

CLIMATE LITIGATION: ETHICAL IMPLICATIONS AND SOCIETAL IMPACTS

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ABSTRACT

Many people now agree that the global climate is changing and that human activities are a contributing factor, but disagree about who is responsible and what should be done. Some citizens are turning to the courts to resolve climate-related disputes. Climate litigation cases help to illuminate many of the legal, ethical, scientific, economic, social, and other complexities of climate change. These cases will decide rights and responsibilities, how uncertainties should be managed, and who should make societal decisions about climate change. The cases tell stories about climate causes and impacts, and identify potential winners and losers of both climate change and various policy alternatives. Climate litigation allows examination of ethical and social issues within the factual context of a legal case. These cases also illuminate the role of American courts in educating the public, stimulating debate, and setting or clarifying climate policy.

INTRODUCTION

Our global climate is changing. Most scientists now acknowledge the simple reality of global climate change and agree that increasing levels of greenhouse gases (GHGs) in the atmosphere are contributing to the change, but consensus fades as the discussion turns to the multiple causes of climate change, the degree to which human behavior drives it, and the advisability of various societal responses.¹ While scientific research continues to accumulate, many communities, particularly in the polar regions,² already feel the impacts of climate change, and local, national, and international communities are beginning to plan how to adapt to a changing climate.³ Stresses of anticipated climate change drive some

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1. See WORKING GROUP I OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007—THE PHYSICAL SCIENCE BASIS 665-66 (2007) [hereinafter IPCC].

2. See, e.g., ARCTIC CLIMATE IMPACT ASSESSMENT HIGHLIGHTS: IMPACTS OF A WARMING ARCTIC 34 (2004), <http://amap.no/workdocs/index.cfm?action=getfile&dirsub=%2FACIA%2Foverview&filename=Finding2.pdf&CFID=6&CFTOKEN=CC50FD60-FC1B-EC67-2B9A10704FEE5347&sort=default>.

3. See UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE: ADAPTATION, <http://unfccc.int/adaptation/items/4159.php> (last visited on Apr. 13, 2008); PEW CENTER ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE 101: ADAPTATION, http://www.pewclimate.org/docUploads/Adaptation_0.pdf (last visited Apr. 13, 2008).

citizens to advocate for societal responses to regulate human behavior or to compensate those adversely affected. Others think action is premature and are concerned about unnecessary and expensive overreaction to a complex and uncertain problem. Some citizens are turning to the courts to resolve climate-related disputes, filing a series of cases referred to as "climate litigation."

Climate change presents some of the most complex and most troubling issues of our time, and of our children's times for generations to come. As lawyers, we have obligations to our clients to be aware of how a changing climate may affect them, and of their rights and responsibilities with respect to the causes and impacts of a changing climate, in order to assist them in assessing possible liabilities and opportunities in planning for the future. As citizens, we have responsibilities to be aware of our role in climate change, how we contribute to climate change and how a changing climate may affect us, and to participate in public debates over how best to deal with the challenges of a changing climate. As citizens of the world, we should be aware of the international and intergenerational implications of climate change, and consider the rights and responsibilities, both legal and ethical, that we, our families, our community, our profession, our country, and our global society may have with respect to these issues.

Climate litigation helps to illuminate many of the legal, ethical, scientific, economic, social, and other complexities of the climate change debates. These cases will help to decide rights and responsibilities, how uncertainties should be managed, and who should make societal decisions about climate change. The cases tell stories about the causes and likely effects of climate change, and identify potential winners and losers of both climate change and various policy alternatives.

Lawyers presenting climate-related claims should think about impacts beyond the result in the immediate case. Climate litigation educates the public about climate issues and can influence public opinion on those issues, and provides support for various policy options. These cases can affect the perceived salience, credibility, and legitimacy of climate science and other expert testimony.⁴ Climate litigation can trigger pressure for or against governmental action from local to international levels.

Climate disputes often focus on science and its attendant uncertainties, but this may mask fundamental underlying disputes over values and ethical issues. Climate change implicates the duties countries have to each other; the responsibility of those alive today for the well-being of

4. See David Cash et al., *Salience, Credibility, Legitimacy, and Boundaries: Linking Research, Assessment and Decision Making 4* (John F. Kennedy Sch. of Gov't, Harvard Univ., Working Paper No. RWP02-046, 2002).

future generations; the responsibilities that humans have to protect natural systems; rights and responsibilities of citizens, corporations, and governments with respect to climate change; mitigating circumstances that may shift rights and responsibilities; and procedural rights for all stakeholders.

The subtitle of this Symposium is “Integrating Environmental Justice into Policy, Regulation, and Litigation.” This article will focus on some of the ethical implications of climate-related lawsuits and other claims filed in United States courts or against the United States in other forums, and some of the broader societal impacts these cases are likely to have. Climate cases allow examination of ethical and social issues within the particular factual context of a legal case. They also illuminate the role of American courts in educating the public and contributing to policy relating to some of the most important issues of our time. This article begins with an overview of climate litigation in the context of the United States legal system, including a brief description of some of the more prominent cases. It then moves to a discussion of some of the ethical implications of climate litigation, and ends with a description of possible social impacts beyond the cases themselves.

I. THE UNITED STATES LEGAL SYSTEM

A. *Law and Ethics*

Concepts of ethics and justice permeate the U.S. legal system, as community standards have been incorporated into U.S. statutory and common law over the centuries. American law is a dynamic system that provides both the continuity of standards developed over the years, and the ability to adapt to new problems and shifting social norms. Law and ethics address similar issues, such as rights and responsibilities, but are far from identical. Law reflects standards and power structures in place in a community at a given point in time and serves both to regulate human behavior and to resolve disputes. Ethics are more aspirational, and reflect what different thinkers or schools have to say about the right way to live or about what ought to be done. Cases in litigation embed ethical arguments in a specific factual context, allowing more meaningful discussions about what is fair and equitable than may be possible in an abstract discussion.

Law incorporates and applies a selection of ethical standards but may privilege certain interests, either inadvertently or by design. To the extent that judges have discretion, their decisions may incorporate personal value systems and ways of thinking.⁵ Furthermore, U.S. law re-

5. See RICHARD T. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* 80-81 (2004); CASS R. SUNSTEIN ET AL., *ARE JUDGES POLITICAL? AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY* 10 (2006).

flects U.S. standards, which may not be identical with standards in the international community. Nevertheless, U.S. cases can stimulate discussion about what is fair both domestically and internationally.

The adversarial model of the U.S. legal system provides voice and visibility to different points of view and helps to illuminate the complexities of issues. Champions—the lawyers on each side of a case—use every argument in their arsenals to support their client’s case and to persuade the judge or jury to rule in their favor. Lawyers often assert the application of moral standards in legal cases. One side may argue about what is right or fair in a given situation, while opponents contend that the law does not and should not stretch to cover such moral arguments. Over time, courts have extended existing legal theories to cover many novel factual situations.

B. Climate Litigation

Climate-related cases in litigation play an important role in the debate over the ethical and social dimensions of climate change. They showcase ethical issues by telling stories about winners and losers situated in the particular factual context of the litigants and illustrate how actions by one country or industry can cause harm to others, even across national or generational boundaries. They establish whether and under what circumstances one party may be held responsible for its contributions to climate change. These cases serve an important civic educational function, presenting complex material in a format accessible to the average juror, and therefore the average citizen. They affect public perceptions of everything from basic climate science to the relationships among nations and the responsibilities that humans have to nature. Decisions in visible cases stimulate debate over what governments should or should not be doing in response to climate change, when parties should be held responsible for injuries, and the rights and responsibilities of individuals, industries, and governments from the local to the international level. Climate litigation allows study of the role of U.S. courts in the co-production of knowledge, in shaping ethical debates, and in the relationship between law and ethics in general. These cases also provide the public with a context within which to debate ethical issues of fairness, justice, and responsibility with respect to climate change.

Courts provide a controlled environment within which litigants may openly contest knowledge and values relating to climate change. Climate litigation combines science, ethics, economics, social, and other issues at a scale rarely addressed by American courts or by society in general. These cases pose new challenges and so provide an ideal context within which to examine how the U.S. legal system addresses and resolves novel problems, and how courts change or resist change in response to increasingly complex global problems.

Many of the ethical implications of climate litigation extend beyond decisions in individual cases. Judicial decisions can frame issues and trigger public debate over what is right or fair. Law, science, ethics, economics, and politics come together in climate litigation to co-produce knowledge, new concepts about what should be valued and considered in climate debates, and highlight which voices should be heard.⁶ The cases will reflect social values and debates, and may incorporate changing social norms about environmental responsibility into new legal precedent.

This article examines some of the most visible climate-related cases filed in or against the United States in recent years. While cases have also been filed in other countries, especially in Australia,⁷ the majority seem to have been filed in the U.S. This partly is because industrialized countries such as the United States account for most of the human contributions to GHGs in the atmosphere, far out of proportion to their populations.⁸ At the same time, the U.S. has refused to enter into the Kyoto Protocol, the international community's attempt to begin to mitigate factors contributing to climate change, and has taken limited steps to reduce GHG emissions at the national level.⁹ Many public and private entities have turned to the courts to try to force or block action on climate change. The U.S. provides a well established system of environmental laws that allows many challenges to governmental action, providing a logical forum for such suits. More international cases are likely to be filed in the future, but for now, the U.S. cases provide the best opportunity to study how courts are responding to climate change, including its ethical challenges.

This article does not attempt to suggest what the United States or the international community should do to mitigate or adapt to climate change. It simply considers how cases in litigation illuminate important ethical and social issues by presenting and arguing them within the context of the specific facts presented in individual climate lawsuits. This article is part of a larger study of the role American courts play in providing a controlled forum within which climate law, science, social science,

6. See, e.g., Sheila Jasanoff, *The Idiom of Co-Production*, in STATES OF KNOWLEDGE: THE CO-PRODUCTION OF SCIENCE AND SOCIAL ORDER 2-3 (Sheila Jasanoff ed., Routledge 2004); SHEILA JASANOFF, SCIENCE AT THE BAR: LAW, SCIENCE, AND TECHNOLOGY IN AMERICA 36-39 (Harvard Univ. Press 1995); Clark A. Miller, *The Study of Public Reasoning: Background Prepared for NSF Workshop on the Social Sciences and Science Policy* 1-2 (July 13-14, 2006), available at <http://www.cspo.org/ourlibrary/papers/Miller.pdf>.

7. For an Australian perspective on climate litigation, see JOSEPH SMITH & DAVID SHEARMAN, CLIMATE CHANGE LITIGATION: ANALYSING THE LAW, SCIENTIFIC EVIDENCE & IMPACTS ON THE ENVIRONMENT, HEALTH & PROPERTY 59-61 (2006).

8. See, e.g., Kevin Baumert & Jonathan Pershing, *Climate Data: Insights and Observations* 11 (2004), available at <http://www.pewclimate.org/docUploads/Climate%20Data%20new.pdf>; ROBERT HENSON, THE ROUGH GUIDE TO CLIMATE CHANGE 17, 38 (Rough Guides 2006).

9. See John C. Dernbach, *U.S. Policy*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 78 (Michael B. Gerrard ed., 2007).

ethics, and other issues are contested to co-produce knowledge that leads to direct and indirect influences on climate policy.

II. THE UNITED STATES CLIMATE CASES

The cases filed to date in the United States may be divided into those intended to force or block government action with respect to climate change, and those seeking compensation or other remedies for alleged injuries. Within that division, cases may be categorized according to their primary legal claims. A few of the early and more visible cases are described below.¹⁰

A. Cases to Influence Government Action

1. Authority and Responsibility

In *Massachusetts v. EPA*,¹¹ numerous states, cities, an American Territory, and environmental nongovernmental organizations (NGOs) brought claims against the U.S. Environmental Protection Agency (EPA) challenging the agency's decision not to regulate GHG emissions from motor vehicles under the Clean Air Act (CAA).¹² Plaintiffs claimed that EPA had both the authority and responsibility to regulate. The U.S. Supreme Court decided in a 5-4 opinion that the CAA does give EPA the authority to regulate, and returned the decision to EPA to decide whether it should regulate GHG emissions from motor vehicles under the terms of the CAA.¹³

2. Procedural Requirements

In *Friends of the Earth, Inc. v. Watson*,¹⁴ nongovernmental organizations and cities brought suit against two federal agencies involved in financing large projects in other countries.¹⁵ Plaintiffs alleged that the agencies failed to comply with the National Environmental Policy Act (NEPA) by neglecting to consider project impacts on climate when conducting environmental reviews.¹⁶ The judge ruled that NEPA applies to major federal actions that affect climate change.¹⁷ Other cases have al-

10. For a more extensive overview of individual cases, see generally GLOBAL CLIMATE CHANGE AND U.S. LAW, *supra* note 9. For updates, see American Bar Association, Updates for Global Climate Change and U.S. Law, <http://www.abanet.org/abapubs/globalclimate/> (last visited Mar. 26, 2008).

11. 127 S. Ct. 1438 (2007).

12. *Id.* at 1446.

13. *Id.* at 1460, 1463.

14. No. C 02-4106 JSW, 2005 U.S. Dist. LEXIS 42335 (N.D. Cal. Aug. 23, 2005) (order denying defendant's motion for summary judgment).

15. *Id.* at *1. NGOs Friends of the Earth and Greenpeace, along with cities of Oakland, Acadia, and Santa Monica, California and Boulder, Colorado, brought suit against the Export-Import Bank of the U.S. and the Overseas Private Investment Corporation. Other procedural suits seek compliance with other environmental statutes.

16. *Id.*

17. *See id.* at *8.

leged procedural deficiencies under the Endangered Species Act and other laws, as well as related state laws.¹⁸

3. Federal Preemption

Thirteen car dealers and the American Alliance of Automobile Manufacturers brought suit against the California Air Resources Board (CARB) in *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*,¹⁹ alleging that federal law preempted the state's regulation of GHG emissions from motor vehicles.²⁰ Plaintiffs asked that California be enjoined from implementing its GHG emission regulations. The judge found that the federal CAA preempted California's program to regulate greenhouse gas emissions, and enjoined the state from enforcing its program until EPA issues a preemption waiver or Congress permits California to carry out its regulations.²¹ The EPA denied California's request for a CAA waiver on December 19, 2007.²² On January 2, 2008, California filed a Petition for Review of the EPA's decision to the United States Court of Appeals for the Ninth Circuit.²³

B. Cases Alleging Liability for Injuries

1. Public and Private Nuisance

In *Connecticut v. American Electric Power Co.*,²⁴ eight states²⁵ and New York City filed claims against five of the biggest power companies in the United States,²⁶ alleging that emissions of carbon dioxide from the companies' power plants constituted "ongoing contributions to a public nuisance." The plaintiffs asked that the companies be ordered to reduce their emissions by a specified percentage every year for at least a decade.²⁷ The judge dismissed the case because "these actions present non-

18. See, e.g., *Natural Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 330 (E.D. Cal. 2007); *Cent. for Biological Diversity v. Brennan*, No. C 06-7062 SBA, 2007 WL 2408901, at *1-3 (N.D. Cal. Aug. 21, 2007).

19. No. CV-F-04-6663 REC/LJO, 2005 U.S. Dist. LEXIS 26536 (E.D. Cal. Oct. 20, 2005).

20. *Id.* at *3-4. Similar actions have been filed against other states seeking to adopt the CARB standards. See *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 300 (D. Vt. 2007).

21. *Cent. Valley Chrysler-Jeep, Inc. v. Goldstone*, No. CV F 04-6663 AWI LJO, 2007 U.S. Dist. LEXIS 91309, at *111-15 (E.D. Cal. Dec. 11, 2007). The case name was changed after James Goldstone replaced Catherine Witherspoon as the primary named defendant. *Id.* at *6 n.1.

22. Letter from Stephen L. Johnson, Administrator of EPA, to Arnold Schwarzenegger, Governor of California (Dec. 19, 2007), available at <http://epa.gov/otaq/climate/20071219-slj.pdf> [hereinafter Letter]; see also Dot Earth, <http://dotearth.blogs.nytimes.com/2007/12/19/epa-to-states-co2-is-not-your-problem/?scp=1-b&sq=E.P.A.+to+States%3A+CO2+Is+Not+Your+Problem&st=nyt> (Dec. 19, 2007, 20:34 EST).

23. *California v. U.S. Env'tl. Prot. Agency*, No. 08-70001 (9th Cir. filed Jan. 2, 2008).

24. 406 F. Supp. 2d 265 (S.D.N.Y. 2005).

25. *Id.* at 267. The eight states are California, Connecticut, Iowa, New Jersey, New York, Rhode Island, Vermont, and Wisconsin.

26. *Id.* The power companies include American Electric Power Co., Inc., The Southern Co., Cinergy Corp., Tennessee Valley Authority, and Xcel Energy, Inc.

27. *Id.* at 270 ("Here, to curtail Defendants' contribution to global warming, Plaintiffs 'seek an order (i) holding each of the Defendants jointly and severally liable for contributing to an ongoing

justiciable political questions that are consigned to the political branches, not the Judiciary.”²⁸

2. Human Rights

Sheila Watt-Cloutier, then chairperson of the Inuit Circumpolar Council (ICC), and with the support of the Council, brought a petition before the Inter-American Commission on Human Rights (IACHR).²⁹ The petition alleged that the United States violated the human rights of the Inuit people by failing to control emissions of GHGs.³⁰ The IACHR refused to hear the case but requested a presentation on the issues.³¹

III. ETHICAL DIMENSIONS

A. Common Concern of Mankind

Our global climate is a public resource or public good, available to and relied upon by all living systems of the world. No one can be excluded from the benefits and other impacts of climate, and all are affected by it. The opening lines of the Preamble to the United Nations Framework Convention on Climate Change (UNFCCC) define climate change as “a common concern of humankind.”³² Many believe that the global climate is subject to the “tragedy of the commons,” in which everyone uses the resource but no one has responsibility for protecting it.³³ Litigation is one strategy to establish responsibility for protecting, and liability for injuring, our global climate commons.

Climate litigants have asserted a variety of legal theories in their attempts to protect the global climate. *Massachusetts v. EPA* demonstrates that EPA has responsibility for GHG emissions under the CAA.³⁴ *Friends of the Earth* alleges that federal agencies have a responsibility to consider impacts on climate when conducting environmental reviews.³⁵ Cases apply many legal theories to show that humans are responsible for the global commons.

public nuisance, global warming, and (ii) enjoining each of the Defendants to abate its contribution to the nuisance by capping its emissions of carbon dioxide and then reducing those emissions by a specified percentage each year for at least a decade.”).

28. *Id.* at 274.

29. Sheila Watt-Cloutier, *Petition to the Inter American Commission on Human Rights, Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions by the United States* (Dec. 7, 2005), available at http://www.earthjustice.org/library/legal_docs/petition-to-the-inter-american-commission-on-human-rights-on-behalf-of-the-inuit-circumpolar-conference.pdf.

30. *Id.* at 1-8.

31. Press Release, The Ctr. for Int’l Envtl. Law, Global Warming and Human Rights Gets Hearing on World Stage, (Mar. 5, 2007), http://www.ciel.org/Climate/IACHR_Inuit_5Mar07.html.

32. United Nations, *United Nations Framework Convention on Climate Change*, 31 I.L.M. 849, 851 (1992) [hereinafter UNFCCC].

33. See Garrett Hardin, *The Tragedy of the Commons*, 162 Sci. 1243, 1244 (1968) (magazine).

34. 127 S. Ct. 1438, 1459-60 (2007).

35. No. C 02-4106 JSW, 2005 U.S. Dist. LEXIS 42335, at *4-5, *27 (N.D. Cal. Aug. 23, 2005) (order denying defendant’s motion for summary judgment).

B. Procedural Justice

Procedural justice considers whether the process used to reach a decision is fair.³⁶ Scholars may disagree, however, as to what constitutes a fair process. John Rawls would call for a “veil of ignorance” so that those deciding would be unaware of the costs and benefits to themselves.³⁷ Others would require a democratic process in which all affected parties have a meaningful voice.³⁸ Still others maintain that careful procedures specifying what must be proven and what qualifies as evidence will achieve procedural justice.³⁹

American courts have instituted many rules to provide procedures that are fair, are perceived by the public to be fair, and are intended to reach consistent results. Litigants must meet high burdens of proof on specific elements of causes of action. Rules of evidence constrain the litigation process to ensure that evidence presented meets high standards of relevance, legitimacy, and credibility. These well-established rules will help to ensure that climate litigation meets high standards of procedural fairness.

C. Democratic Principles

The United States does not yet have a clear legal framework spelling out rights and responsibilities of individuals, institutions, and, particularly, government agencies, for climate change.⁴⁰ Litigants have turned to the courts to demonstrate that existing laws can be stretched to cover climate change. In *Massachusetts v. EPA*,⁴¹ a divided Supreme Court ruled that the CAA can indeed be used to regulate GHG emissions from the tailpipes of motor vehicles, and returned the case to EPA to determine whether such emissions should be regulated under the terms of the CAA.⁴² *Friends of the Earth* alleged that NEPA environmental reviews should consider the impacts of federal action on climate, and that other cases should clarify whether the Endangered Species Act, the Marine Mammals Protection Act, and other statutes include climate-related concerns within their ambit.⁴³

36. GEORGE P. FLETCHER, BASIC CONCEPTS OF LEGAL THOUGHT 81-82 (Oxford Univ. Press 1996).

37. JOHN RAWLS, A THEORY OF JUSTICE 12 (Harvard Univ. Press 1971).

38. See Gary Bryner, *Assessing Claims of Environmental Justice*, in JUSTICE AND NATURAL RESOURCES: CONCEPTS, STRATEGIES, AND APPLICATIONS 31, 44-45 (Kathryn Mutz et al. eds., 2002).

39. See *id.*

40. Michele M. Betsill & Roger A. Pielke, Jr., *Blurring the Boundaries: Domestic and International Ozone Politics and Lessons for Climate Change*, INT'L ENVTL. AFFAIRS, Summer 1998, at 147, 161-62.

41. 127 S. Ct. 1438 (2007).

42. *Id.* at 1463.

43. See No. C 02-4106 JSW, 2005 U.S. Dist. LEXIS 42335 (N.D. Cal. Aug. 23, 2005) (order denying defendant's motion for summary judgment).

As a democratic society, the United States expects its courts to operate consistent with democratic principles, but litigants, judges, and academics differ as to what democracy requires with respect to environmental litigation in general and climate litigation in particular. The debate comes down to who should be making decisions regarding climate change. Should courts determine rights and responsibilities, should they defer to the judgments of executive agencies, or should they leave all such decisions to Congress? Should states be allowed to regulate GHG emissions, or has Congress precluded states from taking action through federal regulation? Is accountability best served by leaving policy decisions to elected officials or by allowing citizens to challenge governmental action or inaction through the courts?

Scholars debate the influence that environmental litigation in general and climate litigation in particular has on democratic processes. Joseph Sax describes environmental litigation as “a means of access for the ordinary citizen to the process of governmental decision-making.”⁴⁴ Sheila Jasanoff emphasizes the importance of litigation in civic education and in providing information “about the epistemological, social, and moral dilemmas” associated with science and technology issues.⁴⁵ Others argue that environmental litigation undermines democracy by shifting decisions away from elected officials.⁴⁶ Robert Kagan maintains that adversarial legalism can block cooperation and frustrate justice.⁴⁷

Climate litigation contributes to public participation in various ways.⁴⁸ It allows citizens to challenge governmental actions they believe are improper, such as EPA’s decision not to regulate GHGs under its CAA authority. Litigation provides a forum within which plaintiffs may seek relief for perceived injuries, as demonstrated in both the public nuisance cases and the Inuit human rights claim. As discussed in more detail below, these cases educate the public about major issues relating to climate change. Litigation can stimulate public debate as to what should happen and encourage additional political action.

Climate litigation can give voice to minority interests, but these cases are expensive and not available to everyone. In some cases, groups such as environmental NGOs and industry associations provide access to courts that might not be available to individual litigants. For example, Earthjustice and the Center for International Environmental Law have

44. Joseph L. Sax, *Defending the Environment: A Strategy for Citizen Action*, in *LAW AND THE ENVIRONMENT: A MULTIDISCIPLINARY READER* 300-05 (R.V. Percival & D.C. Alevizatos eds., Temple Univ. Press 1998).

45. JASANOFF, 1995, *supra* note 6, at 21.

46. Marilyn Averill, *Climate Litigation: Democratic Participation and Civic Education* (Mar. 2006) (paper presented at the *Western Political Science Association* annual meeting in Albuquerque) (on file with author).

47. ROBERT A. KAGAN, *ADVERSARIAL LEGALISM: THE AMERICAN WAY OF LAW* 4 (Harvard Univ. Press, 2003).

48. Averill, *supra* note 46, at 2.

helped the Inuit to make their voices heard in a variety of international forums.⁴⁹

*Massachusetts v. EPA*⁵⁰ was as much a debate over the separation of powers as it was about climate change. At the D.C. Circuit level, three judges wrote three wildly different opinions about how the case should be decided, but really focused on *who* should decide—a federal agency, Congress, or the courts?⁵¹ The Supreme Court majority and dissenting opinions engaged in a similar debate. *Connecticut v. American Electrical Power Co.*⁵² reflected similar concerns; the judge dismissed the case as a “political question,” one that should be addressed through a political process rather than by the courts.⁵³

Climate litigation also involves questions about the appropriate level for making decisions about climate policy. Who has the authority and responsibility to regulate GHGs? When does federal policy preempt state action? Automobile manufacturers have filed suit to block California from implementing its standards for vehicle emissions, and to block other states from adopting the California standard, claiming that such decisions belong to the federal government.⁵⁴

Courts serve procedural justice by allowing citizens access to the decision-making process, particularly by challenging government action or inaction, but the expense of litigation limits access. Courts may reach decisions contrary to those of the executive, but Congress can override most decisions with which it disagrees. The debate over who should decide is likely to continue until either Congress or the courts provide a clearer legal framework for climate change.

D. Rights, Responsibilities, and Liability

Discussions about climate change at the domestic and international levels often focus on responsibility and liability.⁵⁵ Who should be held responsible for our changing climate, and what should they be required to do? What circumstances should excuse responsibility? Who will be injured by climate change, and how can they be protected from or com-

49. Press Release, Earthjustice, Inuit Human Rights Petition File Over Climate Change (Dec. 7, 2005), <http://www.earthjustice.org/news/press/005/inuit-human-rights-petition-filed-over-climate-change.html>.

50. 127 S. Ct. 1438 (2007).

51. *Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005).

52. 406 F. Supp. 2d 265 (S.D.N.Y. 2005).

53. *Id.* at 274.

54. See, e.g., *Cent. Valley Chrysler-Jeep, Inc. v. Witherspoon*, 456 F. Supp. 2d 1160 (E.D. Cal. 2006). These cases were rendered moot, at least temporarily, on Dec. 19, 2007, when EPA denied California's request for a waiver to the Clean Air Act. See Letter, *supra* note 22. California has petitioned for review of the decision.

55. DONALD BROWN ET AL., WHITE PAPER ON THE ETHICAL DIMENSIONS OF CLIMATE CHANGE 8, available at http://www.ndsciencehumanitiespolicy.org/resources/climate_change_white_paper.pdf (last visited Mar. 26, 2008).

pensated for injuries? Climate litigation addresses some of these issues head on.

According to Dale Jamieson, “[a] paradigm moral problem is one in which an individual acting intentionally harms another individual, both the individuals and the harm are identifiable, and the individuals and harm are closely related in time and space.”⁵⁶ Jamieson uses six increasingly complex stories about bicycle thefts to illustrate the difficulties in treating climate change as a moral problem. Virtually everyone around the globe contributes to and will be affected by climate change. Actions taken in the past, or today, will have impacts that persist for decades or centuries.⁵⁷ Activities undertaken in all countries, from GHG emissions to agricultural practices to deforestation, affect the global climate.⁵⁸ These activities were not intended to change the climate; in most cases, they were intended to promote societal benefits such as economic development. Energy users probably were aware of their emissions but not of the possible impacts on climate, although such impacts have become well known in the last decade. Linking specific climate injuries to specific causes will be extremely difficult, complicating arguments about ethical implications.

Legal issues are similar to those in the moral paradigm. Law provides causes of action through which those injured may seek redress, but law also protects those alleged to contribute to injuries in order to avoid holding them responsible for frivolous claims. Both law and ethics are concerned with defining rights and responsibilities and with deciding who should be held responsible or legally liable for harm. Law is grounded in ethical principles but turns them into legal rules that may be applied with some consistency in the courts. For example, general ethical principles define general duties that one person holds to others. Law turns duties into rules about how someone can be held responsible in a given context.

Both the classic moral paradigm and law address the conditions under which an individual or other entity may be held responsible for behavior. Jamieson lists intentionality and spatial and temporal proximity as important factors in establishing responsibility.⁵⁹ Law joins these norms with other community standards into a system that allows for the determination of responsibility in a given context or a given case. Causes of action specify the elements that must be proven. Burdens of

56. Dale Jamieson, *The Moral and Political Challenges of Climate Change*, in *CREATING A CLIMATE FOR CLIMATE CHANGE: COMMUNICATING CLIMATE CHANGE AND FACILITATING SOCIAL CHANGE* 475 (Suzanne C. Moser & Lisa Dilling eds., Cambridge Univ. Press 2007).

57. IPCC, *supra* note 2, at 23-24.

58. See generally Working Group III of the Intergovernmental Panel on Climate Change, *Climate Change 2007—Mitigation of Climate Change* (2007) (provides an overview of the many human activities contributing to climate change).

59. Jamieson, *supra* note 56, at 475.

proof indicate the degree of certainty that must be obtained, and who must meet that burden. Rules of evidence ensure that expert testimony, data, and other evidence meet high standards of relevance, credibility, and legitimacy.

“[A]s a general rule, the imposition of liability depends upon a showing by the plaintiff that his or her injuries were caused by an act of the defendant or by an instrumentality under the defendant’s control.”⁶⁰ Climate change presents serious causation problems and questions about how much proof of a causal link between a defendant’s behavior and a plaintiff’s injury is required in order to make fair decisions about assigning responsibility and requiring compensation or other relief.

The majority in *Massachusetts v. EPA* found sufficient evidence of causation to support standing,⁶¹ but Chief Justice Roberts disagreed in his dissent, saying “the connection is far too speculative to establish causation.”⁶² A case seeking to establish liability, as in the Inuit claim or the public nuisance case, would face even higher burdens of proof.

In spite of the split decision, *Massachusetts v. EPA* may profoundly shift the causation debate. Most of the climate science was uncontested by the litigants, and the Court acted as if climate change and its impacts are widely accepted as a reality. The Court accepted, at least for standing purposes, the likelihood that federal regulation could reduce the impacts of climate change. This endorsement of a causal link between human activities and climate impacts undoubtedly will be cited in future climate disputes.

Ethicists may conceive of multiple contributing factors, but philosophers rarely have to make specific decisions about how to allocate liability among those responsible. Courts must make allocation decisions in any case involving more than one responsible party. Over time, U.S. courts have demonstrated their ability to establish legal rules controlling the increasingly complex cases presented by a modern industrial society. For example, in *Sindell v. Abbott Laboratories*,⁶³ the court found a way to allocate liability among many pharmaceutical manufacturers of a drug that contributed to patient injuries.⁶⁴

Climate change presents an infinitely more complicated web of interwoven causal factors, but courts, at least in theory, seem capable of adjusting to increasingly complicated factual situations. Law shifts with changes in society to incorporate new factual systems and new legal

60. *Sindell v. Abbott Laboratories*, 607 P.2d 924, 928 (Cal. 1980), *cert. denied*, 449 U.S. 912 (1980).

61. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1453 (2007).

62. *Id.* at 1469 (Roberts, C.J., dissenting).

63. 607 P.2d 924 (1980).

64. *Id.* at 928.

theories.⁶⁵ The majority in *Massachusetts v. EPA* recognized this in saying that Congress understands that “without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete.”⁶⁶

What should excuse responsibility for contributions to climate change? President Bush cites possible injury to the U.S. economy as the reason not to sign the Kyoto protocol.⁶⁷ Litigants cite the magnitude of likely economic injury as a reason that the decision should be taken from the courts.⁶⁸ Others claim that such arguments are unethical.⁶⁹ The Supreme Court has not yet decided “whether policy concerns can inform EPA’s actions”⁷⁰ if it decides that carbon dioxide reaches the level of endangerment, as specified in the CAA. Future courts undoubtedly will have to deal with arguments regarding the high costs of dealing with climate change, and how and where those costs should be imposed.

E. Scientific Uncertainty

Uncertainty runs rampant throughout climate change and clouds the science, economics, social impacts, and even the ethical issues.⁷¹ Aleatory uncertainties are inherent in a model or system and are irreducible. Epistemic uncertainties relate to what we know, and may be reduced as knowledge increases. The role uncertainty plays in determining what to do about climate change has triggered fierce debates. President Bush maintains that action to limit GHG emissions would be premature without better understanding of the causes and effects of climate change.⁷² Others call such inaction unethical.⁷³

The parties to the UNFCCC explicitly considered the role that scientific uncertainty should play in climate decisions. The UNFCCC acknowledges some of the uncertainties and adopts a precautionary principle: “Where there are threats of serious or irreversible damage, lack of scientific certainty should not be used as a reason for postponing” meas-

65. See PHIL HARRIS, AN INTRODUCTION TO LAW 1 (7th ed. 2007); LAZARUS, *supra* note 5, at 1; MILLER, *supra* note 6, at 1.

66. 127 S. Ct. at 1462.

67. Press Release, The White House, President Announces Clear Skies & Global Climate Change Initiatives (Feb. 1, 2002), available at <http://www.whitehouse.gov/news/releases/2002/02/20020214-5.html>.

68. See BROWN ET AL., *supra* note 55, at 29-30.

69. *Id.* at 29-32 (arguing, *inter alia*, that no one has the right to protect economic health by harming others).

70. 127 S. Ct. at 1463.

71. See generally INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: FOURTH ASSESSMENT REPORT (Cambridge Univ. Press 2007) (carefully portraying uncertainties in the science and highlights key uncertainties).

72. Press Release, The White House, President Bush Discusses Global Climate Change (June 11, 2001), available at <http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html>; see also Richard A. Kerr, *Climate Change: Major Challenges for Bush's Climate Initiative*, SCIENCE, July 13, 2001, available at <http://www.sciencemag.org/cgi/content/full/293/5528/199>.

73. BROWN ET AL., *supra* note 55, at 23-28.

ures to prevent or mitigate the causes and adverse effects of climate change.⁷⁴ But the principle contains conditioning language that requires cost-effective actions and consideration of impacts on all economic sectors. The exact reach of the UNFCCC precautionary principle remains unclear as to what kinds of actions might be required at different levels of uncertainty about the degree of threat, the likelihood of harm, or the degree of human influence. The language itself is uncertain enough to reduce its potential as a legal standard.

Litigants use uncertainty to gain an advantage in arguing climate cases, and case outcomes may depend on perceptions about the adequacy of current knowledge about climate change. Court decisions can both resolve questions about scientific uncertainty, at least in the legal context, and influence the way the public views uncertainty. For example, in *Massachusetts v. EPA*, the majority said: “A well-documented rise in global temperatures has coincided with a significant increase in the concentration of carbon dioxide in the atmosphere. Respected scientists believe the two trends are related.”⁷⁵ This statement recognizes the reality of climate change and lends credibility to the correlation between carbon dioxide build up and rising temperatures. Nevertheless, the Court also recognized that uncertainty remains problematic, and left the door open for EPA to decide that “scientific certainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming.”⁷⁶

F. Intra-Generational Equity and the Responsibility to Protect

Climate change fundamentally involves questions of intra-generational equity, both among nations and among economic groups within nations. Human activities contributing to climate change, such as GHG emissions and deforestation, occur locally but have global effects. GHGs accumulate in the air and circulate around the globe, affecting climate patterns throughout the world.⁷⁷ Adverse impacts are likely to be felt far from the sources of emissions. At the country level, those contributing most to climate change may be among those least affected, raising major questions about equity, fairness, and under what conditions an entity such as a nation, a corporation, or an industry should be held responsible for its contributions to a changing climate. Both within and between nations, the poor are likely to suffer the most severe effects, both because they tend to live in more environmentally sensitive areas

74. UNFCCC, *supra* note 32, at 854.

75. 127 S. Ct. at 1446.

76. *Id.* at 1463.

77. See generally IPCC, *supra* note 2.

and because they lack adequate resources to adapt to a changing climate, raising serious issues of environmental justice.⁷⁸

What responsibility do the people of one nation have to protect the well being of people from other nations? International law has adopted numerous principles, generally stating that a state is not permitted to take actions that will cause injuries beyond its borders.⁷⁹ These principles will be strained by climate change problems, in which virtually everyone contributes to the problem and everyone will be affected. The climate change regime explicitly allows some forms of differential treatment in international law.⁸⁰ For example, the UNFCCC itself provides for "common but differentiated responsibilities" among nations.⁸¹ But these differences were generally adopted to correct perceptions of past inequities and to accommodate varying capacities to deal with climate change. They were not intended to allow one nation to undertake activities that would harm others outside of its borders.

Similar questions may be asked about the responsibilities that countries have to protect the most disadvantaged among their citizens. American courts have dealt with various environmental justice issues in recent years, but not of the magnitude presented by climate change.

Most of the current U.S. climate cases do not directly involve international issues. Two exceptions are *Friends of the Earth v. Watson*,⁸² which involves U.S. agencies that fund projects overseas, and the Inuit human rights petition,⁸³ which involves injuries to people in the polar regions of Canada and the U.S. More such cases can be expected in the future as more people around the world sustain injuries they believe can be attributed to climate change induced by emissions from industrialized societies.

G. Inter-Generational Equity

What responsibilities do people alive today have for the well-being of people of the future? The U.S. legal system has little to say about this issue, although some specific laws, particularly environmental laws, have provisions for the benefit of future generations. Attorneys typically apply principles of discounting, borrowed from economics, to consider and

78. NICHOLAS STERN, *THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW* 106-07 (Cambridge Univ. Press 2006).

79. See, e.g., REBECCA M. BRATSPIES & RUSSELL A. MILLER EDS., *TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION* (Cambridge Univ. Press 2006); BROWN ET AL., *supra* note 55, at 13-14.

80. LAVANYA RAJAMANI, *DIFFERENTIAL TREATMENT IN INTERNATIONAL ENVIRONMENTAL LAW* 11, 176 (Oxford Univ. Press 2006).

81. UNFCCC, *supra* note 32, at 854.

82. *Friends of the Earth, Inc. v. Watson*, No. C 02-4106 JSW, 2005 U.S. Dist. LEXIS 42335 (N.D. Cal. Aug. 23, 2005) (order denying defendant's motion for summary judgment).

83. See, e.g., Watt-Cloutier, *supra* note 29.

monetize the effects of actions taken today on the future.⁸⁴ The magnitude of the discount rate makes an enormous difference in how future injuries are valued in economic analysis.⁸⁵ As a result, much of the debate over inter-generational equity has focused on the appropriate choice of a discount rate.⁸⁶

Courts have a long history of accepting evidence about future injuries and are accustomed to using discount rates. Pollution cases require discounting to figure future losses to the public until resources can be adequately remediated.⁸⁷ Tort cases require estimates of future earnings.⁸⁸ Certain conventions have emerged with respect to discount rates. The federal government, for example, specifies rates that it should apply in certain contexts.⁸⁹

The magnitude of likely adverse effects of climate change on future generations has intensified the ethical and emotional debate over inter-generational equity. Courts eventually will need to decide issues regarding liability for injuries likely to occur in the future. For now, most of the courtroom debate centers on the present.

H. Inter-Species Equity and Responsibility to Nature

The rights that natural objects have in U.S. courts largely remain unsettled. Environmental cases typically involve challenges to standing—to whether the plaintiffs have a right to bring their claims before a court. One question has been whether non-human objects such as trees or ecosystems have a right to be represented in court.⁹⁰ Specific environmental laws, such as the Endangered Species Act, protect certain natural species or systems, but few non-statutory responsibilities have been identified that require humans to protect other natural objects, except when they are owned by humans. Philosophers have been more specific about humans' obligations to nature.⁹¹

Climate cases to date have addressed other species either through their utility for human communities or within the context of a specific U.S. law. These laws have great power, and may provide the earliest successes on climate litigation. Procedural cases such as *Friends of the*

84. STERN, *supra* note 78, at 50-60.

85. *Id.*

86. *Id.*

87. *Id.*

88. RESTATEMENT (SECOND) OF TORTS § 913A cmt. a (2007).

89. See OFFICE OF MGMT. AND BUDGET, MEMORANDUM FOR HEADS OF EXECUTIVE DEPT'S & ESTABLISHMENTS (1992), <http://www.whitehouse.gov/omb/circulars/a094/a094.html>.

90. See, e.g., CHRISTOPHER D. STONE, SHOULD TREES HAVE STANDING? AND OTHER ESSAYS ON LAW, MORALS, AND THE ENVIRONMENT 6-7 (Oceana Publ'ns 1996).

91. See generally HOLMES ROLSTON III, ENVIRONMENTAL ETHICS: DUTIES TO AND VALUES IN THE NATURAL WORLD (Temple Univ. Press 1988); PETER SINGER, PRACTICAL ETHICS (2d ed., Cambridge Univ. Press 1993).

*Earth*⁹² that seek to have the impacts of climate change included as part of agency environmental reviews have a lower standard for causation to establish standing and are more likely to succeed than cases seeking to establish responsibility and liability. Success in these cases will make climate more visible and ensure that agencies consider the effects their actions may have on climate, and its resulting impacts on ecosystems, humans, and other species. A California judge has already found a biological opinion on the Delta smelt to be inadequate under the Endangered Species Act, in part because it failed to consider the stresses of climate change.⁹³ Other cases seek similar rulings under other statutes.⁹⁴ Increased visibility will encourage debate over the role that federal agencies have to protect nature from a changing climate.

IV. SOCIETAL IMPACTS

In a globalized world, actions taken in one place are likely to have impacts that cross spatial, temporal, political, and scalar boundaries. Arguments and decisions in climate cases may have repercussions far beyond the narrow interests of the litigants themselves. Each case, of course, may serve as precedent for future decisions, or as an incentive to file additional complaints, either within the United States or elsewhere. But decisions in climate litigation also have impacts that extend beyond the legal system itself to the way society thinks about and responds to the challenges of climate change.

A. Civic Education and Debate

Perhaps the most important connection between climate litigation and both ethical issues and societal impacts lies in the civic education function of litigation in the United States.⁹⁵ Climate cases tell stories about the causes and impacts of climate change. These stories are intended to persuade judges and juries, and consequently are written in language accessible to non-scientists. They identify possible winners and losers in climate change, and make climate injury claims come alive. For example, the Inuit, who are among the first to feel the negative impacts of climate change, have been very effective at telling their story and in turning it into a human rights claim. While the initial claim itself

92. No. C 02-4106 JSW, 2005 U.S. Dist. LEXIS 42335 (N.D. Cal. Aug. 23, 2005) (order denying defendant's motion for summary judgment).

93. *Natural Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 330 (E.D. Cal. 2007).

94. *See id.*; *Cent. for Biological Diversity v. Brennan*, No. C 06-7062 SBA, 2007 WL 2408901, at *1-3 (N.D. Cal. Aug. 21, 2007).

95. Marilyn Averill, *Climate Litigation: Shaping Public Policy and Stimulating Debate*, in *CREATING A CLIMATE FOR CHANGE: COMMUNICATING CLIMATE CHANGE AND FACILITATING SOCIAL CHANGE* 462-71 (Cambridge Univ. Press 2007); JASANOFF, 1995, *supra* note 6, at 215-18.

was unsuccessful, the Inuit stories continue to receive international attention.⁹⁶

As reported through the media, climate cases can teach the public about aspects of climate science and bring the scientific debates to a level that allows participation by the lay public. Courts play a significant role in how the public understands many scientific issues.⁹⁷ The ways that litigants present climate science and its inherent uncertainties, and the ways that courts respond, could affect public perceptions of the relevance, credibility, and legitimacy of climate experts and climate science. A better understanding of climate science, in turn, will help the public to appreciate the ethical, economic, social, and other implications of a changing climate. Climate litigation serves to enhance public understanding and stimulate debate on a wide variety of climate-related issues.

Chief Justice Roberts, writing in dissent in *Massachusetts v. EPA*, argued that the role of the courts is “not to serve as a convenient forum for policy debates.”⁹⁸ While policy debate may not be the primary purpose of cases in litigation, such debate is the inevitable outcome in visible cases treating controversial issues such as climate change.

B. Advocacy for Political Action

Stories told through climate litigation may capture the public’s imagination and trigger interest in change. Concerned citizens may press for political action to correct inequities and avoid or compensate for injuries, or for action to mitigate climate change or to support adaptation planning. Legislatures may take action in response to a court decision. Climate litigation could affect action at all levels, from local community decisions to international negotiations. Stimulating political action may be a prime motivator for some litigants.

In *Massachusetts v. EPA*, the Supreme Court has already recognized and legitimized claims that the global climate is changing, that human activities, including domestic automobile emissions, contribute significantly to the change, and that the “harms associated with climate change are serious and well recognized.”⁹⁹ The press referred to the decision as a “rebuke to the Bush administration and its passive approach to the warming threat,”¹⁰⁰ and some translated it as a message to government to

96. Andrew C. Revkin, *World Briefing Americas: Inuit Climate Change Petition Rejected*, N.Y. TIMES, Dec. 16, 2007, at A1.

97. Richard C. Leone, *Foreword* to SHEILA JASANOFF, *SCIENCE AT THE BAR: LAW, SCIENCE, AND TECHNOLOGY IN AMERICA*, at ix (Harvard Univ. Press 1995).

98. 127 S. Ct. 1438, 1470 (2007) (Roberts, C.J., dissenting).

99. *Id.* at 1455.

100. Editorial, *The Court Rules on Warming*, N.Y. TIMES, Apr. 3, 2007, available at <http://www.nytimes.com/2007/04/03/opinion/03tues1.html>.

do something.¹⁰¹ The media and NGOs across the political spectrum predicted that Congress was more likely to take action following the Supreme Court opinion.

Losing a climate-related case also may trigger political action. If states lose the right to regulate GHG emissions because of federal preemption, they are likely to pressure Congress to either put a strong legal framework in place at the federal level, or to allow states to legislate beyond federal standards. Corporations, if held legally responsible for their emissions, are likely to seek protection from liability from the federal government. Industry also may seek federal regulation in order to provide consistent national standards, and industry undoubtedly will try to influence the nature of such regulation.

CONCLUSION

Climate litigation provides a microcosm within which to study how society debates and reaches decisions about ethical, social, and other issues related to climate change. Litigants are bringing creative claims to the courts to force action on climate change, to block governmental action, and to hold entities responsible for climate-related injuries. The impact of climate litigation has just begun. Following plaintiffs' success in *Massachusetts v. EPA*, other parties are likely to file suit over climate issues, both in the U.S. and abroad. These cases show great promise for illuminating and possibly redressing some of the many ethical and social dimensions of climate change.

While litigants face daunting challenges to win their cases, the effects of climate litigation may be felt well beyond the courtroom, regardless of who wins in an individual case. Lawyers who are aware of these cases can help their clients plan for a changing climate and related legal challenges, but can also themselves participate more fully in the public debate about how society should respond to the challenges of our changing global climate.

101. Linda Greenhouse, *Justices Say E.P.A. Has Power to Act on Harmful Gases*, N.Y. TIMES, Apr. 3, 2007, at A5, available at <http://www.nytimes.com/2007/04/03/washington/03scotus.html>.