¹⁰¹ Notice of Rule Proposal, Reclassification of CO₂ as an Air Contaminant, *available at* www.state.nj.us/dep/rules/notices/101804b.html.

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *See infra* notes 190 - 201 and accompanying text discussing the *Massachusetts v. EPA* case.

¹⁰⁵ *Waste Generator Briefs*, WASTE NEWS, March 14, 2005, at 5.

¹⁰⁶ *Id.* This solar project will save the company in energy costs, and provide 15% of the peak usage power needed to run the plant. *Id.*

¹⁰⁷ *See* REG’L GREENHOUSE GAS INITIATIVE, AN INITIATIVE OF THE NORTHEASTERN AND MID-ATLANTIC STATES OF THE U.S., *at* <http://www.rggi.org> [hereinafter REG’L GREENHOUSE GAS INITIATIVE]; *see also* Douglas W. Smith & Kyle W. Danish, *Climate Change: The Heat Is On*, PUBLIC UTILITIES FORTNIGHTLY, Jan. 2004, at 55 .

¹⁰⁸ *See generally* PEW CTR. ON GLOBAL CLIMATE CHANGE, INNOVATIVE POL’Y SOLUTIONS TO GLOBAL CLIMATE CHANGE: LEARNING FROM STATE ACTION ON CLIMATE CHANGE, 8

dioxide produced.¹⁰⁹ Power plants can either reduce their emissions or purchase allocations on a market from others.¹¹⁰ To facilitate RGGI, the Northeast States for Coordinated Air Use Management currently is developing a Regional Greenhouse Gas Registry (RGGR).¹¹¹

Unlike RGGI's regulatory approach, the focus of regional initiatives among western states is to promote renewable energy generation. The Western Governors' Association, which is comprised of 18 western states and three U.S.-flag Pacific islands, is investigating strategies to increase efficiency and to increase renewable energy source use in the region's electricity systems.¹¹² The Western Governors' Association has also developing the Western Renewable Energy Generation Information System (WREGIS).¹¹³ WREGIS is a voluntary system that tracks all renewable energy generation in the geographic region governed by the Western Electricity Coordinating Council, which covers approximately 340 stakeholders from 11 western states and 2 Canadian provinces.¹¹⁴ WREGIS creates renewable energy certificates (RECs);¹¹⁵ tracks wholesale renewable energy transactions involving RECs; verifies ownership, trading, and retirement of RECs; and creates independent reports on REC transactions for market participants and state and provincial regulators.¹¹⁶

Over the past decade, the United States Environmental Protection Agency's (EPA) *Energy Star* program has helped regional utilities implement low-cost energy efficiency programs.¹¹⁷ The Program, in addition to reducing consumer energy costs, has also contributed to a reduction in national electricity demand by almost four percent, annually saving consumers ten billion dollars.¹¹⁸ Moreover, it has prevented the release of the equivalent of the GHG emissions of twenty million vehi-

IN BRIEF, (Dec. 2004), available at <http://pewclimate.org/docUploads/States%5FInBrief%2Epdf>.

¹⁰⁹ See Reg'l Greenhouse Gas Initiative, *supra* note 107.

¹¹⁰ *Id.*

¹¹¹ Smith & Danish, *supra* note 107. Mechanisms such as RGGR that require reporting of GHGs allow states and regions to create reliable inventories of emission sources. Emissions inventories 1) provide information for future policies; 2) lead to the discovery of cost-effective and cost-saving reduction opportunities; and 3) establish baseline emissions. *Id.*

¹¹² See Western Governors' Association, <http://www.westgov.org/>; see also PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 98 (discussing the Western Governors' Association).

¹¹³ See http://www.westgov.org/wga_wregis.htm.

¹¹⁴ See www.westgov.org/wieb/wregis/WREGIS-FAQ.pdf.

¹¹⁵ RECs represent a contractual right to the "non-energy" attributes associated with a specific amount of electricity generation. *Id.*

¹¹⁶ *Id.*

¹¹⁷ U.S. ENVTL. PROT. AGENCY, *News Brief: EPA and NARUC Announce Energy Efficiency and Renewable Energy Projects with Six States*, Feb. 16, 2005, <http://www.epa.gov/cgi-bin/epa>.

¹¹⁸ *Id.*

cles into the environment.¹¹⁹ Building on this foundation, the EPA and the National Association of Regulatory Utility Commissioners (NARUC) have formed the EPA-State Energy Efficiency and Renewable Energy (EERE) Project.¹²⁰

Like the *Energy Star* program, the EERE projects will benefit consumers by reducing the cost of electric and gas bills, while simultaneously reducing GHG emissions through the creation of lower cost, cleaner power systems.¹²¹ The EERE projects will explore policies and programs that will provide consumers with more energy efficient options.¹²² Specifically, they will explore combined heat and power systems and renewable energy alternatives.¹²³ The potential of this initiative should not be underestimated. The EPA estimates that “if all states were to implement cost-effective energy efficiency and clean energy policies, the expected growth in demand for electricity could be cut in half by 2025, providing billions of dollars in customer savings, contributing to lower prices for natural gas and substantially reducing greenhouse gas emissions.”¹²⁴

C. LOCAL INITIATIVES

State climate change initiatives have encouraged increased local action. Some of the large cities that have programs to reduce GHG emissions are Seattle, Washington; Portland, Oregon; San Diego, California; Salt Lake City, Utah; Austin, Texas; and Minneapolis, Minnesota.¹²⁵ Smaller cities adopting climate protection programs include Boulder and Fort Collins, Colorado; Burlington, Vermont; Cambridge, Massachusetts; and New Haven, Connecticut.¹²⁶

Like regional initiatives amongst states, local communities have formed a collaborative regulatory initiative to combat climate change.¹²⁷ In 2003, 155 mayors signed the *Mayor’s Statement on Global Warming*, which calls on the federal government to recognize the urgency of climate change and to find a solution to the problem.¹²⁸ The signatories also passed formal resolutions committing their governments to reducing

¹¹⁹ *Id.*

¹²⁰ *See id.*

¹²¹ *Id.*

¹²² *See id.*

¹²³ *See id.*

¹²⁴ *Id.*

¹²⁵ Margaret Kriz, *Many States United in Fighting Warming*, ENVTL. F., March/April 2005, at 6.

¹²⁶ See Brad Knickerbocker, *States Take Clean-Air Measures Into Their Own Hands*, CHRISTIAN SCI. MONITOR, Apr. 13, 2005, at 3.

¹²⁷ *U.S. Mayor’s Statement on Global Warming*, www.climatenetwork.org/uscanweb/csa/docs/mayorspr.pdf.

¹²⁸ *See generally id.*

GHG emissions by identifying the sources of emissions, and determining how best to reduce emissions.¹²⁹ In addition, more than 140 cities and counties participate in Cities for Climate Protection, a global campaign organized by the International Council for Local Environment Initiatives.¹³⁰

Taking local initiative one step further, 132 mayors have embraced Kyoto Protocol mandates for their cities.¹³¹ Representing almost 29 million citizens in 35 states, these mayors have pledged to have their cities comply with what would have been required under the Kyoto Protocol if the U.S. were a party to the agreement: a reduction in GHG emissions to levels 7 % below 1990 levels by 2012.¹³²

Of the many cities taking action, California's cities have emerged as leaders. By 2010, both San Francisco and San Jose intend to reduce emission levels by 20%.¹³³ To meet this target, San Francisco has implemented a wide array of initiatives, including: 1) fuel-cell powered vehicles; 2) new traffic lights that are up to 80% more efficient; 3) green building ordinances; 4) energy-efficient designs; and 5) closing some of the city's polluting power plants.¹³⁴

D. BENEFITS AND DRAWBACKS OF STATE, REGIONAL, AND LOCAL INITIATIVES

State, regional, and local initiatives are significant steps toward regulating climate change in the United States. Nevertheless, these programs do not affect the regulated community as extensively as a federal mandatory command-and-control regime would because of the "patchwork" effect created by some areas of the country imposing strict regulatory requirements while neighboring areas have no requirements at all.

The Pew Center on Global Climate Change cites three factors that limit the effectiveness of state regulation: 1) states have limited resources, potentially jeopardizing long-term climate change policies; 2)

¹²⁹ See generally Gregory Dicum, *Kyoto By The Bay: Local Cities Defy Federal Government, Make Own Climate Policies*, SAN FRANCISCO GATE, Feb. 16, 2005, available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2005/02/16/gree.DTL&hw=Bay+Area+Cities+Make+Own+Climate+Policies&sn=016&sc=264>.

¹³⁰ See Kosloff & Trexler, *supra* note 54, at 47.

¹³¹ Eli Sanders, *Rebuffing Bush, 132 Mayors Embrace Kyoto Rules*, N.Y. TIMES, May 14, 2005, at A9.

¹³² *Id.*

¹³³ Dicum, *supra* note 129.

¹³⁴ See, e.g., Dana Abbott, *San Francisco Builds Green*, E MAGAZINE, Jan./Feb. 2005, at 10, 11; Mayor Newsom, *SFPUC Announce Historic "Action Plan" to Close F.F. Polluting Power Plants*, SAN FRANCISCO PUB. UTIL. COMM'N., http://sfwater.org/printContent.cfm/C_ID/2241; Gloria Chan, *San Francisco Adopts High Efficiency Standards for Municipal Buildings*, SF ENV'T, Jun. 30, 2004, http://www.sfenvironment.com/articles_pr/2004/pr/063004.htm.

states lack the authority to implement a comprehensive climate change policy—for example, the authority to enter into international agreements; and 3) the hodgepodge of different policies may create an inefficient and unpredictable environment for industry and business.¹³⁵

Critics of State regulation cite GHG “leakage,” which is where GHG-intensive industries shift operations to areas where regulations are less strict.¹³⁶ For example, Senator James Inhofe (R-Okla.) has argued that states with aggressive climate change initiatives will bear the cost of these initiatives in the form of lost jobs, closed manufacturing plants, and higher prices.¹³⁷

Regional programs are perhaps the best “laboratories” and potential precursors to a mandatory federal climate change program. If the RGGI cap-and-trade system proves successful in reducing GHG emissions, it will likely serve as the foundation for a future mandatory federal program.¹³⁸ Moreover, the RGGI scheme may link with the European Union’s emissions control and trading system, thereby allowing trans-Atlantic emission allowance trading.¹³⁹ To the extent that regional programs like RGGI and WREGIS, which cover a significant percentage of the geographic area of the continental United States, are successful, a mandatory federal program should not be far behind, at least in principle.

III. VOLUNTARY COMPLIANCE MEASURES

Voluntary compliance measures are likely to reduce industry’s cost of complying with possible future mandatory controls, and they are a step in the right direction until a mandatory federal program is in place. Moreover, like state, local, and regional initiatives, voluntary compliance measures will help policymakers shape the content and scope of a future federal mandatory regulatory regime. However, the regulated community wants a level playing field before it will make significant reductions that may involve economic sacrifices. Therefore, it is only when a mandatory federal program is in place that the regulated community will make significant progress in GHG emissions reductions.

¹³⁵ PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 98.

¹³⁶ See Brian Stempeck, *Climate Change: All Signs Point to Continued Greenhouse Gas Efforts by States*, GREENWIRE, Nov. 12, 2004 (noting that competition in retail electricity generation markets may encourage businesses to use cheaper unregulated electricity generated in a state without greenhouse gas controls).

¹³⁷ Stempeck, *supra* note 136; see Brian Stempeck, *Climate Change: State Action Heats Up as N.J. Labels CO₂ a Pollutant*, GREENWIRE, Sept. 17, 2004, http://global.factiva.com/proxy.library.cornell.edu:2048/en/arch/print_result.asp.

¹³⁸ See generally Joseph Kruger & William A. Pizer, *Regional Greenhouse Gas Initiative: Prelude to a National Program?*, RESOURCES, 4-6 (Winter 2005).

¹³⁹ See Saeed Shah, *U.S. States Defy Bush Over Greenhouse Gases*, THE INDEPENDENT (U.K.), Nov. 12, 2004, at 30 (stating that “informal talks have already taken place between environmental officials of the U.S. states and their European Commission counterparts.”).

Corporations understand that promoting environmental health has a very real effect on the viability of their business. First, corporations that adopt climate change action plans derive a competitive advantage by achieving long-term emission cuts, and by identifying low-cost opportunities to reduce current emissions.¹⁴⁰ Second, corporations must also respond to external factors, including shareholder resolutions and suits,¹⁴¹ increased scrutiny from the insurance industry,¹⁴² and climate change litigation.¹⁴³ Although these external pressures encourage the regulated community to be proactive in monitoring emissions, the emissions reductions realized in response to such pressures still fall short of the reductions that would be required in a mandatory federal program.

A. EMISSIONS INVENTORIES

The first stage of a GHG emission reduction plan is the preparation of an inventory of past and present carbon dioxide emissions.¹⁴⁴ An inventory is a formal system for measuring, aggregating, and reporting

¹⁴⁰ See Michael Northrop, *Early Reducers*, ENVTL. F., Mar./Apr. 2004, at 16-29 (providing examples of several leading companies that have voluntarily reduced greenhouse gas emissions).

¹⁴¹ See Elizabeth E. Hancock, Note, *Red Dawn, Blue Thunder, Purple Rain: Corporate Risk of Liability for Global Climate Change and the SEC Disclosure Dilemma*, 17 GEO. INT'L ENVTL. L. REV. 233 (2005); *Greening Petroleum: U.S. Oil and Gas Companies Bow to Shareholders on Climate*, ENERGY, Mar. 22, 2005, at 243.

¹⁴² An unprecedented number of weather-related disaster insurance claims were filed in 2004, making it the most expensive year in history for the insurance industry in terms of payouts for damage from natural disasters. Tim Hirsch, *Climate Change Hits Bottom Line*, BBC NEWS (Dec. 15, 2004), <http://news.bbc.co.uk/2/hi/science/nature/4100049.stm>. The reinsurance sector is aware of and is taking steps to assess the potential impact of climate change on its own business. See Thomas Atkins, *Insurer Warns of Global Warming Catastrophe*, REUTERS (Mar. 3, 2004), available at <http://www.commondreams.org/headlines04/0303-07.htm>. Swiss Re, a leading provider of directors- and officers-liability insurance, has a Greenhouse Gas Risk Solutions Unit and Directors and Officers Underwriting Group that has identified the new kind of risk posed by climate change, and has jointly developed a questionnaire to evaluate companies' policies on climate change. Reinsurance, (last visited Sept. 1, 2005). <http://www.swissre.com/INTERNET/pwswpspr.nsf/fmBookMarkFrameSet?ReadForm&BM=. /vwAllbyIDKeyLu/ULUR-5K6HPW?OpenDocument>. The feedback helps underwriters assess the quality of a risk. *Id.* A U.S.-based managing director for Swiss Re explained that the company is considering withdrawing its policies for companies that it deems inadequately prepared for future climate change regulation. Smith & Danish, *supra* note 107, at 56.

¹⁴³ For a discussion of climate change litigation, see *infra* Part IV.

¹⁴⁴ See THE BUS. ROUNDTABLE, EVERY SECTOR, ONE RESOLVE: A PROGRESS REPORT ON BUS. ROUNDTABLE'S CLIMATE RESOLVE PROGRAM (Sept. 22, 2004), available at <http://www.businessroundtable.org/pdf/climateRESOLVE/2004CRAnnualReport.pdf>. According to a progress report highlighting the efforts of Climate RESOLVE, a voluntary program formed by the Business Roundtable (a coalition of chief executives of leading corporations) to help reduce greenhouse gas emissions, 107 companies are considering voluntary steps to reduce greenhouse gas emissions. The group said 92% of these companies are reviewing GHG emissions profiles, 90% are evaluating opportunities to reduce, avoid, offset, or sequester or offset emissions, 76% are participating in government-sponsored programs and 72% are reporting GHG emissions activities to the public. *Id.*

emissions or energy use on a regular basis.¹⁴⁵ At a minimum, an inventory helps a company establish baseline emissions, even if it is not prepared to address GHG emissions.¹⁴⁶ In addition, the information drawn from it will provide a starting point for the development of a rational strategy to address emissions in the future.¹⁴⁷ A company will also use the emissions inventory to set reduction targets, to develop a reduction plan, and to track future progress.¹⁴⁸

Since the Kyoto Protocol sets the benchmark for GHG reductions at 1990 levels, corporations should: 1) inventory emissions that reach as close as possible to 1990 levels; and 2) document any reductions in GHG emissions since then.¹⁴⁹ The inventory must be credible, verifiable, and quantifiable to ensure that a possible future regulatory regime can recognize and credit such documentation.¹⁵⁰ Accordingly, an independent technical consultant should prepare the data or, at the least, verify the work of in-house analysts.¹⁵¹ Moreover, companies should register the data in one of the established corporate emission inventory registries.¹⁵²

B. TARGETS AND TIMETABLES TO REDUCE GREENHOUSE GAS EMISSIONS

A growing number of corporations are setting GHG reduction targets and are making progress in reducing their emissions.¹⁵³ Companies have adopted several types of GHG emissions reduction targets. While some focus directly on GHGs and set absolute limits, others focus on energy use, purchases, or products.¹⁵⁴ Multinational corporations are especially likely to have targets, since they will soon face mandatory regulatory regimes outside the United States pursuant to Kyoto Protocol implementing legislation requirements in other countries. Other compa-

¹⁴⁵ WORLD RES. INST., SUPPORTING GREENHOUSE GAS INVENTORIES, available at http://www.thegreenpowergroup.org/WRI_position_statement_emissions_inventories_02-20-03.pdf.

¹⁴⁶ PEW CTR. ON GLOBAL CLIMATE CHANGE, AN OVERVIEW OF GREENHOUSE GAS EMISSION INVENTORY ISSUES (AUG. 2000), available at http://www.pewclimate.org/global-warming-in-depth/all_reports/inventory_issues/index.cfm.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ J. Kevin Healy & Jeffrey M. Tapick, *Climate Change: It's Not Just a Policy Issue for Corporate Counsel – It's a Legal Problem*, 29 COLUM. J. ENVTL. L. 89, 109 (2004).

¹⁵⁰ *Id.*

¹⁵¹ *See id.* at 109-10.

¹⁵² *Id.*

¹⁵³ *See generally* PEW CTR. ON GLOBAL CLIMATE CHANGE, CORPORATE GREENHOUSE GAS REDUCTION TARGETS (Nov. 2001), available at http://www.pewclimate.org/global-warming-in-depth/all_reports/corporate_greenhouse_targets/index.cfm.

¹⁵⁴ *Id.* at iii. According to an updated report, four general considerations influence a company's choice of target type: 1) the target's effect on emission reductions; 2) the existence of uncontrollable factors relating to emissions or energy use; 3) the opportunity for cost-effective emissions or energy reductions; and 4) the potential impact on company growth. *Id.*

nies are setting GHG reduction targets for a variety of reasons. First, companies believe that targets will improve their bottom line and drive innovation.¹⁵⁵ Second, they believe these investments will pay off over the long term, because of continued global regulation.¹⁵⁶ Third, they believe a proactive approach will result in a policy regime in the United States that works in concert with the diverse needs of business.¹⁵⁷

A company contemplating GHG emission targets can turn to the Pew Center on Global Climate Change for guidance. For example, the Pew Center composed an in-depth case study featuring six diverse companies, entitled *Corporate Greenhouse Gas Reduction Targets*.¹⁵⁸ This report reviewed the corporate target-setting process of each of the six companies from beginning to end.¹⁵⁹

C. PROMOTING CLEAN ENERGY AND ENERGY EFFICIENCY

Many companies are purchasing or developing renewable energy sources that do not emit GHGs.¹⁶⁰ Companies that have reduced their consumption of carbon-intense energy have realized new efficiencies and financial returns, by reducing their production costs.¹⁶¹ Many of the strategies employed are quite simple,¹⁶² such as increased use of wind¹⁶³ and solar¹⁶⁴ power. In addition, companies are reducing energy use and GHG emissions through energy conservation and efficiency measures,¹⁶⁵

¹⁵⁵ *Id.* at ii.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ This process includes the decision to act on climate change; the factors involved in setting a target; management and employee management; evaluating; monitoring; and performance review.

¹⁶⁰ See Northrop, *supra* note 140, at 17.

¹⁶¹ *Id.*

¹⁶² *Id.* (recognizing that most of these efforts have used little “gee-whiz” technology and rely primarily on improvements in energy efficiency and renewable energy sources).

¹⁶³ For example on June 24, 2005, an independent power producer of wind energy, Greenlight Energy, announced that it received approval to develop a large wind farm near the town of Akron in Northeastern Colorado. See *Plans Underway for Colorado’s Largest Wind Farm* (July 6, 2005), available at www.renewableenergyaccess.com/rea/news/story?id=34089.

¹⁶⁴ See Kevin G. Demarrais, *In New Jersey, Solar Sells*, THE RECORD, June 22, 2005 (describing New Jersey’s solar energy market, which is driven by incentives and rebates, as one of the fastest-growing solar markets in the United States).

¹⁶⁵ Voluntary business-government partnerships also have been created to minimize GHG emissions. See Gary C. Bryner, *Carbon Markets: Reducing Greenhouse Gas Emissions Through Emissions Trading*, 17 TUL. ENVTL. L.J. 267, 286 (2004). Fourteen companies and environmental groups have partnered in projects resulting in a nearly two-million-ton reduction of carbon dioxide emissions. Another 1.8 million-ton-reduction is projected by 2007. See also Business Wire, *Public-Private Partnership Addresses Climate Change and Restores Critical Habitat* (May 28, 2004) (discussing the joining of forces between Cinergy Corp., the Kentucky Department of Fish and Wildlife Resources, Environmental Synergy, Inc. and The Conservation Fund to create a market-based conservation solution that will offset the environ-

such as establishing in-house energy targets and energy reviews.¹⁶⁶ Finally, carbon sequestration is a cost-effective method of combating climate change.¹⁶⁷ Carbon sequestration is the long-term storage of carbon in forests, soils, geological formations and other carbon sinks.¹⁶⁸ Some businesses are currently engaged in efforts to enhance carbon sinks.¹⁶⁹

In 2004, the World Resources Institute (WRI) released a report, *A Climate of Innovation: Northeast Business Action to Reduce Greenhouse Gases*, containing case studies of nine diverse Northeast-based U.S. corporations' programs to reduce GHG emissions. The report cites specific examples of how the nine companies have capitalized on efficiency in connection with their efforts to reduce GHG emissions.¹⁷⁰ These companies are, however, at the forefront; they are pioneers in what will hopefully become a widespread corporate movement.

For example, Citigroup upgraded its lighting, heating, ventilation, and air conditioning systems at 270 of its retail branches.¹⁷¹ Traditional retrofitting of the system control units would have required extensive rewiring and would have cost up to \$25,000 per branch. Instead, the energy-efficient renovation project cost just \$2.5 million, and Citigroup recouped \$469,000 in energy efficiency rebates from the New York State Energy Research and Development Authority, and an additional \$38,000 from the Long Island Power Authority.

Staples and Con Edison also enjoyed significant savings in making energy-efficient adjustment to their business practices. For example, Staples decreased its energy use by 12.3% per square foot of floor space since 2001, which saved \$4.5 million in the first year and an additional \$2 million in the second year.¹⁷² Similarly, Con Edison reduced its emissions of methane by more than 47,000 metric tons (equivalent to more than 1 million tons of carbon dioxide) and avoided approximately \$5 million in avoided leakage costs.¹⁷³

mental impacts of GHGs, provide new fish and wildlife habitat, and bring recreation-driven economic benefits to Kentucky).

¹⁶⁶ See generally COALITION FOR ENVIRONMENTALLY RESPONSIBLE ECONOMIES (CERES) CORPORATE GOVERNANCE AND CLIMATE CHANGE (Jun. 2003). CERES is a coalition of investors, environmental groups, and public interest groups.

¹⁶⁷ Groups such as the Conservation Fund work with the private sector to address climate change. The fund works with corporations on efforts directed at carbon sequestration. See <http://www.conservationfund.org/?article=2378&back=true>.

¹⁶⁸ The UNFCCC defines a "sink" as "any process, activity, or mechanism which removes a greenhouse gas . . . from the atmosphere." UNFCCC, *supra* note 1, at art. 1(8).

¹⁶⁹ See PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 98, at 43.

¹⁷⁰ See generally WORLD RES. INST., RESEARCH REPORT: A CLIMATE OF INNOVATION (Oct. 27, 2004), available at http://business.wri.org/pubs_description.cfm?PubID=4031.

¹⁷¹ *Id.* at 8.

¹⁷² *Id.* at 23.

¹⁷³ *Id.* at 15.

Innovative technologies for producing and consuming energy are, however, necessary to dramatically alter the carbon-intensive profile of the U.S. economy.¹⁷⁴ Major industries are interested in carbon-friendly technologies;¹⁷⁵ their interest, however, must become a multi-decade commitment to change basic technologies used to power cars, run factories, and generate electricity.¹⁷⁶

D. EMISSIONS TRADING PROGRAMS AND EARLY REDUCTION CREDITS

Emissions trading introduces scarcity by limiting overall emissions, specifying firm-level limits, and by encouraging companies that can cost-effectively reduce emissions below their firm limit to do so. Companies that cannot cost-effectively comply with their firm limit can purchase tradable emissions rights, or credits, from those companies that have reduced their emissions below their firm limits. Investing in projects that sequester carbon dioxide also generates credits.¹⁷⁷ Since many multinational corporations have reduced GHG emissions, a market in GHG reductions has emerged.¹⁷⁸

The Chicago Climate Exchange (CCX) is a pilot GHG emissions reduction and trading exchange between American, Canadian and Mexican companies.¹⁷⁹ Established in 2000, CCX was derived from feasibility and design research supported by grants from the Joyce Foundation, a leading public policy philanthropy.¹⁸⁰ It is the first private, voluntary program in the United States that permits members to cap and trade their GHG emissions.¹⁸¹ CCX members have made a voluntary but legally binding commitment to reduce their GHG emissions by four percent below the average of their 1998-2001 baseline by December 2006.¹⁸² Members represent a broad sampling of the regulated community, including railroad companies, municipalities, universities, forest product companies, chemical companies, and electric power companies.¹⁸³ In

¹⁷⁴ See Robert M. Sussman, *Climate Change*, ENVTL. F., Jan./Feb. 2003, at 19.

¹⁷⁵ For example, the transportation sector represents approximately one third of U.S. total GHG emissions. To reduce emissions, companies within this sector are developing cleaner, more efficient vehicles, using clean energy vehicles in their fleets, and reducing fuel consumption by moving people and goods more efficiently. See PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 98, at 40 (2004).

¹⁷⁶ See Sussman, *supra* note 174, at 25.

¹⁷⁷ See Andrew C. Revkin, *U.S. is Pressuring Industries to Cut Greenhouse Gases*, N.Y. TIMES, Jan. 20, 2003, at A1.

¹⁷⁸ For an outline of the progress made by several companies that employ some form of emissions trading, see Bryner, *supra* note 165, at 281-284.

¹⁷⁹ Chicago Climate Exchange, available at <http://www.chicagoclimatex.com/environment/>.

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ *Id.*

CCX's first year, members' total carbon dioxide output fell by more than eight percent.¹⁸⁴

IV. CLIMATE CHANGE LITIGATION

Litigation may be the most effective means of forcing the federal government to respond to climate change. For example, rather than face the possibility of bad publicity and large verdicts against them, climate change litigation may prompt the regulated community to lobby Congress for mandatory federal GHG emissions reduction legislation that would ensure more predictable parameters of responsibility and liability.

Plaintiffs have brought climate change suits under various legal theories. Some have been brought under statutory theories, which compel agencies to perform a mandatory duty.¹⁸⁵ Other cases have been brought under common law theories, such as public nuisance.¹⁸⁶

The current wave of climate change litigation is reminiscent of the environmental citizen suit revolution of the 1970's and 1980's. The development of the environmental citizen suit movement and its record of success is a helpful reference point from which to assess the potential of current climate change litigation.

A. DIFFERENT STRATEGIES TO ADDRESS CLIMATE CHANGE IN THE COURTS

Three major climate change cases were on the 2005 federal docket.¹⁸⁷ The plaintiffs in each case are proceeding under different legal theories.¹⁸⁸ These cases underscore the inadequacy of the current federal regulatory regime, emphasizing the need for a more proactive federal approach. Litigation, however, is a two-way street. For example, in California, the automobile industry is currently challenging regulations that restrict auto emissions.¹⁸⁹

¹⁸⁴ Stevenson Swanson, *Experts See States as Force in Fighting Global Warming*, CHICAGO TRIB., Nov. 12, 2004, at 1.

¹⁸⁵ See *Friends of the Earth, Inc. v. Watson*, No. C 02-4106 JSW, 2005 WL 2035596 (N.D. Cal. Aug. 23, 2005).

¹⁸⁶ See *Conn. v. Am. Elec. Power Co.*, No. 04-CV-05669, 2004 WL 1685122 (S.D.N.Y. 2004) (trial pleading); see also David A. Grossman, *Warming up to a Not-So-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1 (2003) (addressing other possible common-law theories for climate change litigation).

¹⁸⁷ See *Conn. v. Amer. Elec. Power Co.*, 406 F.Supp.2d 265 (S.D.N.Y. 2005), *Mass. v. EPA*, 415 F.3d 50 (D.C. Cir 2005); *Friends of the Earth, Inc. v. Watson*, No. C 02-4106 JSW, 2005 WL 2035596 (N.D.Cal. Aug. 23, 2005)

¹⁸⁸ See *Mass. v. EPA*, 415 F.3d 50, 57, 58 (D.C. Cir. 2005) (suit against EPA seeking to list carbon dioxide as an air pollutant under the Clean Air Act); *Conn. v. Am. Elec. Power Co.*, No. 04-CV-05669, 2004 WL 1685122 (S.D.N.Y. 2004) (public nuisance suit against major power companies).

¹⁸⁹ See *infra* notes 224-228 and accompanying text.

1. *Carbon Dioxide as a Pollutant under the Clean Air Act*

In June 2003, the State Attorneys General of Connecticut, Massachusetts, and Maine jointly brought suit against the Environmental Protection Agency (EPA) in the United States District Court for the District of Connecticut,¹⁹⁰ alleging that the EPA violated the Clean Air Act by failing to list carbon dioxide as a criteria air pollutant.¹⁹¹ The states argued that the EPA had a duty to list carbon dioxide, since the EPA had already concluded that carbon dioxide is an air pollutant, which, in turn, may reasonably be anticipated to endanger public health or welfare.¹⁹² In August 2003, the “EPA, however, withdrew and reversed its earlier position that carbon dioxide is an air pollutant subject to regulation under the Clean Air Act . . . ,¹⁹³ conclud[ing] that it lacked legal authority to regulate [GHGs].”¹⁹⁴

Twelve states, several cities, and more than a dozen environmental groups challenged the EPA’s ruling in the United States Court of Appeals for the D.C. Circuit. On July 15, 2005, the D.C. Circuit dismissed the lawsuit, holding that the EPA had the authority to reject a 1999 petition requesting the federal regulation of GHG emissions from new motor vehicles.¹⁹⁵ Writing for the majority, Judge Randolph concluded that the EPA properly denied the petition, noting that “New motor vehicles are but one of many sources of greenhouse gas emissions” and that “[p]romulgating regulations under [the Clean Air Act] would result in an inefficient, piecemeal approach to the climate change issue.”¹⁹⁶

It appears that, at least for the time being, the EPA will not require businesses to reduce GHG emissions. The D.C. Circuit’s decision, however, does not limit states’ authority to regulate climate change.¹⁹⁷ Thus, the decision does not alter the status quo. The D.C. Circuit’s decision is the highest judgment from a U.S. court on this issue.

¹⁹⁰ *Mass. v. EPA*, 415 F.3d 50 (D.C. Cir 2005); see Press Release, Conn. Att’y General’s Office, Connecticut, Massachusetts, and Maine Sue EPA on Global Warming (Jun. 4, 2003), at <http://www.cslib.org/attygenl/press/2003/enviss/climate.htm>.

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ OFFICE OF MASS. ATT’Y GENERAL TOM REILLY, *Climate Change (Global Warming)*, <http://www.ago.state.ma.us/sp.cfm?pageid=1234>.

¹⁹⁴ *Id.* On the same day, the EPA refused to promulgate a rule addressing motor vehicle emission of GHGs.

¹⁹⁵ *Mass. v. EPA*, 415 F.3d 50, 57, 58 (D.C. Cir. 2005). In a 2-1 decision, the D.C. Circuit denied the petitioners’ petition for rehearing. No. 03-1361 (D.C. Cir. Dec. 2, 2005).

¹⁹⁶ *Id.* at 58.

¹⁹⁷ See Darren Samuelson, *Climate Change: Split Court Upholds EPA Decision on Greenhouse Gases*, GREENWIRE, July 15, 2005, available at www.eenews.net/Greenwire/include/print.php?single=07150501.

On March 2, 2006, a petition for writ of certiorari to the United States Supreme Court was filed.¹⁹⁸ Counsel for petitioners argued that the D.C. Circuit's decision departed from Supreme Court precedent when the Court upheld the EPA's decision based on factors not mentioned in the relevant statutory provision.¹⁹⁹ In addition, counsel for petitioners asserted that the EPA misinterpreted two Supreme Court cases²⁰⁰ in concluding that it lacked authority to regulate pollutants associated with climate change.²⁰¹

2. *Power Plants and Public Nuisance Theory*

In July 2004, eight States and the City of New York filed a complaint in the United States District Court for the Southern District of New York against five of the country's largest power companies.²⁰² The suit alleged that global warming constitutes a public nuisance threatening the States with widespread harm, and that the defendants have contributed to the nuisance as the nation's largest emitters of carbon dioxide.²⁰³ According to the complaint, U.S. electric power plants are responsible for "ten percent of worldwide carbon dioxide emissions from human activities."²⁰⁴ The complaint asserted a federal common law and state tort law

¹⁹⁸ *Mass. v. EPA*, 415 F.3d 50 (D.C. Cir. 2005), *petition for cert. filed*, 74 U.S.L.W. 3517 (U.S. Mar. 2, 2006) (No. 05-1120).

¹⁹⁹ *Id.* at 13-16.

²⁰⁰ *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29 (1983); *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

²⁰¹ *Petition for Certiorari*, *supra* note 198, at 16-22. On June 27, 2006, the petition for certiorari was granted. *Fn* 198 *Mass. v. EPA*, 415 F.3d 50 (D.C. Cir. 2005), *petition for cert. granted*, 74 U.S.L.W. 3713 (June 27, 2006) (No. 05-1120). The Supreme Court certified two issues for review: 1) whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in Section 202 (a)(1) of the Clean Air Act; and 2) whether the EPA Administrator has authority to regulate carbon dioxide and other air pollutants associated with climate change under Section 202 (a)(1). *Fn* 198 *Id.*

²⁰² *Conn. v. American Elec. Power Co.*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005); Press Release, Office of the California Att'y General, Att'y General Lockyer Files Lawsuit to Reduce Global Warming Emissions from Five Largest Polluters (July 21, 2004), *available at* <http://ag.ca.gov/newsalerts/release.php?id=709>. The lawsuit was filed jointly by Attorney General Bill Lockyer of California, and Attorneys General Richard Blumenthal of Connecticut, Tom Miller of Iowa, Peter Harvey of New Jersey, Elliot Spitzer of New York, Patrick Lynch of Rhode Island, William H. Sorrell of Vermont, and Peg Lautenschlager of Wisconsin. New York City also joined the action. *Id.*

²⁰³ *Id.*; see Press Release, Pacifica Research Inst., California's Climate Change Litigation Heralded at International Conference (Dec. 17, 2004), *available at* <http://www.pacificresearch.org/press/rel/2004/ma04-12-17.html>. California took the lead in initiating the suit against these private companies in an effort to force deep cuts in greenhouse gas emissions. In fact, a representative of the California Attorney General's office spoke about how litigation can be used to force such cuts in carbon dioxide emissions during recent international climate change talks in Buenos Aires. Unlike the federal government, which has failed to act on the climate change issue, the state of California is schooling other countries in the climate change mitigation strategy of litigation. *Id.*

²⁰⁴ Complaint at ¶ 100, *Amer. Elec. Power Co.*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005).

claim, and sought a permanent injunction requiring defendants to cap and reduce carbon dioxide emissions by a specified percentage.²⁰⁵

The court dismissed the complaint for failure to state a claim upon which relief can be granted.²⁰⁶ The court concluded that the case presented a non-justiciable political question.²⁰⁷ The court reasoned that “[b]ecause resolution of the issues presented here requires identification and balancing of economic, environmental, foreign policy, and national security interests, ‘an initial policy determination of a kind clearly for non-judicial discretion’ is required.”²⁰⁸ The court distinguished the plaintiffs’ reliance on the pollution-as-public-nuisance cases because those cases did not touch on “so many areas of national and international policy” as at issue in the scope and magnitude of the relief the plaintiffs sought in this case.²⁰⁹

The court further noted that to resolve typical air pollution cases, “courts must strike a balance ‘between interests seeking strict schemes to reduce pollution rapidly to eliminate its social costs and interests advancing the economic concern that strict schemes [will] retard industrial development with attendant social costs.’”²¹⁰ The court concluded that balancing those interests, together with the other interests involved in the case at hand, is impossible without an “initial policy determination” from Congress or the Executive.²¹¹

3. *NEPA and Federal Agency Funding of Projects Overseas*

The city of Oakland, California, the city of Boulder, Colorado, and environmental groups Friends of the Earth and Greenpeace brought suit against the Overseas Private Investment Corporation (OPIC) and the Export-Import Bank of the United States (Ex-Im Bank), alleging that they violated the National Environmental Policy Act (NEPA), by providing over 32 billion dollars in financing and insurance for projects over the last ten years without assessing the projects impact on climate change, or their impact on the U.S. environment, as required by NEPA.²¹² In November 2004, the Government filed a motion for summary judgment

²⁰⁵ *See id.* at ¶ 1. Two regional conservation groups filed a parallel suit.

²⁰⁶ *Amer. Elec. Power Co.*, 406 F.Supp.2d at 274.

²⁰⁷ *Id.*

²⁰⁸ *Id.* (quoting *Vieth v. Jubelirer*, 541 U.S. 267, 278 (2004)).

²⁰⁹ *Id.* at 272

²¹⁰ *Id.* (citing *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984)).

²¹¹ *Id.*

²¹² *Friends of the Earth, Inc. v. Watson*, No. C 02-4106 JSW, 2005 WL 2035596 (N.D.Cal. Aug. 23, 2005). Friends of the Earth President, Brent Blackwelder, commented on the participation of the cities of Oakland and Boulder in the matter: “The Bush administration’s stance on climate change fails America’s cities. Oakland and Boulder are taking a bold stand to defend themselves and hold our government accountable;” *see* Media Kit, U.S. Gov-

contending that: 1) the plaintiffs lack standing; 2) OPIC and Ex-Im Bank have not taken any action subjecting them to judicial review; and 3) OPIC is exempt from NEPA.²¹³

In the United States District Court for the Northern District of California, Judge Jeffrey White denied Defendants' motion for summary judgment on standing and other jurisdictional issues.²¹⁴ The court held that Plaintiffs had standing to bring their claims. The court reasoned that to demonstrate standing in cases raising procedural issues, environmental plaintiffs need not show that substantive environmental harm is imminent,²¹⁵ nor do the plaintiffs need to present proof that the challenged federal project will have particular environmental effects.²¹⁶ Instead, the "'asserted injury is that environmental consequences might be overlooked' as a result of deficiencies in the government's analysis under environmental statutes."²¹⁷ Consequently, the court held that the Plaintiffs only needed to demonstrate that "it is reasonably probable that the challenged action will threaten their concrete interests."²¹⁸

The court reasoned that while the impact of greenhouse gas emissions traceable to OPIC and Ex-Im supported projects was not known with absolute certainty, the only uncertainty Plaintiffs had was with respect to the severity of consequences, not whether there would be significant consequences. Additionally, Plaintiffs presented evidence demonstrating that projects supported by OPIC and Ex-Im were directly or indirectly responsible for one-third of the total carbon emissions from the United States in 2003.²¹⁹ The court noted that, Plaintiffs' evidence, if true, further demonstrated that: 1) increased greenhouse gases are the major factor that caused global warming in the twentieth century, 2) global warming that has already occurred has had significant environmental consequences, 3) continued increases in greenhouse gas emissions would continue to increase global warming with consequent

ernment Agencies Charged with Illegally Funding Fossil Fuel Projects (last updated Mar. 22, 2005), at <http://www.climatelawsuit.org/>.

²¹³ *Id.* (contains most of the legal documents pertaining to this suit, including the motions for summary judgment and related documents).

²¹⁴ *Friends of the Earth*, No. C 02-4106 JSW, 2005 WL 2035596, *1 (N.D. Cal. Aug. 23, 2005).

²¹⁵ *Id.* (citing *Cantrell v. City of Long Beach*, 241 F.3d 674, 679 n.4 (9th Cir. 2001)).

²¹⁶ *Id.* (citing *Citizens for Better Forestry v. United States Dept. of Agriculture*, 341 F.3d 961, 972 (9th Cir. 2003)).

²¹⁷ *Id.* at 971-72 (quoting *Salmon River Concerned Citizens v. Robertson*, 32 F.3d 1346, 1355 (9th Cir. 1994)).

²¹⁸ *Id.* (citing *Citizens for Better Forestry*, 341 F.3d 961, 969-70 (9th Cir. 2003)).

²¹⁹ *Id.* at *3 (citing Decl. of Richard Heede, ¶ 14).

widespread environmental impacts, 4) and that these impacts affected and will continue to affect areas used and owned by Plaintiffs.²²⁰

In cases asserting a procedural challenge, once a plaintiff establishes an injury in fact, the causation and redressability standards are relaxed.²²¹ The court rejected Defendants' arguments that the causation was too attenuated, despite evidence demonstrating that generally, for the large energy-related projects referenced in Plaintiffs' complaint, third parties have already completed basic design and planning stages for the projects before applying for financial support from Ex-Im or OPIC.²²² The court also held that Plaintiffs had sufficiently demonstrated redressability because, when a plaintiff asserts inadequacy of a government agency's environmental studies, the court reasoned that it is sufficient to show that the [agency's] decision *could be influenced* by the environmental considerations that [the relevant public statute] requires an agency to study.²²³

Although the court ruled that Plaintiffs have standing and that the climate change lawsuit may proceed, it did not decide whether the federal agencies must perform environmental assessments on projects they fund that contribute to global greenhouse gas emissions. That issue is likely to be litigated. Still, the decision marks the first time that a federal court has granted standing for a lawsuit exclusively challenging the federal government's failure to evaluate how its actions contribute to climate change and how climate change impacts affect U.S. citizens.²²⁴

4. *Industry's Response to Climate Change Litigation*

Industry has criticized the recent surge in climate change litigation, maintaining that lawsuits are not a constructive means of dealing with climate change.²²⁵ For example, American Electric Power (AEP) de-

²²⁰ *Id.* (citing MacCracken Decl., ¶¶ 6, 12-39; Decl. of Dr. Phillip Dustan, ¶¶ 5-13; Decl. of Randall L. Hayes, ¶¶ 5-17; Decl. of Brian Jeffrey Johnson, ¶¶ 10-26; Decl. of Mark Andre, ¶¶ 5-14; Decl. of Carol D. Ellinghouse, ¶¶ 3-8).

²²¹ *Id.* (citing *Defenders of Wildlife*, 504 U.S. at 572 n.7).

²²² *Id.* at *4 (citing Boyle Dec., ¶ 41; Declaration of Harvey Himberg, ¶ 19).

²²³ *Id.* (citing *Citizens for Better Forestry*, 341 F.3d at 975 (emphasis in original)).

²²⁴ Not long after this first victory for standing in the climate change context, the U.S. District Court for the District of Oregon held that environmental groups had standing to sue for injuries that could result from Owens Corning Corporation's emission of HCFC 142b, a greenhouse gas and ozone-depleting substance. *See generally* *Northwest Env'tl. Def. Ctr. v. Owens Corning Corp.*, No. 04-1727-JE, 2006 WL 1594130 (D. Or. June 8, 2006).

²²⁵ *See* Press Release, American Electric Power, American Electric Power Files Motion to Dismiss CO2 Lawsuits, available at <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=109&STORY=/www/story/09-30-2004/0002262423&EDATE=>. AEP's chairman Michael Morris stated, "Climate change is a global issue that cannot effectively be addressed by any individual, company, industry, sector or country. Addressing climate change requires coordinated and meaningful international action that included developing nations, not a lawsuit against five companies that generate electricity." *Id.*

scribed the suit filed against it as counterproductive since AEP is a founding member of the Chicago Climate Exchange and has already committed to cap and reduce carbon dioxide emissions by a cumulative 10% by 2006.²²⁶ In addition, AEP invests in carbon sequestration research and offset projects.²²⁷ While this suit may not seem “fair” to AEP as a good corporate citizen, it is an important step toward getting a mandatory federal climate change program in place in the United States. Ultimately, the best way to ensure the implementation of such a federal mandatory program is for the politically influential players in the regulated community to lobby Congress for such a program.

In one instance, industry has fought back. On December 7, 2004, the Alliance of Automobile Manufacturers and some Central Valley car dealers brought suit in the U.S. District Court in Fresno against the California Air Resources Board’s rules limiting carbon dioxide and other GHGs from new automobiles.²²⁸ The complaint alleges that the new California rules pre-empt federal law regulating fuel economy standards²²⁹

B. PARALLELS TO THE DEVELOPMENT AND SUCCESS OF ENVIRONMENTAL CITIZEN SUITS

Climate change litigation is probably a worthy investment of resources. The early stages of the environmental citizen suit movement of the 1970s and 1980s offer an illustrative analogy.

In the 1970s, environmental groups were successful with “deadline suits” under federal environmental statutes.²³⁰ Though the outcomes of these suits were often more symbolic than substantive, these court victories prompted state agencies to consider and regulate environmental concerns more actively.²³¹ During the 1980s, successful environmental citizen suits resulted in more substantive outcomes, such as injunctive

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. CV-F-04-6663 REC, 2005 WL 2709508 (E.D. Cal Oct., 20 2005); Bruce Geiselman, *Automakers Sue California Over Emission Rule*, WASTE NEWS, Dec. 20, 2004; *International Automakers Seek to Block California Action to Regulate Greenhouse Gases*, PR NEWSWIRE, Feb. 3, 2005 (reporting that the Association of International Automobile Manufacturers seeks to intervene in the lawsuit). For a discussion of California’s plan, see *infra* Part II.

²²⁹ *Id.*

²³⁰ Deadline suits are suits against the Administrator of an agency to compel performance of a non-discretionary duty by the deadline for such action as prescribed in that agency’s regulations. See, e.g., *New England Legal Foundation v. Costle*, 632 F.2d 936 (2d Cir. 1980).

²³¹ See Daniel Riesel, ENVIRONMENTAL ENFORCEMENT: CIVIL AND CRIMINAL § 1.06 (1997) (noting that environmental citizen suits prompted “an increased sensitivity to enforcement by the various state environmental agencies”).

relief and significant penalty awards against major corporations.²³² Ultimately, the looming prospect of environmental citizen suits improved environmental management practices in the regulated community.²³³

Climate change litigation may realize the success of environmental citizen suits through a similar evolutionary process, depending on how “success” is defined. Success is definable as either the likelihood of prevailing in court or the likelihood of plaintiffs achieving their desired result. Environmental citizen suits seemed farfetched in the early 1970s, but by the early 1980s, they had become institutionalized.²³⁴ Climate change legal theories may seem farfetched today, but the movement is still in its formative stage, and if there are plaintiff-friendly outcomes in the three major climate change suits pending in federal court in 2006, these theories may become institutionalized. Moreover, the “better watch out” message underlying climate change litigation has already reached the private sector, as reflected in the proliferation of voluntary measures to address climate change.²³⁵

Like environmental citizen suit litigants, climate change litigation plaintiffs may secure some relatively easy procedural victories in court, such as in the OPIC/Ex-Im Bank case. The OPIC/Ex-Im Bank case is like a deadline suit, and offers strategic advantages comparable to deadline suits. Like deadline suits, a victory in the OPIC/Ex-Im Bank case would be symbolic at best, since it would not remedy the effects of climate change directly and would not force these agencies to withhold or restrict funding of these projects or others like them.²³⁶ A ruling that OPIC and Ex-Im Bank must comply with NEPA does, however, subject these federal agencies to public scrutiny, which may prompt the agencies to reconsider similar funding decisions in the future. More importantly, success in this case could send the message that the “courthouse door is open” to similar suits against federal agencies and the private sector. Plaintiffs in climate change litigation also can advance their agenda by publicizing the success of these victories, and use the success as leverage to presuare the federal government to implement a mandatory federal GHG emissions reduction program.

²³² See JEFFREY G. MILLER & THE ENVTL. LAW INST., *CITIZEN SUITS: PRIVATE ENFORCEMENT OF FEDERAL POLLUTION CONTROL LAWS* 76-89 (1987) (discussing several cases in the 1980's involving injunctive relief and civil penalties awarded in citizen suits actions under federal environmental statutes). For more recent data and analysis of environmental citizen suits within the past decade, see James R. May, *Now More Than Ever: Trends in Environmental Citizen Suits* at 30, 10 WIDENER L. REV. 1 (2003).

²³³ See Dean Hill Rivkin, *Environmental Citizen Suits*, Green Justice, available at <http://www.hellbenderpress.com/?a=88>.

²³⁴ See MICHAEL D. AXLINE, *ENVIRONMENTAL CITIZEN SUITS* 1-9, 1-10 (1991).

²³⁵ See *supra* Part III.

²³⁶ See *supra* notes 212 - 223 and accompanying text.

If defending climate change litigation suits is to become the next challenge for corporate counsel, plaintiffs must first overcome two daunting obstacles. First, plaintiffs must allege proper environmental standing,²³⁷ which is already a significant hurdle in cases involving domestic environmental statutes and international impacts.²³⁸ Moreover, climate change litigation faces an obstacle the citizen suits of the 1970s and 1980s did not – the federal courts', and especially the Supreme Court's, post-1990 "backlash" against finding standing in environmental cases.²³⁹ Second, without a rights-conferring legal mechanism like a citizen suit provision, which obviates the need to satisfy the prudential considerations of constitutional standing,²⁴⁰ climate change litigation may not realize anything close to the success of environmental citizen suits.

CONCLUSION

Even with the Kyoto Protocol's entry into force, the international community recognizes that further action is warranted to address the sources and impacts of climate change. Despite such international resolve to regulate climate change aggressively, the United States has failed to implement a mandatory program to regulate GHG emissions at the federal level. Several initiatives have been introduced at the federal level seeking to implement policies that will curb GHG emissions to a level that will mitigate the impacts of climate change. As of this writing, these efforts have not been enacted.

The ongoing attempts to encourage increased federal action to regulate climate change are not limited to legislation introduced into Congress or propositions set forth by environmental organizations. In fact, much of the current activity is taking place throughout the country in individual states. Many states are implementing some form of regulatory program addressing climate change. Many states, such as those featured

²³⁷ Plaintiffs must satisfy the Article III requirements of standing – injury, causation, and redressability. *Valley Forge Christian College v. Americans United*, 454 U.S. 464 (1982). Prudential considerations, such as avoiding generalized grievances and asserting claims that fall within the zone of interest to be protected, also must be satisfied. *Id.* at 474-75.

²³⁸ *See, e.g., Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992) (denying standing for claim asserting harm to U.S. citizens' conservational and recreational interests in species that were affected by U.S.-funded projects in foreign countries).

²³⁹ *See generally* Karin P. Sheldon, *Lujan v. Defenders of Wildlife: The Supreme Court's Slash and Burn Approach to Environmental Standing*, 23 ENVTL. L. REP. 10031 (1993).

²⁴⁰ *See* *Defenders of Wildlife v. Hodel*, 851 F.2d 1035, 1039 (8th Cir. 1988) (Congress may eliminate the prudential requirements of standing by legislation). *See also* A. Scalia, *The Doctrine of Standing as an Essential Element of the Separation of Powers*, 17 SUFF. U. L. REV. 881, 885 (1983) ("legal injury is by definition no more than the violation of a legal right; and legal rights can be created by the legislature.")

in Part II of this Article, are proactive and have already implemented a variety of ambitious programs to curb GHG emissions.

Even more indicative of the need for a comprehensive federal program on GHG emissions are the collaborative regional initiatives that have developed throughout the United States. The willingness of states to join together to bolster their effectiveness in mitigating climate change indicates that the United States is ready to embrace a federal regulatory mandate for climate change. Exactly what that regime will entail is unclear; however, flexibility will be an important feature in any federal regime that would be implemented, given the wide range of mitigation attempts currently underway throughout the country.

State, regional, and local climate change initiatives may be subject to criticism, but in light of the current federal regime, such criticism may be unduly harsh. Climate change regulation has become a top priority throughout the United States despite the federal government's lack of leadership on the issue. What began as small initiatives in various states across the country has now evolved into collaborative efforts that will likely achieve real GHG emissions cuts. Climate change policy in the United States has developed a strong foundation at the regional, state, and local levels. These sub-federal initiatives have laid the groundwork for immediate and aggressive regulatory action at the federal level.

In the private sector, the federal government's self-policing regulatory approach to climate change has helped corporate leaders respond to the financial and environmental threats associated with climate change. Like the state, regional, and local climate change initiatives, these voluntary measures are likely to reduce industry's costs of compliance with mandatory controls that may be implemented in the future, and will help guide policymakers in shaping a future mandatory federal regulatory regime. Given the scope and urgency of the climate change problem, however, these measures are only a starting point and need to evolve quickly into more aggressive regulatory action.

Climate change litigation has become a potentially vital weapon to encourage regulation at the federal level. Even if unsuccessful, these climate change suits filed on behalf of states, cities, and nongovernmental organizations throughout the United States reveal that influential law and policy makers are unwilling to merely wait for federal action on the issue. More readily than the state, regional, local, and voluntary climate change initiatives in place throughout the country, climate change litigation will likely be the weapon that will compel implementation of mandatory federal climate change legislation in the near future.

