A REALISTIC EVALUATION OF CLIMATE CHANGE LITIGATION THROUGH THE LENS OF A HYPOTHETICAL LAWSUIT

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Several dozen cases that can be classified as "climate change litigation" have been filed worldwide, and legal scholars have already generated a considerable amount of writing on the phenomenon. The debate and scholarship has sometimes gotten ahead of itself, reflecting on the normative implications of outcomes that are still speculative at this point. This Article seeks to ground this debate by analyzing the actual legal doctrines that may serve as bases for liability, and seeks to make a realistic evaluation of the likelihood of success of these types of suits. Climate change litigation, in its various forms, raises issues of standing, choice of law, preemption, redress, causation, separation of powers, and international comity. Wrestling all of these issues down to an analytical conclusion is intractable; this Article seeks to make the problem more manageable by finding a plaintiff that would have a strong and viable claim for climate change damages, and finding a defendant that could most plausibly be sued for such damages. Analyzing the merits of such a suit and the possible forums in which the suit could be brought sheds considerable light on the more general phenomenon of climate change litigation.

This Article shows that even with a strong plaintiff—the Inuit people of the Arctic region—and vulnerable defendants—U.S. electricity generating companies—the prospects of a successful lawsuit for climate change related damages are mixed. Current law seems to suggest that liability is slightly less probable than not, but certainly not inconceivable. However, the tenuous bases for liability in this hypothetical lawsuit, and the rarity of the characteristics of this plaintiff and these defendants that make this lawsuit plau-

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sible, suggests that climate change litigation is unlikely to play a significant role in arresting global climate change. In the end, the bulk of the work in reducing greenhouse gases must be undertaken by nation-states and international agreements.

INTRODUCTION

Much has already been written about a still relatively rare occurrence: climate change litigation. A handful of lawsuits over the effects of global climate change,[1] both current and projected, have spawned a lively legal debate about the merits of these and other potential lawsuits. While this debate is not altogether premature, it has at times gotten slightly ahead of itself, reflecting on the normative implications of outcomes that are still speculative at this point.[2] This Article seeks to ground this debate in the actual legal doctrines that may serve as bases for liability, and to make a realistic evaluation of the likelihood of success of these types of suits.

If the goal of climate change litigation is to impose legal liability upon a party that is somehow responsible for the emission of greenhouse gases that contribute to climate change, a number of daunting jurisprudential and scientific obstacles present themselves. First, the plaintiff must demonstrate that it is an appropriate party to bring a lawsuit. Questions of standing and separation of powers pervade most developed legal systems, not just that of the United States.[3] Second, the

1. *See infra* notes 42–71 and accompanying text.

2. *See* WILLIAM BURNS & HARI OSOFSKY, ADJUDICATING CLIMATE CHANGE: SUBNATIONAL, NATIONAL, AND SUPRANATIONAL RESPONSES (forthcoming 2008); Jonathan Adler, *Warming Up to Climate Change Litigation*, 93 VA. L. REV. (forthcoming 2008); Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 WASH. U. L.Q. 1789 (2005); Eric Posner, *Climate Change and International Human Rights Litigation: A Critical Appraisal*, 155 U. PA. L. REV. 1925 (2007).

3. JOSEPH SMITH & DAVID SHEARMAN, CLIMATE CHANGE LITIGATION: ANALYSING THE LAW, SCIENTIFIC EVIDENCE & IMPACTS ON THE ENVIRONMENT, HEALTH & PROPERTY 52, 56–58 (2006); PRUE TAYLOR, AN ECOLOGICAL APPROACH TO INTERNATIONAL LAW: RESPONDING TO CHALLENGES OF CLIMATE CHANGE 92–101 (1998); *see also* AUSTRALIAN LAW REFORM COMM'N, BEYOND THE DOORKEEPER: STANDING TO SUE FOR PUBLIC REMEDIES (1996); AUSTRALIAN LAW REFORM COMM'N, WHO CAN SUE? A REVIEW OF THE LAW OF STANDING (1995); THOMAS A. CROMWELL, LOCUS STANDI: A COMMENTARY ON THE LAW OF STANDING IN CANADA (1986); LAW REFORM COMM'N OF BRITISH COLUMBIA, CIVIL LITIGATION

defendant must be an appropriate party from which to seek redress. The global climate change problem presents the most extreme dilemma that has historically plagued environmental law: causation.[4] Even apart from respirating humans and animals, there are literally millions of emitters of greenhouse gases,[5] and the contribution of any one emitter or even any one identifiable group of emitters is relatively small. Finding a defendant that can be reasonably said to have "caused" harm in the form of climate change is a challenging legal task. Third, finding an appropriate forum in which to bring an action will prove difficult. With a plethora of possible court systems and international adjudicatory bodies in play,[6] it is a dizzying exercise to consider the international, transnational, and intergovernmental implications of a legal action, not to mention the complex and untested choice of law questions.

Wrestling all of these questions down to an analytical conclusion is beyond the scope of this Article, and beyond the reasonable scope of any journal-length article. Rather, this Article seeks to make the problem more tractable by finding a plaintiff that would have a strong and viable claim for climate change damages, and finding a defendant that could most plausibly be sued for such damages. Analyzing the merits of such a suit and the possible forums in which the suit could be brought will

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IN THE PUBLIC INTEREST (1980); ONTARIO LAW REFORM COMM'N, REPORT ON THE LAW OF STANDING (1989).

4. The classic causation case, and a classic example of the problem with traditional common law doctrines as environmental law, is *Missouri v. Illinois*, 200 U.S. 496 (1906), in which Missouri claimed that the City of Chicago, in engineering a sewage canal, caused its untreated sewage to flow down the Illinois River and empty into the Mississippi River just upstream of the City of St. Louis. *Id.* at 497. St. Louis, through the Missouri Attorney General, claimed that a rise in typhoid cases was caused by the sewage from the Chicago. *Id.* at 498–504. The long journey that typhoid bacteria would have to make—357 miles—seemed to be fatal to Missouri's claim, despite some controverted evidence that the bacterium could survive such a journey. *Id.* at 523. The distance element, along with Missouri's unclean hands—its own cities were contributing raw sewage to the problem—seemed critical to the Court's denial of relief. *Id.* at 521–26. For a fuller discussion, see Robert V. Percival, *The Clean Water Act and the Demise of the Federal Common Law of Interstate Nuisance*, 55 ALA. L. REV. 717, 718–32 (2004).

5. The term "greenhouse gas" refers to a group of gases that contribute to the "greenhouse effect," trapping heat in the Earth's atmosphere and contributing to global climate change. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. *See* DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 633–36 (3d ed. 2007).

6. Osofsky, *supra* note 2, at 1791.

shed considerable light on the more general phenomenon of climate change litigation. A careful thought experiment about a hypothetical lawsuit would illuminate the legal issues involved with climate change litigation and would likely evaluate the disposition of those issues.

This Article will show that even with a strong plaintiff and a vulnerable defendant, imposing liability would test the frontiers of existing legal doctrines, making liability less probable than not, though certainly not inconceivable. The somewhat tenuous bases for liability in this hypothetical lawsuit tell us a number of things about climate change litigation: (1) that for all the discussion of climate change litigation, the reality is that under current laws, liability is likely to be imposed, if at all, only in a fairly narrow set of circumstances; (2) that although courts have often filled in gaps left by legislative inaction, their ability to adapt to the evidentiary issues posed by global climate change law is limited; and (3) that, in the end, litigation can probably only play a modest role in bringing about reductions in greenhouse gases, and that broad-based legislative and international action must be the primary means of addressing the problem of global climate change.

In Part I of this Article, I discuss existing efforts to combat climate change, on the international, national and sub-national levels, as well as private initiatives. Part II of this Article takes the reader through the emergence of climate change litigation, and a classification of the different types seen thus far. Part III identifies the strong plaintiff in the hypothetical lawsuit—the Inuit peoples of the Arctic region. Part IV identifies the vulnerable defendants—electricity generating companies in the United States. Part V of this Article discusses some of the difficulties in bringing climate change litigation in international and domestic forums. Parts VI and VIII discuss the application of nuisance law in the United States and Canada, respectively, while Part VII discusses some of the jurisprudential obstacles to a finding of liability under U.S. nuisance law. Part IX concludes with some summary remarks.

I. EFFORTS TO COMBAT GLOBAL CLIMATE CHANGE

The Kyoto Protocol to reduce greenhouse gas emissions[7] and the underlying United Nations Framework Convention on Global Climate Change[8] are under siege.[9] While the U.S. and Australia have suffered pariah status for their affirmative repudiation of Kyoto,[10] even ardent supporters acknowledge that the treaty is flawed.[11] The Kyoto Protocol only requires bind-

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7. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22 (1998), *reprinted in* HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY, *supra* note 5, at 120–134 [hereinafter Kyoto Protocol].

8. United Nations Framework Convention on Climate Change, May 9, 1992, U.N. Doc. A/CONF.151/26, *reprinted in* SUPPLEMENT OF BASIC DOCUMENTS TO INTERNATIONAL ENVIRONMENTAL LAW AND WORLD ORDER (Lakshman D. Guruswamy et al. eds., 2d ed. 1999) (Annexes I & II omitted), *available at* http://unfccc.int/essential_background/convention/background/items/2853.php.

9. *See, e.g.*, SCOTT BARRETT, ENVIRONMENT AND STATECRAFT 360 (2003) ("[T]he Kyoto Protocol is unlikely to sustain meaningful cooperation. This is not for the reasons usually given—that Kyoto will do little to moderate climate change, that monitoring of the agreement will be imperfect, that its mechanisms are too complicated, and that its implementation will be too costly—though these criticisms are also valid. The main strike against Kyoto is the most crucial of all: the agreement fails to solve the enforcement problem."); RICHARD B. STEWART & JONATHAN B. WIENER, RECONSTRUCTING CLIMATE POLICY (2003); DAVID G. VICTOR, THE COLLAPSE OF THE KYOTO PROTOCOL AND THE STRUGGLE TO SLOW GLOBAL WARMING 24 (2001) ("The danger is not that the Kyoto Protocol will collapse. Rather, it is that governments will not reckon with Kyoto's real problems—that they will try to muddle through by stretching out the timetables rather than rethinking objectives and strategy."); Stephen M. Gardiner, *The Global Warming Tragedy and the Dangerous Illusion of the Kyoto Protocol*, 18 ETHICS & INT'L AFFAIRS 23–39 (2004); William D. Nordhaus, *After Kyoto: Alternative Mechanisms to Control Global Warming*, AM. ECON. REV., May 2006, at 31, 31–34 (2006); Sheila M. Olmstead & Robert N. Stavins, *An International Policy Architecture for the Post-Kyoto Era*, AM. ECON. REV., May 2006, at 35, 35–38 (2006); Bruce Pardy, *The Kyoto Protocol: Bad News for the Global Environment*, 14 J. ENVTL. L. & PRAC. 27 (2004).

10. Even former Presidential candidate John Kerry acknowledged that the U.S. had become a "pariah" for its refusal to join Kyoto. *Weekend Live: Sen. John Kerry Calls U.S. a "Sort of Pariah"* (Fox News television broadcast Jan. 27, 2007), *available at* http://www.youtube.com/watch?v=9086fl2SiYQ. For comments on Australia's status as a pariah, see *Business Council Rethinks Kyoto Stance* (The World Today television broadcast Nov. 22, 2002), *available at* http://www.abc.net.au/worldtoday/stories/s732777.htm.

11. *See, e.g.*, ANDREW E. DESSLER & EDWARD A. PARSON, THE SCIENCE AND POLITICS OF GLOBAL CLIMATE CHANGE: A GUIDE TO THE DEBATE (2006); MEINHARD DOELLE, FROM HOT AIR TO ACTION? CLIMATE CHANGE, COMPLIANCE AND THE FUTURE OF INTERNATIONAL ENVIRONMENTAL LAW (2005); Erik B. Bluemel, *Unraveling the Global Warming Regime Complex: Competitive Entropy in the Regulation of the Global Public Good*, 155 U. PA. L. REV. 1981 (2007), *available at* http://ssrn.com/abstract=939277; Daniel H. Cole, *Climate Change, Adaptation,*

ing emissions reductions from "Annex A" countries—countries that were considered developed countries at the time of negotiation of the Kyoto Protocol.[12] This list of Annex A countries excludes China, which appears to have become the largest carbon dioxide-emitting country,[13] and India, the fourth-largest greenhouse gas-emitting country. Both countries have caused considerable international hand-wringing by flatly refusing to consider binding obligations to reduce greenhouse gas emissions.[14] Meanwhile, the seventh-largest greenhouse gas emitter, Canada,[15] a Kyoto signatory, has effectively repudiated Kyoto by announcing that it would not attempt to comply with Kyoto, maintaining that a "deep recession" would be the price of compliance.[16] These five countries collectively account for

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and Development, UCLA J. ENVTL. L. & POL'Y (forthcoming 2008), *available at* http://ssrn.com/abstract=976234; R.A. Pielke, *Misdefining "Climate Change": Consequences for Science and Action*, 8 ENVTL. SCI. & POL'Y 548 (2005).

12. *See* Kyoto Protocol, *supra* note 7, Annex A.

13. Preliminary estimates by the Netherlands Environment Assessment Agency indicate that China surpassed the United States in total carbon dioxide emissions in 2006, emitting 8% more, due in large part to China's increase in coal consumption, used to fuel its rapid industrial growth. Netherlands Env't Assessment Agency Climate Change Dossier, *China Now No. 1 in CO2 Emissions; USA in Second Position*, http://www.mnp.nl/en/dossiers/Climatechange/moreinfo/Chinanowno1inCO2emissionsUSAinsecondposition.html (last visited July 26, 2007). It is still unclear whether China emits more greenhouse gases overall.

14. NAT'L DEV. & REFORM COMM'N OF THE PEOPLE'S REPUBLIC OF CHINA, CHINA'S NATIONAL CLIMATE CHANGE PROGRAMME (2007), *available at* http://en.ndrc.gov.cn/newsrelease/P020070604561191006823.pdf; Peter Foster, *India Snubs West on Climate Change*, THE DAILY TEL., June 12, 2007, *available at* http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2007/06/12/eaindia12.xml; Sanjoy Majumder, *India Makes Climate Change Move*, BBC NEWS, July 13, 2007, *availale at* http://news.bbc.co.uk/2/hi/south_asia/6898173.stm ("Prime Minister Manmohan Singh chaired a meeting of top government officials and environmental experts which agreed to draft a national policy by October. But the body has not set any targets to cut down on greenhouse gas emissions . . . [and] no mention was made of cutting carbon emissions."); Jim Yardley, *Beijing Climate-Change Strategy Has No Emission Caps*, INT'L HERALD TRIB., June 4, 2007, *available at* http://www.iht.com/articles/2007/06/04/asia/china.php?page=1.

15. *See* U.S. Dep't of Energy, Energy Info. Admin., *World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1980–2005*, Table h1.co2, Sept. 18, 2007, *available at* http://www.eia.doe.gov/pub/international/iealf/tableh1co2.xls. A sorting of the table by carbon dioxide emissions places Canada seventh.

16. Environment Canada News Release, *Economic Analysis Shows Implementing Bill C-288 Would Plunge Canada Into a Recession*, Apr. 19, 2007, http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=2EF3E5A6-6015-46E8-A0E5-08B1C88FB4C0 ("Canada cannot reach its 2008 to 2012 Kyoto targets, as required under Bill C-288, without intentionally manufacturing an

almost half—over 46%—of worldwide greenhouse gas emissions.[17] Even with such serious non-compliance and non-participation problems, however, the Kyoto signatories have thus far paid little or no attention toward trying to improve participation and compliance,[18] and have rejected the one sanction that would effectively induce cooperation: trade sanctions.[19] With no incentives to be a signatory and no penalties for non-compliance, the remaining Annex A countries seem to have been left holding the bag.[20]

In this apparent policy vacuum, a number of subnational actors have stepped up. Seattle Mayor Greg Nickel has helped to create a network of approximately 600 cities that have agreed to reduce greenhouse gas emissions under the U.S. Mayors Climate Protection Agreement.[21] Fellow Mayor Michael Bloomberg has pledged to reduce the greenhouse gas emissions of New York City,[22] and has even proposed an $8 commuters' fee for drivers entering New York City from the

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economic recession."); *see also* Environment Canada News Release, *The Cost of Bill C-288 to Canadian Families and Business* (2007), http://www.ec.gc.ca/doc/media/m_123/toc_eng.html.

17. *See* U.S. Dep't of Energy, Energy Info. Admin., *supra* note 15.

18. BARRETT, *supra* note 9, at 387; VICTOR, *supra* note 9, at 33–54. *See generally* David G. Victor, *Toward Effective International Cooperation on Climate Change: Numbers, Interests and Institutions,* 6 GLOBAL ENVTL. POLITICS 90 (2006).

19. BARRETT, *supra* note 9, at 388–89; Jeffrey Frankel, *Climate and Trade: Links Between the Kyoto Protocol and WTO*, 47 ENV'T 7, 14 (2005), *available at* http://ksghome.harvard.edu/~jfrankel/KyotoGEnvir05J-pub.pdf (noting "what is perhaps the [Kyoto P]rotocol's biggest shortcoming—lack of trade sanctions or other means of enforcement"). Ironically, discussions on Capitol Hill on U.S. greenhouse gas regulation have included consideration of trade sanctions against countries that are not doing enough to reduce greenhouse gases. Darren Samuelson, *Trade Plan Opposed by China, Brazil and Mexico,* GREENWIRE, Sept. 26, 2007 (on file with author), *available at* http://www.eenews.net/Greenwire/2007/09/26/10.

20. Russia and some Eastern European countries are major greenhouse gas emitters, but because the national economies of theses countries declined dramatically after 1990, the Kyoto baseline year for national emissions allocations, these countries only stand to gain from any carbon trading regime realized under Kyoto. What is believed by some to be a windfall for Russia and other countries has been labeled Russian "hot air."

21. Seattle.gov, U.S. Mayors Climate Protection Agreement, http://www.ci.seattle.wa.us/mayor/climate/ (last visited Feb. 21, 2008). Participating cities can be found at Seattle.gov, U.S. Mayors Climate Protection Agreement: Who Is Involved?, http://www.ci.seattle.wa.us/mayor/climate/default.htm#who (last visited Feb. 21, 2008).

22. PLANYC, A GREATER, GREENER NEW YORK, 89–91 (2007), *available at* http://www.nyc.gov/html/planyc2030/downloads/pdf/full_report.pdf.

suburbs,[23] a politically risky move as he contemplated a run for the Presidency.[24] A group of eight northeastern states have adopted the Regional Greenhouse Gas Initiative, an emissions trading program aimed at reducing greenhouse gas emissions.[25] California governor Arnold Schwarzenegger led an effort to pass and implement the Global Warming Solutions Act, a state law that requires California to reduce its greenhouse gas emissions to 1990 levels by 2020.[26] Governor Schwarzenegger has also brought British Columbia Premier Gordon Campbell on board, who has committed the province to a similar emissions reduction target,[27] and launched a broader initiative among other Western states and the province of Manitoba.[28] Also in Canada, the province of Quebec has introduced its own provincial carbon tax, to be levied on the sale of fossil fuel products within the province.[29] In Australia, the state of New South Wales adopted a climate change policy in 2006,[30] which sought to bring other Australian states into a policy

23. *Id.* at 90.

24. Michael Powell, *Giuliani May See a Rival in Successor,* N.Y. TIMES, June 21, 2007, at A1, *available at* http://www.nytimes.com/2007/06/21/us/politics/21damage.html?scp=1&sq=giuliani+may+see+a+rival+in+successor&st=nyt. Mayor Bloomberg has since announced, however, he will not run, following several more equivocal statements. *Bloomberg Says Won't Run for President,* REUTERS, Aug. 21, 2007, *available at* http://www.reuters.com/article/newsOne/idUSN2137428620070821 (last visited Feb. 21, 2008).

25. Regional Greenhouse Gas Initiative, Participating States, http://www.rggi.org/states.htm (last visited Feb. 21, 2007). Another three states, the District of Columbia, and the Canadian Maritime Provinces are participating as "observers." *Id.*

26. *See* California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE §§ 38550–551 (2007).

27. *Campbell, Schwarzenegger Formalize Green Agreement,* CBCNEWS.CA, May 31, 2007, http://www.cbc.ca/canada/british-columbia/story/2007/05/31/bc-green.html.

28. Adam Tanner, *US, Canadian West Set Joint Carbon-Cutting Target,* PLANET ARK, Aug. 24, 2006, http://www.planetark.com/dailynewsstory.cfm/newsid/43884/story.html.

29. *Quebec to Collect Nation's First Carbon Tax,* CBCNEWS.CA, June 7, 2007, http://www.cbc.ca/canada/montreal/story/2007/06/07/carbon-tax.html; *see* GOV'T OF QUEBEC, QUEBEC AND CLIMATE CHANGE: A CHALLENGE FOR THE FUTURE (June 2006), *available at* http://www.mddep.gouv.qc.ca/changements/plan_action/2006-2012_en.pdf.

30. NEW SOUTH WALES GREENHOUSE OFFICE, NSW GREENHOUSE PLAN (Nov. 2005), *available at* http://www.greenhouse.nsw.gov.au/__data/assets/pdf_file/0016/2662/28-11_FINAL_NSW_GH_Plan_web.pdf.

framework in the absence of federal action,[31] an omission that was rectified with the recent changeover in the federal government.[32]

The frenzied sub-national activity is not confined to governmental action. British Petroleum chairman Lord John Browne famously pledged in 1997 to reduce British Petroleum's global greenhouse gas emissions by 10% below 1990 levels by the year 2010, a goal that British Petroleum met surprisingly easily by 2001.[33] The Chicago Climate Exchange[34] hosts a carbon trading market that has attracted the participation of over 150 firms, governments, universities, and other entities who signed up for a voluntary, but legally binding, commitment to reduce their greenhouse gas emissions.[35] The members include industrial giants such as the American Electric Power Company, the world's largest greenhouse gas emitter, electronics staples Sony and Motorola, chemical giant Dupont, and automaker Ford Motor Company.[36] Yet another corporate initiative, the Caring for Climate Compact, drew the assent of 153 multinationals, including Airbus, Coca-Cola, Ikea, pharmaceutical giants Novartis and Pfizer, and mining giants Anglo American and Rio Tinto.[37] Abbott Labs is the first health care

31. New South Wales seems to have achieved some success in this regard, as the state legislature of South Australia has also proposed a greenhouse gas emissions reduction plan. *See* Climate Change and Greenhouse Emissions Reductions Bill 2006, HA GP 130-A OPC 82, *available at* http://www.climatechange.sa.gov.au/PDFs/Climate_Change_and_Greenhouse_Emissions_Reduction_Bill%202006.pdf.

32. In one of his first acts as the new Prime Minister of Australia, Kevin Rudd obtained ratification of the Kyoto Protocol on December 3, 2007. Press Release, Australian Gov't Dep't of Climate Change, International Activities, Kyoto Protocol, (Dec. 14, 2007), http://www.greenhouse.gov.au/international/kyoto/index.html (last visited Feb. 2, 2008).

33. Cathy Castillo, *BP Beats Greenhouse Gas Targets by Eight Years and Aims to Stabilize Net Future Emissions*, STANFORD GRADUATE SCH. OF BUS. NEWS, March 2002, *available at* http://www.gsb.stanford.edu/news/headlines/browne_2002bpspeech.shtml.

34. Chicago Climate Exchange, http://www.chicagoclimatex.com/ (last visited Feb. 18, 2008).

35. Chicago Climate Exchange: Emission Reduction Commitment, http://www.chicagoclimatex.com/content.jsf?id=72 (last visited Feb. 18, 2008).

36. A list of members of the Chicago Climate Exchange can be found at http://www.chicagoclimatex.com/content.jsf?id=64 (last visited Feb. 18, 2008).

37. Laura MacInnis, *Companies Pledge at U.N. to Cut Carbon Burdens*, PLANET ARK, July 7, 2007, http://www.planetark.com/dailynewsstory.cfm/newsid/43005/newsDate/9-Jul-2007/story.htm.

company to pledge to become carbon neutral.[38] Several times a week, it seems, some major multinational corporation pledges to reduce greenhouse gas emissions. Last year, entertainment and airline billionaire Sir Richard Branson, with the support of Al Gore and much fanfare, announced a $25 million prize for the best idea to remove greenhouse gases from the atmosphere,[39] part of his $3 billion pledge to generally combat climate change.[40]

II. THE EMERGENCE OF CLIMATE CHANGE LITIGATION

Hanging over this flurry of sub-national activity is the shadow of climate change litigation. Any important legal transition, particularly in the area of climate change, is apt to involve all three branches of government, of which the executive and legislative branches in the United States have been so slow to act. In such a vacuum, it is natural that some would turn to the judiciary for some attention. Climate change litigation is now past the stage at which it would be considered nascent. A variety of lawsuits, petitions, and other actions have now been filed in the United States, Australia, Germany, New Zealand, Canada and various other forums against a variety of actors for a variety of acts or omissions, all somehow related to greenhouse gas emissions.

But this variety of legal action only highlights the question of how we define "climate change litigation." Who are the plaintiffs and defendants in climate change litigation, and what are the goals of the plaintiffs? What remedies are sought? A typology for the various different types of lawsuits is needed. For purposes of this Article, I only analyze lawsuits seeking regulation or greater regulation of greenhouse gas emissions, not those that challenge attempts to regulate greenhouse gas emissions.[41]

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38. *See* Michael Burnham, *Health Care Giant to Neutralize Vehicle Emissions*, GREENWIRE, July 12, 2007 (on file with U. Colo. L. Rev.).

39. *Branson Launches $25m Climate Bid*, BBC NEWS, Feb. 8, 2007, http://news.bbc.co.uk/1/hi/sci/tech/6345557.stm.

40. *Branson Makes $3bn Climate Pledge*, BBC NEWS, Sept. 21, 2006, http://news.bbc.co.uk/1/hi/business/5368194.stm.

41. Some that may be disadvantaged by greenhouse gas regulation have taken the view that offense makes the best defense, suing governmental entities for greenhouse gas regulations. *See, e.g.*, Green Mountain Chrysler, Plymouth, Dodge, Jeep v. Crombie, 508 F. Supp. 2d 295 (D. Vt. 2007); Assoc. of Int'l Auto. Mfrs. v. Sullivan, No. 1:06-CV-00069 (D. R.I. filed Feb. 13, 2006); Lincoln Dodge,

As a rough cut at cataloguing these lawsuits, what follows is a description of each action that implicates greenhouse gases, and a breakdown of each action into one of three categories.

A. Actions Against Governmental Entities for Acts or Omissions Relating to Greenhouse Gas Emissions

While the Bush Administration's indelicate 2001 rejection of the Kyoto Protocol generated the most antipathy, governmental entities around the world have been challenged for failures, real and perceived, to take adequate steps to curb the emission of greenhouse gases. Cases falling into this category include the following:

Massachusetts v. EPA,[42] a suit by twelve states and several cities and environmental organizations to force the EPA to consider regulating carbon dioxide as a pollutant under the U.S. Clean Air Act.

New York v. EPA[43] and *Coke Oven Environmental Task Force v. EPA*,[44] consolidated lawsuits to force the EPA to establish new source standards to regulate carbon dioxide from coal-fired power plants and industrial boilers.

Korsinsky v. EPA,[45] a suit against the EPA, the State of New York and the City of New York for public nuisance for failing to regulate greenhouse gas emissions.

Gbembre v. Shell Petroleum Nigerian Limited,[46] a suit to force the Nigerian government to stop or regulate the "flaring," or incidental burning, of natural gas during exploration.

Inc. v. Sullivan, No. 1:06-CV-0070 (D. R.I. filed Feb. 13, 2006); Assoc. of Int'l Auto. Mfrs. v. Torti, No. 2:05-CV-304 (D. Vt. filed Nov. 18, 2005); *In re* Quantification of Envtl. Costs, 578 N.W.2d 794 (Minn. Ct. App. 1998) (involving a challenge to the Minnesota Public Utilities Commissions rate setting procedures, which accounted for social costs of carbon dioxide emissions); Alliance of Auto. Mfrs. v. Sheehan, No. 4757-05 (N.Y. Sup. Ct. filed Aug. 5, 2005). All of the suits mentioned, with the exception of *In re Quantification of Environmental Costs*, were brought on Clean Air Act pre-emption grounds, by car dealers and auto manufacturers against states that set vehicle emissions standards for carbon dioxide.

42. 127 S. Ct. 1438 (2007), *rev'g* Massachusetts v. EPA, 415 F.3d 50 (D.C. Cir. 2005).

43. No. 06-1148 (D.C. Cir. Apr. 26, 2006).

44. No. 06-1131 (D.C. Cir. Apr. 26, 2006).

45. No. 05 Civ. 1528, 2005 WL 1423345 (S.D.N.Y. June 16, 2005), *aff'd*, 192 Fed. Appx. 42, 2006 WL 2255110 (2d Cir. 2006), *cert. denied*, 127 S. Ct. 1155 (2007).

Friends of the Earth Canada v. Canada,[47] a lawsuit against the federal government of Canada for abandoning its commitments under the Kyoto Protocol to reduce greenhouse gas emissions.

Inuit Circumpolar Conference v. United States,[48] a petition before the Inter-American Human Rights Commission, an arm of the Organization of American States, to declare that the U.S. is infringing the human rights of the Inuit people in failing to regulate greenhouse gas emissions.

B. Actions Against Governmental Entities to Force Procedural Consideration of Global Climate Change Impacts

As opposed to suing to force governmental entities to undertake a substantive greenhouse gas-reducing effort, an alternative strategy is to sue to force a governmental agency to consider the climate change impact when making administrative decisions. Thus, the National Environmental Policy Act (NEPA)[49] figures heavily in such U.S. suits, as does the theory that forcing agencies to simply consider the environmental impacts of their actions will either shame them into taking more substantive actions, or at least make the agencies take a more

46. Gbemre v. Shell, [2005] FHC/B/CS/53/05, High Court of Nigeria, F.H.C.L.R. (Nigeria), *available at* http://www.climatelaw.org/cases/country/nigeria/media/2007May2/ (a copy of the court order is available at http://www.climatelaw.org/cases/case-documents/nigeria/ni-shell-nov05-decision.pdf).

47. [2007] Fed. Ct. T-1683-07, *available at* http://www.sierralegal.org/reports/notice_of_application07_05_29.pdf; *see also* Press Release, Sierra Legal, First Global Warming Lawsuit Launched Against Canada (May 29, 2007), http://www.sierralegal.org/m%5Farchive/pr07%5F05%5F29.html.

48. INUIT CIRCUMPOLAR CONFERENCE, PETITION TO THE INTER AMERICAN COMM'N ON HUMAN RIGHTS SEEKING RELIEF FROM VIOLATIONS RESULTING FROM GLOBAL WARMING CAUSED BY ACTS AND OMISSIONS OF THE UNITED STATES. (Dec. 7, 2005), *available at* http://www.inuitcircumpolar.com/files/uploads/icc-files/FINALPetitionICC.pdf [hereinafter INUIT ICC PETITION].

49. 42 U.S.C. §§ 4321 to 4370f (2000) [hereinafter NEPA]. NEPA requires that an environmental assessment or environmental impact statement be completed whenever a federal agency triggers its application. *See id.* While NEPA sets forth a variety of statutory provisions and regulations governing the environmental assessment process, it does not mandate any particular result, such as cancellation of projects deemed to be imposing significant environmental harm. *See id.*

favorable view of greenhouse gas-reducing alternatives.[50] The prevalence of these types of lawsuits in the United States, Australia, and New Zealand seems to signal the continued faith of environmental lawyers in legal process as a means of securing a substantive outcome. Such lawsuits include the following:

City of Los Angeles v. National Highway Traffic Safety Administration,[51] a suit to force the NHTSA to prepare an environmental impact statement assessing the climate change impacts of its Corporate Average Fuel Economy standards.

Friends of the Earth v. Mosbacher,[52] a suit alleging a violation of NEPA[53] by the Export-Import Bank due to its failure to consider impacts on greenhouse gases in making funding decisions. A similar lawsuit has been filed in Germany against German agencies financially supporting fossil fuel projects.[54]

Border Power Plant Working Group v. Department of Energy,[55] a suit challenging the Department's finding of "no significant impact" under NEPA in considering the construction of an electricity transmission line across the United States-Mexico border.

Natural Resources Defense Council v. Abraham,[56] another suit against the U.S. Department of Energy for setting air conditioner efficiency standards without considering the impact on greenhouse gas emissions.

Montana Environmental Information Center and Environmental Defense v. EPA,[57] a suit against the EPA for taking the position that consideration of a new coal-fired power plant did not require consideration of coal gasification technology as a means of reducing carbon dioxide emissions.

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50. Bradley C. Karkkainen, *Toward a Smarter NEPA,* 102 COLUM. L. REV. 903, 903–05 (2002).

51. 912 F.2d 478 (D.C. Cir. 1990), *overruled in part by* Fla. Audubon Soc'y v. Bentsen, 94 F.3d 658 (D.C. Cir. 1996).

52. No. C 02-4106 JSW, 2007 WL 962949 (N.D. Cal. Mar. 30, 2007).

53. NEPA, *supra* note 49.

54. Verwaltungsgericht [VG] [Administrative Court] Jan. 10, 2006, 10 A 215.04 Bundes fur Umwelt und Naturschutz Deutschland e.V. & Germanwatch e.V. v. Bundesrepublik Deutschland, vertreten durch Bundesminister fur Wirtschaft und Arbeit, (F.R.G.) *available at* http://www.climatelaw.org/cases/case-documents/germany/de-export-jan06.pdf, unofficial translation *available at* http://www.climatelaw.org/cases/case-documents/germany/de-export-jan06-eng.doc.

55. 260 F. Supp. 2d 997 (S.D. Cal. 2003).

56. 355 F.3d 179 (2d Cir. 2004).

57. No. 06-1059 (D.C. Cir. 2005) (on file with author).

Center for Biological Diversity v. National Highway Transportation Safety Administration,[58] a challenge to the National Highway Traffic Safety Administration for violating NEPA in promulgating new vehicle efficiency standards for light-duty trucks.

Australian Conservation Foundation v. Latrobe City Council,[59] *Gray v. The Minister for Planning*,[60] and *Wildlife Preservation Society of Queensland v. Minister of Environment & Heritage*,[61] three Australian lawsuits, all to force consideration of greenhouse gas emissions. The suits were against an administrative review panel in the State of Victoria, the New South Wales Land and Environment Court, and the Australian Minister of Environment and Heritage, respectively, all of which were considering applications to develop coal mines to keep coal-fired power plants in operation, and all of which did not consider the greenhouse gas emission impact of the proposed mines.

Greenpeace New Zealand Inc. v. Northland Regional Council & Mighty River Power Ltd.,[62] a suit before the High Court of New Zealand, the highest court in the country, to overturn a previous ruling in New Zealand's Environment Court that allowed an application for a coal-fired power plant to proceed despite the government's failure to consider the climate change impacts of the resulting carbon dioxide emissions.

Genesis Power Ltd. v. Franklin District Council,[63] *Meridian Energy Ltd. & Others v. Wellington City Council*,[64] *Environmental Defense Society v. Auckland Regional Council & Contact Energy Ltd.*,[65] and *Environmental Defense Society & Taranaki Energy Watch v. Taranaki Regional Council and Stratford Power Ltd.*,[66] four New Zealand lawsuits, all based on a failure to consider net greenhouse gas effects in *refusing* applications for wind farms.

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58. *See* 508 F.3d 508 (9th Cir. 2007).
59. *See* (2004) 140 L.G.E.R.A. 100.
60. *See* (2006) N.S.W.L.E.C. 720, 152 L.G.E.R.A. 258.
61. *See* (2006) 232 A.L.R. 510.
62. [2006] N.Z.H.C. 1212. *See* Greenpeace New Zealand v. Northland Regional Council, [2007] N.Z.R.M.A. 87 (H.C.).
63. [2005] N.Z.R.M.A. 541.
64. [2007] No. W31/07 (Environment Ct.).
65. [2002] 11 N.Z.R.M.A. 492.
66. [2002] No. A184/02 (Environment Ct.).

C. Civil Lawsuits Against Private Entities Directly Responsible for Greenhouse Gas Emissions.

Some lawsuits have been filed directly against those entities that have been deemed to be directly responsible for greenhouse gas emissions: the greenhouse gas emitters themselves or, in the case of automobile manufacturing defendants, those private entities that create the instrumentality of greenhouse gas emissions. These include

Kivalina v. ExxonMobil Corp.,[67] a civil suit in public nuisance against ExxonMobil and other defendants for emitting greenhouse gases and allegedly conspiring to manipulate public perceptions of climate science so as to slow the onset of regulation.

Connecticut v. American Electric Power,[68] a civil suit for public nuisance brought by eight states, the City of New York, and an environmental organization against five electric utilities that are the largest greenhouse gas emitters in the United States

Comer v. Murphy Oil, USA,[69] a class action suit by victims of Hurricane Katrina against oil and gas companies, electric utilities, and a variety of other entities alleged to be responsible for greenhouse gas emissions, and for allegedly fraudulent public relations campaigns to downplay the urgency of global climate change—the so-called "Hurricane Katrina suit."

California v. General Motors Corp.,[70] a public nuisance suit by California against the six largest automobile manufacturers for emissions by automobiles manufactured by defendants.

Northwest Environmental Defense Center v. Owens,[71] a suit by a local environmental organization against fiberglass manufacturer Owens Corning for failing to obtain an emissions permit for greenhouse gases.

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67. No. CV 08-1138-SBA (N.D. Cal.), *available at* http://www.adn.com/static/adn/pdfs/Kivalina%20Complaint%20-%20Final.pdf.

68. 406 F. Supp. 2d 265 (S.D.N.Y. 2005) (dismissing complaint on political question grounds).

69. No. 1:05-cv-00436-LG-RHW (S.D. Miss. 2006).

70. No. C06-05755 MJJ (N.D. Cal. Sept. 20, 2006); *see also* California v. General Motors Corp., WL 2726871, slip op., 2007 (Sept. 17, 2007) (Order granting defendant's motion to dismiss).

71. 434 F. Supp. 2d 957 (D. Or. 2006) (denying defendant's motions to dismiss).

D. What Is the Best Approach to Climate Change Litigation?

Although the focus of this Article is the third approach to climate change litigation, the first two types of lawsuits, focusing on the governmental action, may also have some success over the long haul at reducing greenhouse gases. The incremental effect of these strategies, however, can always be undermined by the politics of the day and the policy stance of the President. While *Massachusetts v. EPA* will certainly push the EPA in the direction of regulating and perhaps reducing greenhouse gases, it is still the President to whom the EPA Administrator reports. Thus, it will be the President, and not the outcome of litigation, that bends the will of federal agencies to engage in the problem of regulating and reducing greenhouse gases.[72] Furthermore, any lawsuit relying on NEPA is unlikely to succeed in directly forcing changes to governmental policy. While NEPA has always been effective in bringing to light the environmental impacts of federal actions, at the end of the day, it requires nothing of substance.

Thus, the third line of cases—seeking direct civil liability against those responsible for greenhouse gas emissions—is the

72. It is widely believed that President Bush's first EPA Administrator, Christine Todd Whitman, favored action on climate change, but was overruled by the President and Vice President. *See, e.g.*, Amanda Griscom Little, *Party Girl,* GRIST, Jan. 14, 2005, http://www.grist.org/news/muck/2005/01/14/little-whitman/ (reviewing Whitman's book, IT'S MY PARTY, TOO, and noting that the Bush Administration's 2001 reversal on climate change made her a "laughingstock" among world environment ministers, and discussing how the White House forced her to propose weakening New Source Review regulations under the Clean Air Act and prevented her from investigating the vulnerability of U.S. chemicals facilities to terrorist attack). More recently, an EPA proposal to tighten the federal ambient air pollution standard for ozone drew a late rulemaking intervention by President Bush, who weakened the proposed secondary standard under section 109(b) of the Clean Air Act, 42 U.S.C. § 7409(b) (1977). *See* Juliet Eilperin, *Ozone Rules Weakened at Bush's Behest,* WASH. POST, Mar. 14, 2008, at A1; Sara Goodman, *Bush's Intervention in EPA Ozone Decision Draws Fire,* GREENWIRE, Mar. 14, 2008, *available at* http://www.eenews.net/Greenwire/2008/03/14/1. Some have made normative arguments in favor of the so-called "Unitary Executive" theory. *See, e.g.*, Stephen G. Calabresi, *Some Normative Arguments for a Unitary Executive,* 48 ARK. L. REV. 23 (1994); Stephen G. Calabresi & Sailkrishna B. Prakash, *The President's Powers to Execute the Laws,* 104 YALE L.J. 541 (1994). *But see* Robert V. Percival, *Presidential Management of the Administrative State: The Not-So-Unitary Executive,* 51 DUKE L.J. 963, 966 (2001) (arguing that while the "president's ability to remove agency heads gives him enormous power to influence their decisions, it does not give him the authority to dictate substantive decisions entrusted to them by law").

only one that holds out any promise of being a magic bullet. By targeting deep-pocketed private entities that actually emit greenhouse gases (or, in the case of automakers, produce the means of emitting greenhouse gases), a civil litigation strategy, if successful, skips over the potentially cumbersome, time-consuming, and politically perilous route of pursuing legislation and regulation. The civil litigation strategy is potentially a means of regulation itself, as a finding of liability could have an enormous ripple effect and send greenhouse gas emitters scrambling to avoid the unwelcome spotlight. Already, some industries that are only now emerging as major emitters, such as the airline industry, are starting to think proactively about climate change. The Australian airline Qantas has announced that it is aiming to reduce greenhouse gas emissions by participating in more efficient air traffic control practices.[73]

Importantly, to maximize the impact of this kind of litigation, the relief sought should be damages, and not injunctive relief. Injunctive relief in a successful lawsuit would have the positive effect of mandating some action to reduce emissions, but then as a substantive matter the suit would take on the character of just another form of regulation—and a considerably less informed and sophisticated one. Courts could certainly order, for example, the installation of carbon capture and storage technology, but this is surely the kind of regulation that should come from the EPA, if this form of regulation should come at all.[74] It could be that these kinds of lawsuits are brought in part to raise awareness, as plaintiffs' lawyer Matthew Pawa has intimated about *Connecticut v. American Electric Power Co.*,[75] in which case the most important thing would

73. Steve Creedy, *Qantas Looks to Five-Year Target on Carbon Cuts*, THE AUSTRALIAN, July 6, 2007, *available at* http://theaustralian.news.com.au/story/0,20867,22024152-30417,00.html.

74. The alternative would be market-based mechanisms such as cap-and-trade programs or carbon tax programs. Politically, the majority of Congressional proposals seem to gravitate towards the cap-and-trade idea, with fewer proposals containing traditional "command-and-control" mandates such as requiring carbon capture and storage technology. For a review of pending climate change legislation, see JONATHAN L. RAMSEUR & BRENT D. YACOBUCCI, CRS REPORT FOR CONGRESS, CLIMATE CHANGE LEGISLATION IN THE 110TH CONGRESS (2007), *available at* http://www.ncseonline.org/NLE/CRSreports/07Jul/RL34067.pdf.

75. 406 F. Supp. 2d 265 (S.D.N.Y. 2005). Matthew Pawa stated in an interview broadcast on E&ETV:

> [t]his case should be reinstated so that we could put on our approved [sic] about what's happening on global warming. Just over the last several months scientists have found that we may be approaching an irre-

not be the relief itself, but the presentation of a strong, credible case for liability. But it is the prospect of a multi-million or multi-billion-dollar judgment and not the prospect of remedial measures that is shaking the corporate world out of what remains of its climate complacency.

This third type of climate change litigation seems speculative, but is more familiar than one would think. Directly suing greenhouse gas emitters, especially deep-pocketed private emitters, has an analog, if not a precedent, in the American history of mass tort litigation. Mass tort litigation has served as a judicial gap-filler where conventional lawmaking and legislating has fallen short for some reason. Mass tort litigation for liability for tobacco products, asbestos, handguns, lead paint, and dangerous pharmaceutical products all took place in a vacuity of Congressional and administrative inaction.[76] Given the problems facing Kyoto and its signatories, it is quite foreseeable that some pent-up demand for legal action may be expressed in the form of litigation. While there are those who still consider climate change liability somewhat far-fetched, the level and quality of uncertainty is really no different than that once faced by tobacco plaintiffs, asbestos plaintiffs, and toxic tort plaintiffs. In fact, some have noted not only the similarity in strategy of the tobacco industry and industries opposed to climate change litigation,[77] but also the overlapping personalities involved with both causes.[78] And with President Bush still

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> versible tipping point on global warming. . . . We want to get to the point where we can put on our evidence. We think that this case should be allowed to go forward so that we can find out what the power companies knew about global warming and when they knew it. And put that evidence, including the evidence of harms . . . in front of the court. . . .

OnPoint-Climate Change: Attorney Matthew Pawa Targets Top U.S. Utilities with Global Warming Lawsuit (E&ETV television broadcast Apr. 10, 2006), *available at* http://www.eenews.net/tv/transcript/309.

76. *See* Shi-Ling Hsu & Austen Parrish, *Litigating Canada-U.S. Transboundary Harm: International Environmental Lawmaking and the Threat of Extraterritorial Reciprocity*, 48 VA. J. INT'L. L. 1, 60–61 (2007).

77. *See, e.g.*, CHRIS MOONEY, THE REPUBLICAN WAR ON SCIENCE 65–69, 78–80 (2005).

78. The Advancement of Sound Science Coalition, founded by Philip Morris in 1993, has more recently been funded by ExxonMobil to contest the science behind climate change, and has on its board several scientists that are on record as doubting various assertions that are commonly accepted as global climate change science. *See* ExxonSecrets.org, Factsheet: The Advancement of Sound Science Coalition, http://www.exxonsecrets.org/html/orgfactsheet.php?id=6 (last visited Feb. 16, 2008).

blocking any greenhouse gas regulation, civil litigation, an appeal to the third branch of federal government, begins to look more attractive.

III. A STRONG PLAINTIFF

The recent release of the Fourth Assessment of the Intergovernmental Panel on Climate Change has confirmed suspicions about the inevitability and the causes of global climate change. The most authoritative climate-science body now considers it "unequivocal" that current climate patterns are a part of an ongoing warming process,[79] and "very likely" that the increase in global average temperatures in the twentieth century is largely the result of human activity.[80] While much is still unknown about the specific impacts of global climate change, there is wide agreement that the climate will change dramatically in polar regions. Sea ice, already shrinking, will almost certainly continue to shrink and is likely to completely disappear during Arctic summers by the latter part of this century. This higher level of certainty with respect to the effects on polar regions provides a clue as to how to find some good plaintiffs for a climate change lawsuit: find the people who live there.

The Inuit, or "the people" in the Northern language of Inuktituk, refers to a people that inhabit the extreme northern latitudes of four countries: the United States, Canada, Denmark (of which Greenland is a territory), and the Russian Federation.[81] Most scholars believe that the Inuit have inhabited the northern latitudes of the Arctic for at least 1,000 years,[82] although there is evidence that the ethnic predecessors of the Inuit arrived in Northern Alaska as much as 4,500 to 5,000 years ago.[83] Today the Inuit population across the circumpolar

79. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS, SUMMARY FOR POLICYMAKERS 5 (2007) [hereinafter Fourth Assessment], *available at* http://www.aaas.org/news/press_room/climate_change/media/4th_spm2feb07.pdf.

80. *See id.*

81. INUIT ICC PETITION, *supra* note 48, at 1.

82. *See id.* at 13–14.

83. This is according to the "late migration" theory; other archaeological theories propose an earlier timeline of 8,000–9,000 years. *See* J.V. WRIGHT, A HISTORY OF THE NATIVE PEOPLE OF CANADA: VOL. I (10,000–1,000 B.C.) 407 (1995).

region is approximately 167,000.[84] While the Inuit are not homogeneous, all Inuit peoples have as a cultural base a tradition of hunting and trapping.[85] Wild meat and fish have been a dietary staple of the Inuit for millennia, just as traditional hunting and whaling have been a staple of Inuit culture.[86] Two-thirds of surveyed Inuit households reported that traditionally harvested meat and fish represent more than half of their food consumption.[87]

This history and identity are the key to why the Inuit have an unusually strong claim for damages for climate change. First, the Inuit are a relatively discrete and identifiable plaintiff group. While it is true that *Massachusetts v. EPA* has solved a number of standing problems for states suing in their quasi-sovereign capacity,[88] the matter of recovery would be a different matter. It would be hard to imagine a court ordering a payment of damages from some party alleged to be responsible for greenhouse gas emissions to the State of California, as California seeks in *California v. General Motors Corp.*[89] Apart from the political optics of such a decision, the political question doctrine, invoked by the trial judge in *Connecticut v. American Electric Power Co.*[90] to dismiss the action, may present an obstacle.[91] The Inuit, on the other hand, represent a

84. Peter Bjerregaard et al., *Indigenous Health in the Arctic: An Overview of the Circumpolar Inuit Population*, 32 SCANDINAVIAN J. PUB. HEALTH 390 (2004).

85. *See* HUGH BRODY, LIVING ARCTIC: HUNTERS OF THE CANADIAN NORTH 31 (1987).

86. *See id.* at 71, 171–85; INUIT ICC PETITION, *supra* note 48, at 16–17.

87. BRODY, *supra* note 85, at 68.

88. The Court held that states, in their capacities as "quasi-sovereign," have an independent interest "in . . . all the earth and air within its domain" and "should have the last word as to whether its mountains should be stripped of its forests and its inhabitants shall breathe pure air." Massachusetts v. EPA, 127 S. Ct. at 1454 (quoting Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1906)).

89. Second Amended Complaint for Damages and Declaratory Judgment, California v. General Motors Corp., No. C06-05755 EMC, 2006 WL 3069165, at ¶ 2 (N.D. Cal., Sept. 17, 2007).

90. Connecticut v. Am. Elec. Power Co., 406 F. Supp. 2d 265, 271–74 (S.D.N.Y. 2005).

91. In *Baker v. Carr*, 369 U.S. 186, 217 (1962), the court stated the following:

> Prominent on the surface of any case held to involve a political question is found a textually demonstrable constitutional commitment of the issue to a coordinate political department; or a lack of judicially discoverable and manageable standards for resolving it; or the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion; or the impossibility of a court's undertaking independent resolution without expressing lack of the respect due coordinate

discrete, identifiable group that would not be tainted by political question problems.[92] And unlike the plaintiffs in *California v. General Motors Corp.* and *Connecticut v. American Electric Power Co.*, the Inuit have done virtually nothing to contribute to climate change themselves.

Second, the impacts of climate change on Inuit peoples are more specific, more certain, and more severe than those on other potential plaintiffs pleading damages from climate change. The Inuit peoples have specific rights[93] and specific cultural characteristics that are highly integrated into an intact Arctic ecosystem. Many Inuit villages are located on land that is considered "permafrost," or land that only stays firm enough to support housing if temperatures are sufficiently low.[94] Warming temperatures have already caused some Inuit

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branches of government; or an unusual need for unquestioning adherence to a political decision already made; or the potentiality of embarrassment from multifarious pronouncements by various departments on one question.

See generally, JOHN E. NOWAK & RONALD E. ROTUNDA, CONSTITUTIONAL LAW, § 6.4, at 213 (5th ed. 1995).

92. It is true, of course, that persons of Inuit descent are all over the world, and have varying degrees of attachment to home cultures in Arctic regions. In this regard, one might argue that liability in favor of the Inuit is akin to awarding liability in favor of some ethnic group. While rare, this is not unprecedented. The United States and Canada have awarded reparations to interned Japanese-Americans, Entitlements to Eligible Individuals, 50 App. U.S.C.A. § 1989b-9 (2007), and there is continuing talk of reparations payments for enslaved blacks and their African-American descendants. *See* Peter Viles, *Suit Seeks Billions in Slave Reparations,* CNN.COM, Mar. 27, 2002, http://archives.cnn.com/2002/LAW/03/26/slavery.reparations; Brandt Williams, *The Case for Slavery Reparations,* MINNESOTA PUB. RADIO, Nov. 13, 2000, *available at* http://news.minnesota.publicradio.org/features/200011/13_williamsb_reparations. Although there are approximately 167,000 Inuit living in different Arctic regions, the Inuit have organizations that represent their legal interests, and in fact have initiated litigation before the Inter-American Human Rights Commission, and have negotiated land claims agreements with the Canadian government. *See* Press Release, Sierra Legal, *supra* note 47; *infra* note 93.

93. For example, the Inuit have negotiated land claims agreements with Canada such as the James Bay and Northern Quebec Agreement, Quebec-Inuit, Nov. 11, 1975, *available at* http://www.ainc-inac.gc.ca/pr/agr/que/jbnq_e.html, The Inuivialuit Final Agreement, S.Q 5201-001-EE-A2, May 11, 1984, *available at* http://www.ainc-inac.gc.ca/pr/agr/inu/wesar1_e.pdf, and the Nunavut Land Claims Agreement, Inuit-Canada, May 25, 1993, *available at* http://www.ainc-inac.gc.ca/pr/agr/pdf/nunav_e.pdf. (creating the new territory of Nunavut).

94. Statement of Robert A. Roberinson, Managing Director Natural Resources and Environment, Testimony Before the Comm. on Appropriations, U.S. Senate: Alaska Native Villages Affected by Flooding and Erosion Have Difficulty Qualifying for Federal Assistance, 108th Cong. (June 29, 2004), *available at*

villages to begin sinking into the ground, compromising housing and structures seriously enough so that entire Inuit villages will have to be moved within the next decade.[95] The Inuit peoples' lifestyles are also highly dependent upon fauna specific to the Arctic environment—species which will either migrate or risk extinction. In either case, this would pose an economic and cultural loss to the Inuit.[96]

Third, and finally, the impacts of climate change in the Arctic regions are likely to be more severe than in other regions in the world.[97] Average Arctic temperatures have increased at a rate twice the global average over the past century.[98] The permafrost upon which much of the built environment exists for the Inuit has warmed by an amazing three degrees Celsius, causing as much as a 15% shrinkage in spring permafrost, and leading to the structural and infrastructure problems facing Inuit villages.[99] Almost all modeling scenarios project a dramatic reduction in Arctic sea ice, including its complete disappearance during summer months later in the century.[100]

As a climate change plaintiff, the Inuit as a group strike a balance between being too small and too large. Too small a plaintiff group tempts courts into consciously or subconsciously trivializing its claim, and taking a skeptical view of its stand-

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http://www.gao.gov/new.items/d04895t.pdf. In addition, a recent report estimates that in Alaska alone, replacement of roads, runways, and other infrastructure will total over $40 billion. PETER LARSEN ET AL., ESTIMATING FUTURE COSTS FOR ALASKA PUBLIC INFRASTRUCTURE AT RISK FROM CLIMATE CHANGE 5 (Table 2) (2007); *available at* http://www.iser.uaa.alaska.edu/Publications/JuneICICLE.pdf.

95. *See, e.g.*, William Yardley, *A Victim of Climate Change, a Town Seeks a Lifeline,* N.Y. TIMES, May 27, 2007, at A1.

96. See *infra* notes 175–181 and accompanying text.

97. William Chapman, a University of Illinois arctic region researcher, recently reported an "incredible" reduction in floating sea ice, more than in any other summer since 1979 and measured a month before the end of summer. The Crysophere Today–Historic Sea Ice Area, http://arctic.atmos.uiuc.edu/cryosphere/sea.ice.minimum.2007.html (last visited Feb. 21, 2008). More recently, the National Snow and Ice Data Center reported that on September 16, 2007, sea ice stood at 4.13 million square kilometers, a shocking 30 % reduction from the previous record of 5.23 million square kilometers, set in 2005. National Snow and Ice Data Center, Arctic Sea Ice News Fall 2007, http://nsidc.org/news/press/2007_seaiceminimum/20070810_index.html (last visted Mar. 1, 2008). The U.S. Departments of Defense and Commerce have already started strategizing for a future Arctic that is free of ice for all or part of a year, creating new shipping lanes. *See* Lauren Morello, *U.S. Agencies Start Mapping Strategy for Warmer Arctic,* GREENWIRE, July 11, 2007.

98. Fourth Assessment, *supra* note 79, at 7.

99. *Id.*

100. *Id.* at 15.

ing to sue.[101] On the other hand, too large a plaintiff group makes the claim seem difficult to administer and too heterogeneous to adjudicate as a single action. The Inuit, in being small and discrete enough to present a coherent claim for infringement of identifiable rights, and being large enough to collectively experience harm of a serious enough magnitude, strike that balance. Moreover, the case for compensation for Inuit peoples is, as a political matter, much more palatable than a wealth transfer from one group of Americans to, say, the State of California. While courts of law are not supposed to be affected by such considerations, the perception that compensation provides a greater degree of redress for Northern Aboriginal peoples is likely to have some psychological effect.

The Inuit have not failed to note their unique position to seek a legal remedy for harms resulting from climate change. The Inuit Circumpolar Conference, an organization representing Northern Aboriginal peoples in several countries, has filed a petition with the Inter-American Commission on Human Rights, asking for a declaration that the United States, by not complying with the Kyoto Protocol, is violating the human rights of Northern Aboriginal peoples.[102] The declaration, if issued, would be non-binding, but may have some precedential value in a court of law, particularly with respect to fact-finding. In addition, earlier this year an Alaskan village, Kivalina, filed a public nuisance complaint against ExxonMobil and numerous other defendants not only for emitting greenhouse gases, but also for participating in a conspiracy to "create a false scientific debate about global warming to deceive the public,"[103] and to "suppress the awareness of the link between . . . emissions and global warming."[104] By bringing a lawsuit on behalf of a village of approximately 400 individuals,[105] the plaintiffs' counsel have settled for a potentially more modest damages award, but have also solidified their identity and standing as plaintiffs.

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101. *See* Korsinsky v. U.S. Envtl. Prot. Agency, No. 05 Civ. 859 (NRB), 2005 WL 2414744 (S.D.N.Y. Sept. 29, 2005), *aff'd*, No. 05-5577, 2006 WL 2255110 (2d Cir. Aug. 4, 2006), *cert denied*, 127 S. Ct. 1155 (2007).

102. INUIT ICC PETITION, *supra* note 48, at 6–7.

103. Complaint for Damages and Demand for Jury Trial ¶ 5, Kivalina v. ExxonMobil, No. CV 08-1138-SBA (N.D. Calif.), *available at* http://www.adn.com/static/adn/pdfs/Kivalina%20Complaint%20-%20Final.pdf [*hereinafter* Complaint].

104. *Id.* ¶ 6.

105. *Id.* ¶ 1.

IV. A VULNERABLE DEFENDANT

With millions of greenhouse gas emitters, how could one possibly single out one or a group of emitters as being responsible for global climate change? Singling out specific offenders would be too tall an order, but it may be possible to identify some discrete groups that might be more culpable than others, and in ways that somehow separate them from the millions of other greenhouse gas emitters.

The industry that emits more greenhouse gases than any other in the world is the U.S. electricity generation industry. The five defendants sued in *Connecticut v. American Electric Power Co.* account collectively for 31% of the carbon dioxide emissions emitted by the electricity generation industry in the United States. In 2004, these five electricity generators emitted a total of 556 million tons of CO_2,[106] approximately 8.3% of the total greenhouse gases emitted in the United States in 2004, measured in carbon equivalents.[107] Better still, if one were to join the top fifty greenhouse gas-emitters as defendants—the vast majority of them electricity generating companies[108]—they would collectively account for 25% of U.S. emissions and approximately 5.7% of worldwide emissions.[109]

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106. This figure is obtained through simple Excel spreadsheet calculations from U.S. EPA, Clean Energy: eGrid, http://www.epa.gov/cleanenergy/egrid/index.htm (follow the "eGRID2006 Version 2.1 (ZIP)" hyperlink) [hereinafter EGrid].

107. The United States emitted 604 teragrams of greenhouse gases in 2004, which translates into 6.68 billion tons of carbon equivalents. U.S. ENVTL. PROT. AGENCY, INVENTORY OF GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2005 ES-4 (Fig. ES-3) (2007), *available at* http://www.epa.gov/climatechange/emissions/downloads06/07CR.pdf. A carbon equivalent is the unit of measurement used to measure the overall greenhouse effect of six different greenhouse gases, of which carbon dioxide is only one, and, on a per pound basis, the least powerful. Because of the sheer volume of carbon dioxide emissions, however, it is the most important one. *Id.* at ES-3 (Table ES-1).

108. The EGrid database also includes owners of very large-scale industrial facilities that generate their own electricity, such as aluminum smelting facilities. General Electric and Alcoa are among the top fifty companies in terms of carbon dioxide emissions. Since the nature of electricity generation is the same for these facilities, there is no reason to exclude them from the list of the largest greenhouse gas emitters. *See* EGrid, *supra* note 106.

109. Worldwide emissions of carbon dioxide relating to the burning of fossil fuels totaled more than twenty-seven billion metric tons, or 29.8 billion tons, in 2004. U.S. Department of Energy, Energy Information Administration, *available at* http://www.eia.doe.gov/environment.html (scroll down to "International Emissions Data," then click on "Total Emissions"). The 1687 million tons emitted by

This swath of U.S. industry is particularly vulnerable for many of the same reasons that the Inuit are a particularly strong plaintiff group. Electricity generated by burning fossil fuels in traditional boilers is not terribly different from one facility to another. Indeed, the business of electricity generation has not fundamentally changed in over eighty years.[110] The basic homogeneity of the electricity generating industry and the essential similarity of all fossil fuel combustion processes make it less likely that a court will be tempted to fracture the suit into many different actions, and the stagnancy of innovation in the industry will make them fairly unsympathetic defendants.[111]

Furthermore, unlike the automobile manufacturing industry targeted in *California v. General Motors Corp.*, the firms are actually emitting the greenhouse gases, without any intervening actors. Also, the idea of a polluter billowing out some emittant comports with traditional notions of nuisance law, harkening to the landmark air pollution cases of *Boomer v. Atlantic Cement Co.*,[112] *Georgia v. Tennessee Copper Co.*,[113] *Madison v. Ducktown Sulphur, Copper & Iron.*[114] While the emittants, the science, and the parties have changed, it must be reassuring for a judge to have a mental analog in mind when attempting to understand a complex problem like greenhouse gas emissions. While greenhouse gases behave differently than better-understood pollutants like sulfur dioxide, the rapidly-growing science of climate change is narrowing the familiarity

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the top fifty parent companies of carbon dioxide emitters accounts for approximately 5.7% of the 29.8 billion tons of worldwide emissions. EGrid, *supra* note 106.

110. To illustrate, in 1925 the efficiency of a kilowatt-hour generated and delivered to the grid was approximately 20%. NORTHEAST-MIDWEST INSTITUTE, THE CLEAN AIR-INNOVATIVE TECHNOLOGY LINK: ENHANCING EFFICIENCY IN THE ELECTRICITY INDUSTRY § II, 29 (1999), *available at* http://www.nemw.org/cleanair_inovtech.htm. By 1999, that figure had only increased to 33%. *Id.*

111. By contrast, the automobile industry has, by regulatory requirement, been forced to reduce tailpipe emission *rates*. *See* U.S. Department of Transportation, Federal Highway Administration, Federal Emissions Standards, http://www.fhwa.dot.gov/environment/aqfactbk/page14.htm (last visited Apr. 1, 2008). From 1967 to 2002, automobile tailpipe emission rates declined by as much as 95%, and heavy-duty diesel truck emission rates declined by as much as 83% (the decline is different for different pollutants). *Id.*

112. 257 N.E.2d 870 (N.Y. 1970).

113. 206 U.S. 230 (1907).

114. 83 S.W. 658 (Tenn. 1904).

gap, and reinforcing the analogy between traditional air pollutants and greenhouse gases.

V. CHOICE OF FORUM, THEORIES OF LIABILITY

In practice, of course, questions of who would make a strong plaintiff and who would be a vulnerable defendant are intimately tied up with questions of forum, sources of law, and theories of liability. Implicit in a discussion of plaintiff choice and defendant choice are considerations of the likelihood of obtaining a favorable judgment and an effective remedy.

A. International Forums and Law

The international legal system is not likely to prove helpful. The treaty-making process around greenhouse gases, the United Nations Framework Convention on Climate Change and the Kyoto Protocol, represent the traditional international approach to solving this problem, and have been the source of disappointment. The shortcomings of this process have caused climate change advocates to consider litigation.

But litigation in what forum? Traditional international law might contemplate an action before the International Court of Justice (ICJ). But the ICJ typically entertains disputes only between nation-states. There are nation-states, especially small island nation-states in the South Pacific such as Tuvalu, Vanuatu, and Marshall Islands, that will literally disappear under water if sea levels rise as much as projections indicate,[115] making such nation-states potential plaintiffs. But what kind of remedy could the ICJ provide, even assuming that it would be willing to find a greenhouse gas-emitting nation-state at fault in the legal sense? The Kyoto Protocol could not be used as a basis for international liability against the United States, since it did not ratify the Kyoto Protocol. It could conceivably be used as a basis for liability against Canada, which ratified the Protocol, but subsequently indicated that it could not meet its commitment, at least not without "plung[ing] the

115. There are actually nearly 30,000 islands in the Pacific Ocean, 1000 of which are populated and fifteen of which are politically independent nation-states. William C.G. Burns, *Potential Implications of Climate Change for the Coastal Resources of Pacific Island Developing Countries and Potential Legal and Policy Responses*, 8 HARV. ASIA PAC. REV. 4 (Summer 2005).

Canadian economy into a recession."[116] But even if the ICJ were to find in favor of say, Tuvalu, in a suit against Canada, what could the ICJ compel Canada to do for Tuvalu? While the ICJ is said to possess the authority to award money damages,[117] it is difficult to see how it could award money damages for *failing* to regulate, or failing to effectively regulate. This treads too close to infringing upon the sovereignty of nation-states. Moreover, in the case of greenhouse gas emissions, it seems politically implausible that blame could be placed on Canada, which accounted for about 2% of greenhouse gas emissions in 2003, when the United States accounted for over 21%.[118]

The other question is what legal theory might support climate change litigation pursued in the ICJ. One possibility is the principle *sic utero tuo ut alienum non laedas*, or "use your own property so that it does not harm others." This time-honored principle has been incorporated into a number of international conventions, such as Principle 21 of the Declaration of the United Nations Conference on the Environment[119] and Principle 2 of the Rio Declaration on Environment and Development.[120] Might this support an action in the ICJ? A se-

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116. ENVIRONMENT CANADA, THE COST OF BILL C-288 TO CANADIAN FAMILIES AND BUSINESS 2 (2007), *available at* http://www.ec.gc.ca/doc/media/m_123/report_eng.pdf.

117. Ian Brownlie, *Remedies in the International Court of Justice*, *in* FIFTY YEARS OF THE INTERNATIONAL COURT OF JUSTICE 557, 557–58 (Vaughan Lowe & Malgosia Fitzmaurice eds., 1996).

118. Canada emitted approximately 626 million metric tons of carbon dioxide in 2004, about 2.3% of the world total of just over 27 billion metric tons. U.S. DEP'T OF ENERGY, ENERGY INFORMATION ADMINISTRATION, WORLD CARBON DIOXIDE EMISSIONS FROM THE CONSUMPTION AND FLARING OF FOSSIL FUELS, 1980–2005, TABLE H1.CO2 (2007), *available at* http://www.eia.doe.gov/pub/international/iealf/tableh1co2.xls.

119. Principle 21 states:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

United Nations Conference on the Human Environment, June 5–16, 1972, *Declaration of the United Nations Conference on the Human Environment*, Ch. II, U.N. Doc A/Conf.48/14 Rev.1 (June 16, 1972) [hereinafter Stockholm Declaration].

120. Principle 2 of the Rio Declaration is a nearly verbatim restatement of Principle 21 of the Stockholm Declaration. United Nations Conference on Environment and Development, June 3–14, 1992, *Rio Declaration on Environment and*

verely threatened state such as Tuvalu would seem to have a very legitimate and compelling grievance against the U.S. which, having contributed approximately 30% to the existing *stock* of greenhouse gases currently in the atmosphere,[121] can be said to bear a very significant responsibility for Tuvalu's plight. It is hard to evaluate the merits of such a claim, since there is no serious discussion of invoking this principle against the U.S. in the ICJ. That could be because the United States has withdrawn from the compulsory jurisdiction of the ICJ.[122] A suit was threatened by Tuvalu against the United States and Australia in 2002, but was never brought.[123] However, one suspects that if such a suit were ever brought, the issue of causation would likely be raised to some strong effect.[124]

Other multilateral institutions offer no more promise as climate change litigation forums. As noted above, the Inuit Circumpolar Conference has filed a petition with the Inter-American Commission on Human Rights, the human rights arm of the Organization of American States,[125] seeking a declaration that the United States is in violation of the human rights of the Inuit peoples due to its failure to regulate greenhouse gas emissions. Although this suit may have some precedential fact-finding value, this forum offers no real remedy.

Perhaps closer to home, a bilateral institution such as the International Joint Commission (IJC, not to be confused with the ICJ) could serve as an arbiter for what amounts to a transboundary pollution dispute. Established under the 1909

Development, 31 I.L.M. 874, U.N. Doc. A/CONF.151/26 (June 16, 1992) [hereinafter Rio Declaration].

121. The greenhouse gas problem is not so much one of the annual contribution of greenhouse gases into the atmosphere, but the cumulative *stock* of greenhouse gases emitted over time. *See* DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 600 (2d ed. 2002). In this regard, the United States, having historically been a much more greenhouse gas-intensive country than all others, bears a larger responsibility than others, even China, which now may exceed the United States in annual contributions. *See id.*

122. *See* Letter from Secretary of State Schultz to the Secretary-General of the United Nations (Oct. 7, 1985), *in* Press Release, Dep't of State Letter and Statement Concerning the Termination of Acceptance of I.C.J. Compulsory Jurisdiction 24 I.L.M. 1742 (Apr. 1985).

123. *Tuvalu Seeks Help in U.S. Global Warming Lawsuit*, REUTERS, Aug. 30, 2002, *available at* http://www.planetark.org/dailynewsstory.cfm/newsid/17514/newsDate/30-Aug-2002/story.htm.

124. *See infra* notes 245–246 and accompanying text.

125. *See supra* note 102 and accompanying text.

Boundary Water Treaty[126] between the United States and Great Britain (of which Canada was still a protectorate at the time), the IJC has enjoyed a long reputation of integrity and effectiveness,[127] contributing to a long history of cooperation and effective dispute resolution between Canada and the United States.[128] Unlike other international institutions, the IJC has the authority to make determinations regarding money damages, a power it has exercised in the past.[129] The IJC, however, requires the consent of both Canada and the United States in order to issue a binding arbitral decision,[130] something which has been hard to come by in recent years.[131] In addition, as the IJC has viewed itself as having primary responsibility for the investigation and adjudication of disputes over air and water pollutants that *cross* the Canada-U.S. border, it may shrink from a problem such as greenhouse gases emissions as not being within its purview. While greenhouse gases certainly cross the 49th Parallel and back, it is not the fact of transboundary crossing that creates a negative externality, unlike in other cases that the IJC has entertained and successfully adjudicated in the past.[132] IJC disputes have tended

126. Treaty Between the United States and Great Britain Relating to the Boundary Waters Between the United States and Canada, U.S.-U.K., Jan. 11, 1909, 36 Stat. 2448 [hereinafter Boundary Waters Treaty].

127. *See, e.g.*, John E. Carroll, *Patterns Old and New*, *in* THE INTERNATIONAL JOINT COMM'N SEVENTY YEARS ON 43 (Robert Spencer et al. eds. 1981) (noting the history of the IJC's success); Leonard W. Dworsky & Albert E. Utton, *Assessing North America's Management of its Transboundary Waters*, 33 NAT. RESOURCES J. 413, 415 (1993) (describing the IJC as a "model[] of success in many ways"); Timothy M. Gulden, *Transfrontier Pollution and the International Joint Commission: A Superior Means of Dispute Resolution*, 17 SW. U. L. REV. 43, 57–63 (1987–1988) (explaining the value of the IJC as an institution for resolving cross-border disputes).

128. Hsu & Parrish, *supra* note 76, at 7–14.

129. Trail Smelter Arbitration, 3 R.I.A.A. 1905 (1938) (requiring that a Canadian company operating a smelter cease causing damage in the State of Washington), *further proceedings* 3 R.I.A.A. 1938 (1941) (holding Canada responsible for transboundary pollution). *See generally* John E. Read, *The* Trail Smelter *Dispute*, 1 CAN. Y.B. INT'L L. 213 (1963) (describing the famous *Trail Smelter Arbitration*).

130. Boundary Waters Treaty, *supra* note 126, at art. IX.

131. Hsu & Parrish, *supra* note 76, at 14–22.

132. The IJC website states that it investigates transboundary air pollution problems because "pollution can travel thousands of miles and settle on land or in water far away from the source of the pollution." International Joint Commission, Canada & United States, http://www.ijc.org/en/background/ijc_cmi_nature.htm (last visted Mar. 1, 2008) (follow "Investigating Air Pollution" hyperlink). This suggests that the IJC dispute resolution process is driven by the externalities that more directly affect the downstream or downwind country.

to involve externalities only between the United States and Canada,[133] unlike greenhouse gas emissions, which would also involve to a large extent China, Russia, India, and other large greenhouse gas emitters.

Might an international remedy be pursued in a domestic court? International law is a part of the law of most countries, including the United States and Canada, and could be a source of law in an action in domestic court.[134] However, as with international forums, the problem of finding an international law that could provide a remedy poses a challenge. In Canada, for example, treaties do not become self-executing parts of Canadian law, but only provide remedies when and if the treaties are incorporated into federal or provincial legislation.[135] Similarly, in the United States, treaties do not become part of U.S. law unless ratified by the U.S. Senate,[136] and even then, do not by themselves provide a cause of action and a remedy if not self-executing (as in the case of Kyoto).[137]

B. Domestic Forums and Law

The lack of effective international forums and law for adjudicating disputes over greenhouse gases leaves only domestic courts and domestic law as an avenue for pursuing such litigation. This leaves us back where we started: the task of finding possible plaintiffs, defendants, and theories of law to pursue in the domestic courts, leading us to the Inuit peoples as plaintiffs and the U.S. electricity generating industry as a defendant. The Inuit, being residents of four countries including both the United States and Canada, enjoy a further strategic advantage in being able credibly to be a plaintiff in *either* the United

133. For example, the IJC has taken on a lead role in developing a water pollution and management plan for the Great Lakes. *See* International Joint Commission, Review of the Great Lakes Water Quality Agreement, http://www.ijc.org/en/activities/main_princ.htm#glwqa (last visited Mar. 1, 2008). The IJC also states that "[w]hen asked by governments, the International Joint Commission investigates pollution problems in lakes and rivers along the Canada-United States border." *Id.* (follow "Investigating Water Pollution" hyperlink).

134. For example, the U.S. Constitution provides that "all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land . . . ." U.S. CONST. art. VI, cl. 2.

135. Nigel D. Bankes & Alastair R. Lucas, *Kyoto, Constitutional Law, and Alberta's Proposals*, 42 ALTA. L. REV. 355, 363 (2004).

136. U.S. CONST. art. II, § 2, cl. 2.

137. Whitney v. Robertson, 124 U.S. 190, 194 (1888).

States or Canada. However, because there would only be U.S. and Canadian parties, the choice of forum is also limited to U.S. and Canadian domestic courts. Given the lack of statutory law supporting such a claim in either of these countries, the only remaining theories would be common law theories.

Trespass, nuisance, and negligence are the only plausible theories that could be invoked to allow recovery for greenhouse gas emissions. Of these three, this Article only evaluates the nuisance cause of action. A trespass cause of action would require some physical invasion of a property interest.[138] While a few isolated cases find a trespass from the invasion of sufficiently severe air pollutants or gases,[139] the general proposition is that such marginally physical offenses are better covered under the law of nuisance.[140] Greenhouse gases, especially carbon dioxide, would certainly not be considered sufficiently physical invasions to warrant a trespass action. It might be argued that the consequent rise in sea levels that would flood coastal property could be considered a trespassory invasion, but even then intent and causation problems would likely bar a trespass action.[141] The problem with a negligence theory is that it requires both a showing of unreasonable conduct [142] and a duty owed to the aggrieved.[143] Both of these requirements may pose pleading problems for potential climate change plaintiffs. Courts are only too aware that hindsight is twenty-twenty, and are likely to look at industry and historical practices as indicia of what is "reasonable."[144]

138. W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS § 13, at 70–72 (5th ed. 1984).

139. Hall v. DeWeld Mica Corp., 93 S.E.2d 56 (N.C. 1956); Martin v. Reynolds Metals Co., 342 P.2d 790 (Or. 1959); Gregg v. Delhi-Taylor Oil Corp., 344 S.W.2d 411 (Tex. 1961).

140. KEETON ET AL., *supra* note 138, § 13, at 69.

141. *Id.* § 13, at 72–75.

142. *Id.* § 31, at 169–73.

143. *Id.* § 30, at 164.

144. David Hunter & James Salzman, *Negligence in the Air: The Duty of Care in Climate Change Litigation*, 156 U. PA. L. REV. 1741, 1776–80 (2007). Hunter and Salzman argue that with increasing awareness of the harm from climate change and decreasing costs of abatement, a negligence cause of action will gain viability over time. *Id.* This is a valuable perspective, since prospective liability is likely to provide firms with incentives to change their future behavior. This article, however, takes a retrospective view because the leading sources of greenhouse gas emissions are also the ones that have contributed the most to past emissions, and liability for these past emissions is a more powerful lever for changing current practices. *See id.*

What is left is nuisance. It is telling that of the private lawsuits brought seeking redress for climate change damages, nuisance is the only theory treated seriously. Thus, evaluations of nuisance law as a theory of liability in the United States and Canada follow.

VI. NUISANCE LAW IN THE UNITED STATES

So how does the common law of nuisance speak to our hypothetical action by the Inuit against the U.S. electricity generating industry? Keeton laments that "nuisance" has been the source of great legal confusion, in large part because it has "meant all things to all people," ranging from alarming advertisements to cockroaches baked into a pie.[145] Some of this confusion has resulted from the long history of the cause of action, which dates back at least to the time of King Edward III,[146] accounting in part for its considerable development, including the extension of the cause of action to the civil realm in the sixteenth century.[147]

Some scholarly attention has been paid to the question of whether a climate change action brought on a nuisance theory would be under the federal common law in the United States or the common law of some state,[148] since the theories are mutually exclusive.[149] However, in practice, the standard that would be applied is the same in both federal and state courts, as provided by the Restatement of Torts. The paucity of federal common law would no doubt redirect any federal court back to the common law of the states for guidance.

145. KEETON ET AL., *supra* note 138, § 86, at 616.

146. *Id.* § 86, at 617. King Edward III reigned from 1327 to 1377. BBC History, Historic Figures, King Edward III (1312–1377), BBC HOME, http://www.bbc.co.uk/history/historic_figures/edward_iii_king.shtml (last visited Feb. 22, 2008).

147. KEETON ET AL., *supra* note 138, § 86, at 618.

148. David A. Grossman, *Warming Up to a Not-So-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1, 3–39 (2003); Thomas W. Merrill, *Global Warming as a Public Nuisance,* 30 COLUM. J. ENVTL. L. 293, 306–11 (2005).

149. City of Milwaukee v. Illinois, 451 U.S. 304, 313 n.7 (1981).

A. Private or Public Nuisance?

Nuisances can be private or public, and in some instances can be both.[150] The superficial cleave between private and public nuisances is made by characterizing the rights infringed by the complained-of behavior as being "private" if held by a small number of parties, or "public" if held by some large, open population.[151] The classic public nuisances have involved, for example, threats to public health caused by pig sties,[152] threats to public safety by the storage of explosives,[153] or obstructions of public highways[154] or navigable streams.[155] On the other hand, whereas public nuisances implicate *rights common to the general public*,[156] private nuisances typically focus upon the interference with the use and enjoyment of land, and thus implicate private rights to *land*.[157] As such, private nuisances would more typically involve wrongs perpetrated on a smaller scale, such as howling dogs[158] or vibrations,[159] although nuisances such as flooding[160] and stream pollution[161] can be pub-

150. Seigle v. Bromley, 124 P. 191, 193–94 (Colo. App. 1912); Bishop Processing Co. v. Davis, 132 A.2d 445, 448 (Md. 1957); Costas v. City of Fon du Lac, 29 N.W.2d 217 (Wis. 1964); KEETON ET AL., *supra* note 138, § 86, at 618

151. KEETON ET AL., *supra* note 138, § 90, at 643 ("No better definition of a public nuisance has been suggested than that of an act or omission 'which obstructs or causes inconvenience or damage to the public in the exercise of rights common to all Her Majesty's subjects.'").

152. *Seigle*, 124 P. at 193–94 (Colo. App. 1912); Gay v. State, 18 S.W. 260, 261 (Tenn. 1891).

153. State v. Excelsior Powder Mfg. Co., 69 S.W. 267 (Mo. 1914); McAndrews v. Collerd, 42 N.J.L. 189 (N.J. 1880).

154. Adams v. Comm'rs of Town of Trappe, 102 A.2d 830 (Md. 1954); Salsbury v. United Parcel Service, 120 N.Y.S.2d 33 (1953); Sloan v. City of Greenville, 111 S.E.2d 573 (S.C. 1959).

155. Carver v. San Pedro, L.A. & Salt Lake R.R. Co., 151 F. 334 (C.C. S.D. Cal. 1906); Swain & Son v. Chicago, Burlington & Quincy R.R. Co., 97 N.E. 247 (Ill. 1912).

156. RESTATEMENT (SECOND) OF TORTS § 821B (1982).

157. KEETON ET AL., *supra* note 138, § 89, at 64. The scope of rights that can serve as the basis for a private nuisance action, however, is broad. Such rights include all forms of tenancies, holders of easements, mortgagers in possession, and even adverse possessors without title. *Id.*

158. Adams v. Hamilton Carhartt Overall Co., 169 S.W.2d 294 (Ky. 1943); Hubbard v. Preston, 51 N.W. 209 (Mich. 1892).

159. Sam Warren & Son Stone Co. v. Gruesser, 209 S.W.2d 817 (Ky. 1948); Sturges v. Bridgeman, 11 Eng. Rep. 852, 865 (Ch. D. 1879).

160. Shields v. Wondries, 316 P.2d 9 (Cal. 1957); Cason v. Florida Power Co., 76 So. 535 (Fla. 1917).

161. Johnson v. City of Fairmont, 247 N.W. 572 (Minn. 1933); Beach v. Sterling Iron & Zinc Co., 33 A. 286 (N.J. 1895).

lic, private, or both. Climate change-related harms to the Inuit present one of these instances in which both causes of action may be viable, depending on the answer to this threshold question: Can the Inuit, given their large numbers, actually bring a private nuisance lawsuit?

The answer to this apparently simple question is surprisingly unclear. There is case law that a private nuisance is a harm imposed upon a relatively small number of persons.[162] By almost any measure, one would have to consider the Inuit to be more than a small number of persons. But while the Inuit are large in number, there is no denying that many individual Inuit have suffered very specific, very private harms. There is no doubt that individual Inuit could bring private nuisance causes of action for the imminent collapse of their homes sitting on the melting permafrost.[163] Furthermore, there does not seem to be any reason that many plaintiffs could not be joined in such a suit.

At the same time, the Inuit are suffering a harm that is very much a public nuisance, an "unreasonable interference with a right common to the general public."[164] Everybody in the world has something profound to fear from global climate change. It is hard to imagine a more public "right." The bar most often invoked by defendants in public nuisance suits is the requirement that a plaintiff bringing a public nuisance suit must have suffered harm of a kind different from that suffered by other members of the public.[165] But as discussed above, the severity and certainty of the harms to the Arctic environment are different in degree and in kind, and provide precisely the kind of distinction that courts would look for in making sure that the Inuit had standing to bring a suit for public nuisance.[166]

The Inuit are very unique in terms of the ability to characterize their harms as both private in nature—concrete harms to their private property rights—as well as public—harms from climate change affecting the entire world. At the same time the unique Inuit harms distinguish them from the rest of hu-

162. Eaton v. Klimm, 18 P.2d 678, 680 (Cal. 1933); Maykut v. Plasko, 365 A.2d 1114, 1118 (Conn. 1976); Copart Indus., Inc. v. Consolidated Edison Co. of N.Y., 362 N.E.2d 968, 971 (N.Y. 1977).

163. *See supra* notes 94–95 and accompanying text.

164. RESTATEMENT (SECOND) OF TORTS § 821B (1982).

165. *Id.* § 821C.

166. *See supra* notes 81–101 and accompanying text.

mankind. Nobody else will suffer in quite the way that the Inuit will suffer, which would be a legal advantage in nuisance litigation. An analysis of both private and public nuisance thus follows.

B. Nuisance: The Modern Balancing Test

The modern formulation of private nuisance, set forth in the Restatement of Torts, defines it as a "nontrespassory invasion of another's interest in the private use and enjoyment of land."[167] A public nuisance is an "unreasonable interference with a right common to the general public."[168] Although private and public nuisances are technically different causes of action, in many cases the same balancing test is used with both to evaluate the "unreasonableness" of a complained-of activity. Comment (a) to section 826 of the Restatement of Torts states that "[t]he rule stated in this Section applies to conduct that results in a private nuisance, as defined in § 821D. A similar rule may, and commonly does, apply to conduct that results in a public nuisance, as defined in § 821B."[169] Comment (a) also provides that "[f]or the common law crime of public nuisance, it [is] necessary that the interference with the public interest be unreasonable, in the sense that *its utility is outweighed by the gravity of the interference with the public right*."[170]

Nuisance cases, whether private or public, are thus now decided by means of a balancing test,[171] in which courts are directed to consider whether "the gravity of the harm outweighs the utility of the actor's conduct."[172] In assessing the gravity of the harm, courts should consider:

> (a) the extent of the harm involved;
> (b) the character of the harm involved;
> (c) the social value that the law attaches to the type of use or enjoyment invaded;
> (d) the suitability of the particular use or enjoyment invaded to the character of the locality; and

167. RESTATEMENT (SECOND) OF TORTS § 821D (1982).
168. *Id.* § 821B.
169. *Id.* § 826 cmt. a.
170. *Id.*
171. *See* Hunter & Salzman, *supra* note 144. What Professor Merrill considers the "trespass mode" of arguing nuisance still crops up. Merrill, *supra* note 148, at 329.
172. RESTATEMENT OF TORTS § 826 (1965).

> (e) the burden on the person harmed of avoiding the harm.[173]

In assessing the utility of the actor's conduct, the Restatement says that courts should consider:

> (a) the social value that the law attaches to the primary purpose of the conduct;
> (b) the suitability of the conduct to the character of the locality; and
> (c) the impracticability of preventing or avoiding the invasion.[174]

These factors are, of course, just factors, and are meant to guide courts in applying the balancing test. However, assessing the probability that an Inuit suit against the U.S. electricity generation industry would succeed requires an assessment of these factors, considering the situation and conduct of the Inuit and the U.S. electricity generation industry.

1. The Factors as Applied to the Inuit

First, it would appear that factors (a) (extent of the harm), (b) (character of the harm), and (e) (burden of avoiding the harm) on the "gravity of the harm" side would be strongly implicated by the harms suffered by the Inuit. Climate change threatens Inuit relationships with polar bears, whales, seals, caribou, and other mammals upon which the Inuit depend for traditional food and clothing.[175] With warming temperatures, these species will either become extinct or migrate too far south for Inuit living in northern latitudes to feasibly travel to hunt.[176] Already, diminishing numbers of some game animals have stressed Inuit hunting and fishing practices.[177] Warming temperatures also make certain hunting practices impossible or difficult when sea ice becomes thinner and less prevalent, making transport difficult or hazardous.[178] And poorer snow quality has made it more difficult to construct igloos, a basic

173. *Id.* § 827.
174. *Id.* § 828.
175. INUIT ICC PETITION, *supra* note 48, at 13, 18.
176. *Id.* at 24.
177. *Id.* at 45–48.
178. *Id.* at 39–41, 43–48.

source of housing when Inuit hunters are traveling to hunt or fish.[179] Arctic weather has also become less predictable; elders are no longer able to predict the weather for short periods of time like they once did, a skill which played a fundamental role in planning for hunting and fishing.[180] Climate change has also made life closer to home more dangerous. Because of retreating sea ice, polar bears have been forced onto pockets of land that are closer to Inuit villages, setting up dangerous encounters between humans and the aggressive polar bears.[181]

The United States might view this as nothing more than a loss of the ability to hunt and fish, rights that can be commodified. The U.S. Fish and Wildlife Service has conducted the National Hunting and Fishing Survey for many years, and estimates on the basis of this survey that recreational hunters and fishermen spent over $65 billion on hunting and fishing recreation in 2006.[182] Of course, for the Inuit this is not recreational fishing and hunting, but an integral part of their culture.[183] Nevertheless, in calculating their damages, the Inuit might be tempted to adopt this same method to estimate the recreational value of hunting and fishing to establish a lower bound of the value of their hunting and fishing rights. Throw in some compensation for economic harms from having to relocate (due to softening permafrost), and such damages may start to look like a bird in the hand.

The Inuit should resist the temptation to settle for a commodification of a *part* of the Inuit hunting and fishing rights. Allowing a severance of some aspects of the claim, as plaintiffs

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179. *Id.* at 41–42.

180. ACIA, ARCTIC CLIMATE IMPACT ASSESSMENT (2005), *available at* http://www.amap.no/acia.

181. INUIT ICC PETITION, *supra* note 48, at 45.

182. *See* U.S. DEP'T OF THE INTERIOR, FISH AND WILDLIFE SERVICE, 2006 NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION 4 (2007), *available at* http://wsfrprograms.fws.gov/Subpages/NationalSurvey/nat_survey2006_final.pdf.

183. *See* Birger Poppel, *Interdependency of Subsistence and Market Economies in the Arctic, in* THE ECONOMY OF THE NORTH 65, 69–70 (S. Glomsrød & I. Aslaksen eds., 2006), *available at* http://portal.sdwg.org/media.php?mid=454. For additional studies on the history of Inuit hunting culture, see UQALURAIT: AN ORAL HISTORY OF NUNAVUT (John Bennett & Susan Rowley eds., 2004); THE WHALES, THEY GIVE THEMSELVES: CONVERSATIONS WITH HARRY BROWER, SR. (Karen Brewster ed., 2004). For studies on the continuities between "traditional" and "modern" Inuit cultures, see JENS DAHL, SAQQAQ: AN INUIT HUNTING COMMUNITY IN THE MODERN WORLD (2000) and LOUIS-JACQUES DORAIS, QUAQTAQ: MODERNITY AND IDENTITY IN AN INUIT COMMUNITY (1997).

did in *In re Exxon Valdez*,[184] would have the effect of isolating the cultural and traditional lifestyle parts of their claims, damaging the chances of recovery for those less commodifiable parts. The Inuit would be better off arguing that sharing the hunt is an integral part of Inuit culture. Only a small number of hunts are successful, and when they are successful, hunts result in a large bounty. The high-payoff, low-probability nature of Inuit hunting necessitates the elaborate rules on sharing. Inuit communities are therefore woven together by the *nature* of the hunting and fishing culture, a highly evolved risk-sharing mechanism.[185]

How the courts would handle these legal maneuvers is an open question. As noted above, *In re Exxon Valdez* contains language that seems hostile to claims for cultural damages and harms to traditions.[186] But it was a standing case, and thus tells us little about how the court would view the validity of cultural or traditional lifestyle damages if it reached the merits. The key on the "gravity of the harm" side of the ledger is for the Inuit to emphasize the fundamental nature of hunting and fishing, and how their culture is inextricably tied up in these activities. This would maximize the court's perception of the "extent" and "nature" of the harm, as well as the "burden on the person suffering the harm."

2. The Factors as Applied to the United States Electricity Generation Industry

On the "utility of the actor's conduct" side of the balancing test, there is little doubt that there is great "social value" in generating electricity, so that factor a (social value of defendant's conduct) seems to favor our vulnerable defendant, the electricity generating industry. Factor (c) (the impracticability of avoiding the nuisance), meanwhile, would be the subject of fierce factual disputes, and on which the issue of liability could well turn.

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184. 104 F.3d 1196 (9th Cir. 1997).

185. *See* INUIT ICC PETITION, *supra* note 48, at 18–19.

186. 104 F.3d at 1198 ("While the oil spill may have affected Alaska Natives more severely than other members of the public, 'the right to obtain and share wild food, enjoy uncontaminated nature, and cultivate traditional, cultural, spiritual, and psychological benefits in pristine natural surroundings' is shared by all Alaskans. The Class therefore has failed to prove any 'special injury' to support a public nuisance action." (citation omitted)).

The time has long passed in which carbon dioxide emissions are considered an inevitable product of electricity generation. A vast array of options to reduce carbon dioxide emissions from the electricity generation process have emerged and insinuated themselves into various legislative proposals. Renewable energies such as solar, wind, geothermal, and biomass are obvious alternatives to fossil fuel combustion, as they have continued their modest market penetrations,[187] and as the costs of these technologies have continued their historical downward trajectories.[188] Nuclear energy, stymied by environmentalists in the 1970s and 1980s, has enjoyed a renaissance, buoyed by the endorsement of the likes of former Greenpeace founder Steve Moore.[189] The owners of coal-fired power plants, however, are most enthusiastic about rapidly emerging technology that captures carbon dioxide as it leaves the combustion chambers, presumably to be stored someplace where it does not enter the atmosphere as a greenhouse gas. Such end-of-pipe "carbon capture" technologies would allow the owners of coal-fired power plants to preserve their expensive capital.[190] In addition, the coal industry promotes the promise of "coal gasification," the ultra-pulverization of coal so as to make it essen-

187. *See* U.S. DEP'T OF ENERGY, ENERGY INFO. ADMIN., ANNUAL ENERGY REVIEW 2006 286 tbl.10.2c (2007), *available at* http://www.eia.doe.gov/emeu/aer/pdf/pages/sec10_9.pdf; U.S. DEP'T OF ENERGY, ENERGY INFO. ADMIN., RENEWABLE ENERGY ANNUAL 2004 12–13 tbls. 5a & 5b (2005), *available at* http://tonto.eia.doe.gov/FTPROOT/renewables/060304.pdf.

188. *See* James McVeigh et al., *Winner, Loser or Innocent Victim: Has Renewable Energy Performed As Expected?*, Research Report, Renewable Energy Policy Project (1999), *available at* http://www.repp.org/repp_pubs/pdf/mcveigh.pdf. The American Wind Energy Association (AWEA) claims that large wind farms, with a 1.8-cent production tax credit, could deliver wind energy for as little as 3.6 cents per kilowatt-hour, comparable or lower than the capital and variable costs of fossil fuel plants. AMERICAN WIND ENERGY ASSOCIATION, ECONOMICS OF WIND ENERGY 2 (2005), *available at* http://www.awea.org/pubs/factsheets/EconomicsOfWind-Feb2005.pdf. According to the AWEA, wind energy costs have declined by 80% over the last twenty years. *See* AWEA, Resources, http://www.awea.org/faq/cost.html (last visited Feb. 17, 2008).

189. *See* Steve Moore, *Going Nuclear: A Green Makes the Case*, WASH. POST, Apr. 16, 2006, at B1; *see also Nuclear Power's New Age*, ECONOMIST, Sept. 6, 2007, at 13.

190. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC SPECIAL REPORT ON CARBON DIOXIDE CAPTURE AND STORAGE 21–25, *available at* http://www.ipcc.ch/pdf/special-reports/srccs/srccs_technicalsummary.pdf.

tially gaseous, making it easier to control and capture carbon dioxide and other emittants.[191]

With so many possibilities, it has become implausible to argue that *prospectively*, it is "impractical" for defendants to "prevent" or "avoid" the invading nuisance.[192] But what about looking backwards, and imposing liability for past emissions? Could the same thing be said *retrospectively*—that the burden of avoiding the carbon dioxide emissions was small enough so that on balance, more steps should have been taken to adopt renewable energy technologies, to develop carbon capture technologies, or to pull conservation measures along?

Bearing in mind that hindsight is often much better than foresight, the record of emissions avoidance in the electricity generation industry is nevertheless a difficult one to defend. Renewable technologies, of course, have been around for a very long time, hydropower and wind power being much older than fossil fuel combustion, but the resistance to renewable energy sources from the electricity generation industry has long been unyielding.[193] All of the technologies that are currently being discussed that still involve coal combustion (such as carbon capture and coal gasification) are ones that were part of Senator Timothy Wirth's proposed 1998 National Energy Policy Act, which called for, among other things, a reduction of carbon dioxide emissions by 20% below 1988 levels by the year 2000, and the development of coal "liquification" and carbon dioxide recovery from coal-fired power plants.[194] Needless to say, the electricity generation industry was opposed to Senator Wirth's

191. *See* U.S. Dep't of Energy, How Coal Gasification Power Plants Work, http://www.fossil.energy.gov/programs/powersystems/gasification/howgasificationworks.html (last visited Feb. 17, 2008).

192. *See* Hunter & Salzman, *supra* note 144, at 124–28.

193. The Edison Electric Institute, the trade organization for electric generating companies, is still opposing measures like Rep. Tom Udall's proposal to require electric generators to generate 15% of their electricity from renewable energy sources. The Edison Electric Institute maintains a website entitled "Congress Should Oppose a Mandatory Federal Renewable Portfolio Standard," http://www.eei.org/newsroom/energy_news/federal_rps.htm, (last visited Feb. 17, 2008), which includes links to various position papers, including a letter from Edison Electric Institute President Thomas Kuhn to Congress, which is available at http://www.eei.org/about_EEI/advocacy_activities/Congress/070802KuhnHouseRenewable.pdf (last visited Feb. 17, 2008).

194. See S. 2667, 100th Cong. (1988), a summary of which is available at http://thomas.loc.gov/cgi-bin/bdquery/z?d100:SN02667:@@@L&summ2=m& (last visited Feb. 17, 2008).

proposal,[195] despite the fact that the a draft EPA report issued that year concluded, "[I]n contrast to the common notion that limiting global warming would require great sacrifices, we find that many of the policy options that are available for reducing greenhouse gas emissions appear to be attractive in many respects."[196]

To compound the electricity generation industry's obstinacy regarding alternative technologies, the industry's record of efficiency improvement is unusually poor among post-industrial revolution industries. The combustion efficiency (the amount of energy generated divided by the amount of energy contained in the fossil fuel) with which a kilowatt-hour of electricity is delivered to the power grid stood at approximately 33% in 1999, up from 20% in 1920[197]—an increase of about one-sixth of a percent per year for eighty years. Contrast this with the semiconductor industry, which has doubled the computing power of central processing chips every two years since the 1970s.[198] It may be hard to lay blame on an electric generation industry that until recently operated as a series of regulated monopolies. But while blame is irrelevant in the strictly hornbook formulation of nuisance, it certainly appears that the electricity generation industry has passed up numerous opportunities to reduce, even minimally, the environmental harms from its business. It would be easy to make the case that the moribund U.S. electricity generation industry has, over ninety years, missed many chances to prevent, avoid, or even reduce its impact on the environment, including the now-clear effects of climate change. Thus, it would be fairly easy to swing the Restatement's "impracticability" factor against this industry.

In projecting how a court would conduct the balancing test called for by the Restatement, it certainly seems plausible that a court would find that it would have been easy enough for the electricity generation industry to reduce its carbon dioxide emissions, such that it should be held at least partially responsible for the Inuit peoples' plight. A private nuisance theory

195. *See EPA Draft: Pricing and Regulation of Fuels Could Cut Global Warming,* ELEC. UTIL. WK., Mar. 20, 1989, *available at* 1989 WLNR 1154194.

196. *Id.*

197. *See supra* note 110 and accompanying text.

198. *See Moore's Law on Chips Marks 40th,* BBC NEWS, Apr. 18, 2005, http://news.bbc.co.uk/1/hi/technology/4446285.stm (last visited Apr. 1, 2008).

would therefore seem to hold some promise for a potential Inuit suit for climate change damages.

C. Conclusion

All of the Inuit harms, public and private in nature, can be placed on the scales and weighed against the utility of the defendant's conduct.[199] So under a private or public nuisance theory, the Inuit seem to have very viable causes of action. I would go so far as to say that the factors tilt in favor of a finding of liability. However, I question whether at this juncture courts are truly willing to go there.

For one thing, as the *In re Exxon Valdez*[200] case indicates, courts continue to struggle with awarding damages for harms that are difficult to commodify. Although a blue-ribbon study on the use of the contingent valuation method[201] by a panel of distinguished economists recommended cautious adoption of the method almost twenty years ago,[202] the cases in which contingent valuation studies are used are still quite rare. For greenhouse gases, which pose a combination of ex ante and ex post harms, compensation is apt to be complicated matter, at least.[203]

It is also worth taking a step back and reflecting on the history of the common law of nuisance. It has not been particularly friendly towards environmental plaintiffs. As Professor Percival has chronicled in his article on the history of the federal common law of nuisance, the Supreme Court's review of interstate nuisances has been often skeptical and always sensitive to separation of powers concerns and to issues of preemption and interstate comity.[204] In addition, the Court has always been attentive to issues of causation, an implicit issue

199. RESTATEMENT (SECOND) OF TORTS § 826 (1979).

200. 104 F.3d 1196 (9th Cir. 1997).

201. The contingent valuation methodology is a survey-based method of ascertaining the economic value of non-market or "non-use" goods such as health and environmental quality. Dale B. Thompson, *Valuing the Environment: Courts' Struggles With Natural Resource Damages*, 32 ENVTL. L. 57, 58 (2002).

202. The report was commissioned and released by the National Oceanic and Atmospheric Administration. *See* Natural Resource Damage Assessments Under the Oil Pollution Act of 1990, 58 Fed. Reg. 4601 (Jan. 15, 1993).

203. For a general discussion on the complexity and the possibilities for compensation for climate change-related harm, see Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. PA. L. REV. 1605 (2007).

204. *See* Percival, *supra* note 4, at 769–74.

that is not addressed by the Restatement formulation.[205] The plaintiffs in *Missouri v. Illinois* foundered on their inability to establish a causal link between the defendants' sewage drainage canal and the rise in typhoid deaths St. Louis. Along with the problem of the distance between Chicago and St. Louis—357 miles along the canal, the Illinois River, and the Mississippi River[206]—the Court wondered aloud if other cities, including Missouri's own, had contributed to the problem.[207] The problem of causation seems to be one that is built into the common law and one that clearly directs courts to deny relief in cases involving legitimate environmental grievances.[208]

In short, while the harm/utility balancing test may well come out with the Inuit on top, courts, especially federal courts, often look for ways to duck pollution cases based on a nuisance theory. There are several doctrines that have assisted courts in their abdication, four of which are briefly reviewed here.

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205. *See* Robert V. Percival, *Environmental Law in the Twenty-first Century*, 25 VA. ENVTL. L.J. 1, 5–6 (2007) ("The common law was best suited for responding to environmental problems caused when large, single sources of uncontrolled pollution (such as copper smelters) caused visible damage to their surroundings. But its requirement that plaintiffs demonstrate individualized proof of causal injury was a significant obstacle to its ability to respond to the multiple-source, multiple-pollutant problems that we encounter far more typically today. . . . The common law did not respond well to the hidden dangers posed by a chronic buildup of toxic substances in the environment. . . . [After] 1970, Congress sought to overcome the deficiencies of the common law by creating comprehensive federal regulatory programs to protect the environment.").

206. *See Missouri v. Illinois*, 200 U.S. 496, 523 (1906).

207. *See id.* at 525–26 ("The evidence is very strong that it is necessary for St. Louis to take preventive measures, by filtration or otherwise, against the dangers of the plaintiff's own creation or from other sources than Illinois. What will protect against one will protect against another.").

208. *See* Percival, *supra* note 205, at 10–19. Anecdotally, when I survey my students as to whether they thought that the Court reached the correct outcome in *Missouri v. Illinois*, they are nearly unanimous in agreeing with the Court that Missouri did not meet its burden. They are almost equally adamant and universal in their aversion to living downstream from the unprocessed raw sewage of a city of 1.7 million Chicagoans. There seems to be a widespread instinct to avoid the imposition of judgment unless a causal link can be established, even if there is a widespread belief that one *exists*.

VII. JURISPRUDENTIAL CONCERNS

A. Standing

For all of Justice Scalia's efforts to erect a new doctrinal barrier for environmental lawsuits in his opinions,[209] the standing doctrine has not proven to be an insurmountable one for environmental plaintiffs.[210] In the handful of climate change cases, the results are mixed with respect to the willingness of courts to toss out cases on standing grounds.[211] And it is in the standing inquiry that the advantages of the Inuit as a plaintiff are most clear.

The three-part test for standing is now well-settled law in the United States. A plaintiff must show that (1) it has suffered an "injury in fact" that is concrete and particularized and actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.[212] Standing jurisprudence, especially subsequent to Justice Scalia's joining the Supreme Court, has been a thorn in the side of many environmental plaintiffs.[213] Environmental plaintiffs often have trouble showing that they have suffered an injury

209. Daniel J. Farber, *Is the Supreme Court Irrelevant? Reflections on the Judicial Role in Environmental Law,* 81 Minn. L. Rev. 547, 555–58 (1997). Scalia's majority opinions limiting standing in environmental cases include *Lujan v. National Wildlife Federation,* 497 U.S. 871 (1990), and *Lujan v. Defenders of Wildlife,* 504 U.S. 555 (1992).

210. *See* Robert V. Percival, *"Greening" the Constitution—Harmonizing Environmental and Constitutional Values,* 32 ENVTL. L. 809, 847–50 (2002).

211. In *Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005), *City of Los Angeles v. National Highway Traffic Safety Administration*, 912 F.2d 478 (D.C. Cir. 1990), *overruled in part by Fla. Audubon Soc'y v. Bentsen*, 94 F.3d 658 (D.C. Cir. 1996), *Northwest Environmental Defense Center v. Owens Corning Corp.*, 434 F. Supp. 2d 957 (D. Or. 2006), and *Border Power Plant Working Group v. Department of Energy*, 260 F. Supp. 2d 997 (S.D. Cal. 2003) the courts rejected standing challenges, while in *Korsinsky v. EPA*, No. 05 Civ. 1528, 2005 WL 1423345 (S.D.N.Y. June 16, 2005), *aff'd*, 192 Fed. Appx. 42, 2006 WL 2255110 (2d Cir. 2006), *cert. denied*, 127 S. Ct. 1155 (2007), the court tossed out a suit on standing grounds.

212. *See* Friends of the Earth, Inc. v. Laidlaw Envtl. Services (TOC), Inc., 528 U.S. 167, 180–81 (2000).

213. Robin Kundis Craig, *Removing the "Cloak of a Standing Inquiry": Pollution Regulation, Public Health, and Private Risk in the Injury-in-Fact Analysis,* 29 CARDOZO L. REV. 149 (2007).

that is different enough from that suffered by everybody else, a problem that is most acute in the case of climate change.[214]

Climate change plaintiffs in the cases reviewed in Part II above have only been able to allege climate-related s that are broadly shared with virtually every other person on the planet, and as a result, the outcomes have been mixed. However, the Inuit are a more attractive plaintiff because of the uniqueness and certainty of their damages. For example, while some of the coastal states in *Massachusetts v. EPA* could allege that they suffer harm in the form of rising sea levels inundating land,[215] they cannot dispute the assertion that such harms would occur to any coastal place in the world. The harms to the Inuit resulting from rising sea levels are much more particularized. Melting permafrost requiring relocation of entire villages is a harm that is more unique and specific than that of inundated coastlines. Curtailment of the ability to enjoy hunting and fishing rights due to climate change is also a harm specific to the Inuit, as opposed to the unwieldy group of all coastal property owners, or the amorphous group of hunters or fishers in a particular state.

In *In re Exxon Valdez,*[216] the Ninth Circuit upheld a district court's dismissal of a class action on behalf of Native Alaskans (including members of the Inuit) for cultural damages stemming from the infamous oil tanker spill in Prince Edward Sound in Alaska. The plaintiffs brought a claim for public nuisance for harm to their "subsistence way of life, archaeological sites and artifacts[, and] . . . natural resources and property upon which [the plaintiffs] depend and/or which are part of their natural habitat and lives."[217] The Ninth Circuit agreed with the district court judge that the plaintiffs suffered harm that was "potentially different in degree," but "not different in kind" from other Alaskans, and that "the right to lead subsistence lifestyles is not limited to Alaska Natives," such that the native Alaskans lacked standing to bring a claim for public nuisance.[218]

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214. Bradford C. Mank, *Standing and Global Warming: Is Injury to All Injury to None?* 35 ENVTL. L. 1 (2005); *see also Fla. Audubon Soc'y,* 94 F.3d at 667.

215. Complaint at 2, Connecticut v. Am. Elec. Power Co., 406 F. Supp. 2d 265 (S.D.N.Y. 2005) (No. 04 Civ. 5669 (LAP)), *available at* http://www.oag.state.ny.us/press/2004/jul/jul21a_04_attach.pdf.

216. *In re* Exxon Valdez, 104 F.3d 1196 (9th Cir. 1997).

217. *Id.* at 1197.

218. *Id.* at 1198.

This is obviously not favorable language for the Inuit, but the problem in *In re Valdez* stemmed from what appears to be a tactical error: The Native Alaskans settled the claims that were considered "commercial," and therefore easily monetizable, namely the commercial value of the fishing opportunities lost to the pollution from the spill. By breaking off the claim that was most likely to succeed, the defendant Exxon forced plaintiffs' counsel into dealing with the more speculative claim on its own terms. Exxon required the court to confront the question of whether Native Alaskans may recover for harm to their culture, harms that are not easily monetizable, and harms that are less distinguishable from harms accruing to the population at large.

There are at least two potential fixes for this: the Inuit peoples could insist upon keeping a suit for "commercial" and "cultural" damages consolidated, arguing that the commercial and cultural aspects of hunting and fishing life are inextricably intertwined.[219] The other possible fix would be to have the suit brought by the attorney general of Nunavut, Northwest Territories, or Yukon—Canadian territories that all have substantial Inuit populations.[220] Given the recent rulings on the standing of states in *Massachusetts v. EPA,* the territorial attorneys general would be in a stronger position to survive standing challenges. Either way, the Inuit would be able to use the fact that they are one of the few groups that have *already* suffered some harm that is "concrete and particularized," and "actual and imminent," in the form of sinking villages due to softening permafrost and the increased difficulty of hunting and fishing. These harms, without even getting to the question of whether harm to cultural rights is legally cognizable, appear to be enough to withstand a standing challenge.

The causation element of standing—that the injury is fairly traceable to the actions of the defendant—is an interesting problem. Attacking defendants that accounted for approximately 5.7% of worldwide greenhouse gas emissions in 2004[221] obviously raises causation issues. As noted above, a

219. *See supra* note 183 and accompanying text.

220. In light of the apparently liberal standing principles that will be applied to states in the wake of *Massachusetts v. EPA*, the attorneys general of Northern Canadian territories may be in the best positions to bring suits that will withstand standing challenges.

221. *See* Brownlie, *supra* note 117.

more pertinent inquiry is how much defendants have historically contributed to the *cumulative stock* of greenhouse gases, which would certainly be greater, even though the U.S. share of annual greenhouse gas emissions has been shrinking.[222] Nevertheless, this would likely only raise defendants' contributions slightly, certainly no more than 8 to 10%, still leaving us with a substantial causation issue. As Professor Merrill points out, it would be crabbed to dismiss a suit because a defendant contributed a relatively small proportion to a widespread harm. For example, dismissing a suit against a tobacco company that accounted for a small fraction of tobacco sales would be premature, especially in a suit for divisible damages, such as in the case of tobacco liability.[223] Provided that a damage figure can be ascertained, damages for greenhouse gas emissions are more susceptible of divisibility, since the contribution of one carbon dioxide molecule emitted is the same no matter where and when emitted.[224] The causation element of standing thus would not appear to be too thorny a problem for plaintiffs.

In some contexts, the redressability test—the likelihood that the injury will be redressed by a favorable decision—is very similar to the causation test.[225] This would not be the case with the Inuit claim, as the small contribution of defendants to worldwide greenhouse gas emissions would strongly suggest that the Inuit injury could not be redressed by imposing liability on electricity generators alone.[226] However, this is where a careful choice of remedy would be important: if an Inuit suit were brought for injunctive relief, the redressability element would problematic, because requiring abatement of greenhouse gas emissions from the U.S. electricity generating industry would, at most, reduce the annual contribution of greenhouse gases by 5.7%, this industry's share of greenhouse gas emissions in recent years.[227] But in a claim for damages, which in the case of greenhouse gas emissions can be shown to

222. Boundary Waters Treaty, *supra* note 126.

223. Merrill, *supra* note 148, at 298–99.

224. As noted previously, different greenhouse gases have different "global warming potentials," and hence contribute different fractions per molecule emitted, but the problem of damage divisibility is easily solved by weighting different greenhouse gas emissions by their global warming potential. *See supra* note 5 and accompanying text,

225. Mank, *supra* note 214, at 27.

226. This argument has already been made by Professor Merrill, *supra* note 148, at 298.

227. *See supra* note 109 and accompanying text.

be divisible, a remedy could simply be a proportion of the damages attributable to defendants' emissions.[228] This claim a court could redress. Moreover, because climate change damages could be very large,[229] the 5 or 10% of this amount representing the U.S. electricity generating industry's liability would still provide significant relief.

Thus, from the standpoint of the U.S. electricity generation industry, standing does not appear to be a terribly promising avenue for dismissing an Inuit lawsuit. Even plaintiffs with less specific injuries than the Inuit have been able to overcome their standing problems.

B. Causation

Reluctance to throw a case out on standing grounds, however, does not necessarily bode well for the case on the merits. Courts may have problems with two aspects of an Inuit claim for relief: the small percentage of greenhouse emissions attributable to the electricity generating industry, and the ineffectiveness of a remedy that is sought only against this industry. If a court were swayed by the fact that the U.S. electricity generating industry has accounted for less than 10% of the *historical* greenhouse gas emissions that currently cause the climate change problem, it might well rule that the interference has not been "substantial and unreasonable" enough to warrant the imposition of liability.[230] Similarly, if a court were swayed by the increasing contribution of Chinese and Indian power plants, it may well rule that future effects of climate change would not be "caused" by the U.S. electricity generating industry in any meaningful way. While courts may be reluctant to toss out climate change cases on causation or redressability at the standing stage, they may feel quite differently about these evidentiary problems once a case reached the merits. Why, in-

228. RESTATEMENT (SECOND) OF TORTS, § 881 (1965).

229. I leave for another day and another economist the task of quantifying the damages facing the Inuit peoples, but a casual look at the overall projected possible damages from climate change is sobering. *See* NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW (Cambridge, 2007), *avaiable at* http://www.hmtreaury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm. The Stern Review concluded failure to act could lead to the loss of five to 20% of GDP forever, whereas taking actions to avoid climate change would cost less than 1% of GDP for a finite period of time. *Id.*

230. KEETON ET AL., *supra* note 138, § 88, at 626.

deed, pick on this U.S. industry when their contribution to the problem is small and declining?

The best answer to this question is that somehow inducing the U.S. electricity generating industry to substantially reduce its greenhouse gas emissions is a *necessary, but not sufficient condition* in order for the rest of the world getting down to the business of reducing its greenhouse gas emissions. Assuming that a near-simultaneous and near-universal acceptance of an effective greenhouse gas regulation scheme is impossible, abatement is going to have to start somewhere. To the extent that the U.S. electricity generating industry's refusal to abate its greenhouse gas emissions is providing disincentives for everyone else in the United States and elsewhere to consider abatement, the argument would be that it is substantially *causing* the climate change problem and visiting harm upon the Inuit.

There is already a fair amount of law that would seem to point to liability against the U.S. electricity generating industry.[231] Older cases have consistently imposed liability on a single polluter even where there were multiple contributors to the pollution problem.[232] In *Woodyear v. Schaefer*, liability for water pollution against an upstream slaughterhouse was upheld despite the existence of "a large number of slaughterhouses on the falls and run, besides breweries, soap and other factories, and the cattle scales. . . ."[233] In so doing, the court asked

> can a Court of equity intervene to stop the appellee from committing the acts which constitute such an inconsiderable part of the wrong complained of, and which if stopped, would leave the appellant still suffering from almost as great a grievance as he is now subject to?[234]

To this, the court responded that "[i]t is no answer to a complaint of nuisance that a great many others are committing

231. The author is indebted to Matthew Pawa and Ben Krass for help with the review of the law in this section.

232. California v. Gold Run Ditch & Mining, 4 P. 1152 (Cal. 1884); Harley v. Merrill Brick Co., 48 N.W. 1000 (Iowa 1891) (involving smoke from three other sources); Lockwood v. Lawrence, 77 Me. 297 (Me. 1885); Warren v. Parkhurst, 92 N.Y.S. 725 (1904) (involving stream pollution from 26 mills).

233. Woodyear v. Shaefer, 57 Md. 1, 3 (7) (Md. 1881).

234. *Id.* at 4.

similar acts of nuisance upon the stream. Each and every one is liable to a separate action, and to be restrained."[235]

More recent cases seem to have maintained this principle. *Michie v. Great Lakes Steel Division*, a transboundary case involving Canadian plaintiffs suing U.S. polluters, held that defendants could be held jointly and severally liable for air pollution damages, despite the existence of multiple contributors to the complained-of ambient air pollution problem.[236] Likewise, the Seventh Circuit in *Illinois v. Milwaukee* upheld liability for the discharge of sewage into Lake Michigan despite the existence of thousands of other polluters.[237] Furthermore, where the harm is divisible, the presence of other polluters should be even less of a bar, since a polluter may be held liable only for its share of the harm.[238] In the case of global climate change, the apportionment could be made on the basis of historical contributions to the buildup of greenhouse gases. Although it would not necessarily be a straightforward calculation,[239] the U.S. electricity generation industry could be held liable to the Inuit for the percentage of greenhouse gases they have contributed thus far. This would be consistent with a fairly settled legal principle that for a nuisance with multiple contributors, *each* individual contributor is liable.[240]

The problem is that none of the cases that establish this principle involve truly huge numbers of polluters. Are courts

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235. *Id.* at 5.

236. Michie v. Great Lakes Steel Div., 495 F.2d 213, 215 (6th Cir. 1974) (citing RESTATEMENT OF TORTS § 881 in applying joint and several liability).

237. 599 F.2d 151 (7th Cir. 1979), *judgment vacated*, 451 U.S. 304 (1981). It is noteworthy, however, that the plaintiffs sought injunctive relief rather than damages. *Id.* at 154. The court enjoined Milwaukee from discharging without further and better sewage treatment in accordance with federal standards, which existed for sewage treatment, but not for the thousands of other non-point source dischargers into Lake Michigan. Were it a claim for damages, it might have reached a different conclusion.

238. RESTATEMENT OF TORTS § 881 (1939) ("Where two or more persons, each acting independently, create or maintain a situation which is a tortious invasion of a landowner's interest in the use and enjoyment of land by interfering with his quiet, light, air or flowing water, each is liable only for such proportion of the harm caused to the land or of the loss of enjoyment of it by the owner as his contribution to the harm bears to the total harm.").

239. While good records of relatively recent emissions are available, emissions of power plants before 1990 might have to be estimated on the basis of electricity generation records.

240. KEETON ET AL., *supra* note 138, § 88B, at 634 ("A dozen nuisances do not each obtain immunity because they all interfere with the plaintiff's use of his land.").

really willing to extend this principle to the case of global climate change, with *millions* of contributors? In my view, the answer is probably no. Even if a court were to accept a generous estimate of the defendants' contribution to global climate change, say 10%, it would seem injudicious to pin responsibility against that group of defendants. It simply seems too attenuated to say that causing 10% of the problem *causes,* in the legal sense, the harm. It would seem pointless to assign liability on one group of defendants responsible for such a small percentage when there is no likelihood of holding the other prospective defendants responsible.

The best response to this problem would have to take the inquiry away from numerically-based conceptions of causation and redressability. If there exists, implicitly or explicitly, some threshold level of contribution below which courts will refuse to find a causal link (and will therefore deny recovery), then an argument would have to be made that a numerical conception is faulty or incomplete. Courts have generally, in considering joint and several liability, required that a defendant only be a *qualitatively* substantial contributor, not a quantitatively substantial one.[241]

In a purely neoclassical economic world, this argument would still face long odds. If the U.S. electricity generating industry were punished by virtue of its home country's legal system being unusually receptive to common law suits for nuisance, one would logically expect China and India to seize advantage and crush U.S. industries by offering much lower electricity prices to its manufacturers. But there must be more to the international dynamics of greenhouse gases—motivations that are not purely selfish, at least defined in a narrow sense. If there were not, there would be absolutely no reason for China or India to ever indicate any desire to deal with climate change. And yet they both have. While still maintaining the posture that their economic development will take priority over curbing greenhouse gas emissions, both

241. O'Connor v. Raymark Indus., 518 N.E.2d 510, 513 (Mass. 1988) ("The 'substantial factor' formulation is one concerning legal significance rather than factual quantum."); Rothberg v. Reichelt, 742 N.Y.S.2d 150, 152 (2002) (holding in a negligence action that the trial court should have used the following jury instruction: "Whether the negligence of a particular party was a substantial factor in causing an injury does not depend on the percentage of fault that may be apportioned to that party.").

countries have clearly signaled that they are ramping up to a legal regime to reduce greenhouse gas emissions.[242] Why?

The answer must be that in addition to purely selfish motivations, most countries desire to avoid pariah status. Even President Bush has sought to blunt the now seven-year-long outcry over his refusal to seek ratification of the Kyoto Protocol by convening his own climate change summit.[243] An analysis of the complicated motivations of nations is beyond the scope of this Article. Suffice it to say, however, there is some counterbalance to the pure economic development and economic competitiveness perspectives that would drive countries to minimize production costs, regardless of international environmental externalities.

The perspective of international competitiveness also offers a possible rationale for following first-movers to the top. One reason that Canada has been remiss in reducing greenhouse gas emissions[244] is a deep concern over the competitive position of its industries vis-à-vis U.S. companies, which have not faced any top-down pressure to reduce greenhouse gas emissions.[245] The relative ease of moving a greenhouse gas-emitting facility south of the border is too powerful a factor; Canadian politicians have shrunk from the challenge of reducing greenhouse

242. *See, e.g.*, *China Unveils Climate Change Plan,* BBC NEWS, June 4, 2007, http://news.bbc.co.uk/2/hi/asia-pacific/6717671.stm; Emma Graham-Harrison, *China Plans $265 Billion Renewables Spending by 2020,* REUTERS, Sept. 5, 2007, *available at* http://www.planetark.org/avantgo/dailynewsstory.cfm?newsid=44127; *India to Create National Plan to Combat Global Warming,* GREENWIRE, July 16, 2007 (on file with author); People's Republic of China, National Development and Reform Commission, *China's National Climate Change Programme* (June 4, 2007), http://en.ndrc.gov.cn/newsrelease/P020070604561191006823.pdf.

243. Darren Samuelson, *Climate: Bush Sends Invitations to Emissions Summit,* E&E DAILY, Aug. 3, 2007.

244. Canada's annual greenhouse gas emissions in 2005 were about 747 Mt CO_2-equivalents, 25.3% above its 1990 levels, and 32.7% above its Kyoto target, which Canada, by ratifying the Kyoto Protocol, agreed to meet in the Kyoto compliance period of 2008–12. ENVIRONMENT CANADA, CANADA'S 2005 GREENHOUSE GAS INVENTORY, A SUMMARY OF TRENDS, http://www.ec.gc.ca/pdb/ghg/inventory_report/2005/2005summary_e.cfm.

245. As discussed previously, Environment Canada released an economic analysis criticizing opposition parties' attempts to pass legislation mandating that Canada comply with its Kyoto targets, claiming that the opposition proposals would cause a recession in Canada. The report noted that "[s]everal U.S. states are moving forward on coordinated climate change plans, and options are being discussed at the U.S. federal level that could create opportunities in the near future to alleviate the *competitiveness and economic constraints on Canada acting alone in North America.*" ENVIRONMENT CANADA, *supra* note 16, at 25 (emphasis added).

gas emissions to avoid losing an economic fight with the United States. But if the United States were to raise the bar by enacting binding greenhouse gas reductions, the competitive pressure of keeping up with U.S. industries would dissipate. The question would be whether Canada would seize the opportunity to grab market share and industrial production share from the United States by continuing to ignore climate change. I submit that there is at least a possibility that Canada would follow the United States to the top. Second-movers often enjoy cost advantages anyway, because they learn from first-movers. And Canada would be loath to jeopardize the extremely tight economic and cultural integration of the two countries, which contributes so much to each country's wealth.[246]

In sum, the causation argument will have to rest on the assertion that the U.S. electricity generation industry *must move first* in order for it to be plausible that the rest of the United States and the rest of the world will take up the business of reducing greenhouse gases. To the extent that the refusal of the U.S. electricity generation industry to abate its greenhouse gas emissions is causing other greenhouse gas emitters to similarly balk at abatement, it is substantially *causing* the climate-related harms to the Inuit. A cynic would counter that the U.S. electricity generation industry's unilateral abatement of its greenhouse gas emissions would do nothing to induce worldwide cooperation in the tackling of the global climate change problem. But this assertion implicitly assumes that a solution to the global climate change problem would require a near-simultaneous and near-universal buy-in from all the major current and future greenhouse gas emitters. That would be a gloomy prospect.

So would a court rule or would a court allow a fact-finder to conclude that the U.S. electricity generation industry has *caused* climate-related harms to the Inuit? It is hard to say, but the argument set forth above would, in my view, require a court to be somewhat adventuresome. The history of the common law of nuisance in the United States—private or public, federal or state—seems marked by judicial restraint, such that it would be difficult for a court to comfortably pin responsibility for a disparate environmental problem on one of many sources,

246. Hsu & Parrish, *supra* note 76, at 7–14.

even one as blameworthy as the U.S. electricity generation industry.

C. Preemption

The flurry of environmental legislation in the 1970s and 1980s and the concomitant rise of the environmental regulatory state has resulted in the decline of environmental common law. The struggle of courts to mold common law doctrines to handle environmental disputes has been replaced by struggles with administrative law and the role of courts vis-à-vis regulatory agencies. The environmental common law has been largely replaced by extensive and detailed legislation such as the Clean Air Act and the Clean Water Act.[247]

Thus, preemption may provide a way for courts to duck an Inuit lawsuit against the U.S. electricity generation industry. With several proposals before the U.S. House and Senate,[248] passage of greenhouse gas legislation in the United States now seems possible, and even possible that it will have enough votes to override a Bush veto. The question of whether such legislation would preempt or displace our hypothetical action would clearly depend on the legislation.

Professor Merrill has argued that it is even possible that the Clean Air Act would *presently* displace federal common law in a nuisance suit such as the hypothetical Inuit claim or the one in *Connecticut v. American Electric Power*.[249] Subchapter I of the Clean Air Act, the part potentially implicated by *Connecticut v. American Electric Power,* established an elaborate regulatory infrastructure in which the EPA is directed to promulgate ambient air quality standards and states are directed to submit "implementation plans" that will meet the standards. The core of this program, section 108, requires the EPA administrator to revise, "from time to time," a list of "criteria" air pollutants that the "emissions of which, in his judgment, cause or contribute to air pollution which may reasona-

247. *See* Percival, *supra* note 4.

248. Proposals before the U.S. House and Senate include: Climate Stewardship and Innovation Act, H.R. 620, 110th Cong. (2007); Climate Stewardship and Innovation Act, S. 280, 110th Cong. (2007); Electric Utility Cap and Trade Act, S. 317, 110th Cong. (2007); Global Warming Pollution Reduction Act, S. 309, 110th Cong. (2007).

249. Merrill, *supra* note 148, at 316–19.

bly be anticipated to endanger public health or welfare . . . ."[250] Federal regulation of carbon dioxide can be plausibly regulated under this subchapter of the Clean Air Act, but the EPA has thus far declined to list carbon dioxide as a "pollutant" under this subchapter, evidently reaching the conclusion that the emissions of carbon dioxide do not "cause or contribute to air pollution which may be reasonably be anticipated to endanger public health or welfare" within the meaning of section 108.[251]

Professor Merrill's view that the Clean Air Act preempts any state lawsuit seems to be a fairly expansive view of preemption, when the EPA had declined (prior to *Massachusetts v. EPA*) to include carbon dioxide within the ambit of the Clean Air Act. Federal courts are not bound by the EPA's determinations, but there must be limits as to the reach of the statute over air pollution matters not covered by the statute. In this regard, the language in *City of Milwaukee v. Illinois,*[252] (popularly known as "*Milwaukee II*") that suggests a "conflict displacement"[253] test for preemption seems much more on point.[254] The language in *Milwaukee II* that seems to call for a "field displacement" test somehow seems animated by the very clear intent of Congress to address, through the Clean Water

250. Clean Air Act, 42 U.S.C. § 7408(a)(1)(A) (1998).

251. *Id.*

252. 451 U.S. 304 (1981).

253. Merrill, *supra* note 148, at 311.

254. 451 U.S. at 315 ("Thus the question was whether the legislative scheme 'spoke directly to a question'—in that case the question of damages—not whether Congress had affirmatively proscribed the use of federal common law. Our 'commitment to the separation of powers is too fundamental' to continue to rely on federal common law by judicially decreeing what accords with 'common sense and the public weal' when Congress has addressed the problem." (quoting TVA v. Hill, 437 U.S. 153, 195 (1978))). The fact that the EPA has not yet addressed and has expressed no interest in addressing greenhouse gas regulation before the end of the Bush Administration, *see supra* note 72 and accompanying text, *and* seems to find it necessary to propose separate greenhouse gas legislation, strongly suggests that the scheme of the Clean Air Act does not speak "directly" to the question of greenhouse gas emissions. *See also Milwaukee II*, 451 U.S. at 315 n.8 ("[T]he question whether a previously available federal common-law action has been displaced by federal statutory law involves an assessment of the scope of the legislation and whether the scheme established by Congress addresses the problem formerly governed by federal common law."). It is hard to imagine that an assessment of the scope of the Clean Air Act, and of whether the scheme addresses the problem previously governed by federal common law would yield a determination that the Clean Air Act speaks at all to the problem of greenhouse gas emissions.

Act, the problem of sewage outflows complained of by Illinois.[255]

Of all the climate change lawsuits thus far, however, none have yet been tossed out on preemption grounds, suggesting that the current Clean Air Act is not a threat to an Inuit lawsuit. It very much remains to be seen whether future climate change legislation would.

D. Political Question Doctrine

In *Connecticut v. American Electric Power*,[256] a federal district court dismissed a nuisance lawsuit on political question grounds. After listing the six recognized indicators articulated in *Baker v. Carr* that suggest that a suit raises a nonjusticiable political question,[257] the court ruled that the third indicator, "the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion," was "especially pertinent."[258] Noting that Congress has already acted on several previous occasions to at least speak to the issue of global climate change,[259] and noting the deliberate actions *and* inactions by Congress and the President, and the fact that climate change was "discussed extensively" during the last three presidential campaigns, the court ruled that it was impossible for a court to "strike a balance 'between interests seek-

255. 451 U.S. at 317 ("Congress has not left the formulation of appropriate federal standards to the courts through application of often vague and indeterminate nuisance concepts and maxims of equity jurisprudence, but rather has occupied the field through the establishment of a comprehensive regulatory program supervised by an expert administrative agency."). The idea that Congress "occupied the field" is not rigorously tested by the comparison of the complained-of Milwaukee sewage outflows and the pollution permitting scheme under the Clean Water Act, which explicitly addressed municipal sewage treatment plants. Nor does the Court's subsequent fawning over Congress's pronouncements of the "comprehensive" nature of the Clean Water Act seem very dispositive of the question as to whether it truly *was* "comprehensive." New environmental problems present themselves frequently over time, and it seems crabbed to insist that a self-serving proclamation that a statute is "comprehensive" should foreclose common law liability for anything that remotely resembles air pollution or water pollution.

256. 406 F. Supp. 2d 265 (S.D.N.Y. 2005).

257. Baker v. Carr, 369 U.S. 186, 198 (1962).

258. *Am. Elec. Power*, 406 F. Supp. 2d at 272 (quoting Vieth v. Jubelirer, 541 U.S. 267, 277–78 (2004)).

259. The Global Climate Protection Act of 1987, Pub. L. No. 100–204, 15 U.S.C. § 2901; National Climate Program Act of 1978, 15 U.S.C. § 2901; Global Change Research Act, 15 U.S.C. §§ 2831–2938; Energy Policy Act of 1992, 106 Stat. 2776 (1992); Energy Security Act, Pub. L. No. 96–294, 94 Stat. 611 (1980).

ing strict schemes to reduce pollution rapidly to eliminate its social costs and interests advancing the economic concern"'[260] without an "initial policy determination" by a political branch of government.[261]

The *American Electric Power* court's tour of climate change politics should not be viewed as dispositive—courts can and should adjudicate individual claims that are loaded with political content without infringing upon the powers of the other branches. Courts have, for example, adjudicated numerous lawsuits against tobacco manufacturers[262] and handgun manufacturers (some on a public nuisance theory)[263] in cases that have involved vigorously debated political issues.[264]

More ominous and prescient for the Inuit lawsuit is the court's discussion in *American Electric Power* of the complicated policy determinations and scientific analysis required to adjudicate a climate change claim. This Article sets out only a fraction of the scientific and cultural factors that bear on a determination of liability for climate-related damages. It is true that there was a time that the policy of tobacco products and handguns seemed more opaque than it is today, but that courts eventually came around to feeling that there was enough common and reliable information out there to enable them to make some common-sense common law determinations as to fault and liability. I simply argue that courts may not yet be at that point in the realm of climate change.

Another critical difference between tobacco liability and handgun liability on the one hand, and climate change liability on the other, is that the latter involves an infinite number of potential defendants, the U.S. electricity generation industry

260. *Am. Elec. Power*, 406 F. Supp. 2d at 272 (quoting Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 847 (1984)).

261. *Id.* at 269–73.

262. For a review of the many cases and settlements, see Richard C. Ausness, *Public Tort Litigation: Public Benefit or Public Nuisance?*, 77 TEMP. L. REV. 825, 829–37 (2004).

263. White v. Smith & Wesson, 97 F. Supp. 2d 816 (N.D. Ohio 2000); Gary v. Smith & Wesson, 801 N.E.2d 1222 (Ind. 2003); James v. Arms Tech., Inc., 820 A.2d 27 (N.J. Super. Ct. App. Div. 2003); City of Cincinnati v. Beretta U.S.A. Corp., 768 N.E.2d 1136 (Ohio 2002).

264. *See, e.g.*, Harold S. Herd, *A Re-examination of the Firearms Regulation Debate and its Consequences*, 36 WASHBURN L.J. 196 (1997); David C. Vladeck, *Defending Courts: A Brief Response to Professors Fried and Rosenberg*, 31 SETON HALL L. REV. 631, 634–35 (2001) (describing the political events of the early 1990s surrounding the prospect of tobacco regulation).

only being one. This is an important difference not only because courts avoid cases in which they only have some of the pertinent parties before them,[265] but also because the large number of responsible parties underscores the political nature of the problem. With tobacco and handguns, one can be reasonably assured that courts can exercise jurisdiction over the vast majority of defendants, and that ultimately, courts can offer some redress for harms visited upon plaintiffs. With climate change, there can be no closure without a political solution. The climate change problem must involve many other greenhouse gas-emitting sectors in the United States and Canada, to say nothing of China and India. This inherent intractability will push courts away from hearing these cases on the merits.

Illustrative of this point is *Illinois v. City of Milwaukee*,[266] in which Justice Rehnquist's majority opinion expressed concerns with the Court's ability to handle complicated scientific information. Rehnquist noted that the district judge had remarked that the expert testimony was "over the heads of all of us," and commented that "[n]ot only are the technical problems difficult—doubtless the reason Congress vested authority to administer the Act in administrative agencies possessing the necessary expertise—but the general area is particularly unsuited to the approach inevitable under a regime of federal common law."[267] Exactly what Rehnquist meant by "the approach inevitable under a regime of federal common law" is unclear. His throwing up of his hands also seems unduly diffident, as if courts are unavoidably staffed by innumerate liberal arts majors. But there is little doubt that he speaks for a broad swath of the judiciary in saying that the more complicated the evidentiary problems are, the less likely courts are to presume to take them on.

E. Summing up the Jurisprudential Concerns

There is overlap among the concerns over standing, causation, preemption, the competence of courts to address problems with political dimensions, and over the ability of courts to handle complex scientific issues. All of these doctrines have vague

265. Hsu & Parrish, *supra* note 76, at 39–54.
266. 451 U.S. 304 (1981).
267. *Id.* at 325.

boundaries, and all of them have been invoked to dismiss cases that, in hindsight, seem appropriate for adjudication after all. Although climate change litigation seems to be gathering popular momentum, courts are probably a few years away from actually finding liability on the part of any greenhouse gas emitters. A balancing test conducted under the rubric of the Restatement factors seems to hold out considerable promise for potential plaintiffs, but a closer look at the trajectory of the common law would seem to indicate that at least in the United States, courts would only in narrow circumstances be ready to step up to the challenge of adjudicating climate change disputes.

VIII. NUISANCE LAW IN CANADA

An alternative venue for this lawsuit involving the Inuit and the U.S. electricity generation industry would be a domestic court in Canada. Unfortunately, for reasons that are discussed below, Canadian courts offer a much less friendly legal environment for the kind of lawsuit contemplated in this Article.

A. Extraterritoriality

An action in a Canadian court, based on Canadian law but applied to a U.S. defendant, would be an extraterritorial application of Canadian law.[268] This action would have to overcome traditional obstacles to the exercise of personal jurisdiction over foreign defendants.[269]

Lately, however, a convergence of legal, scientific, and political factors are contributing to a weakening of territorial barriers to the extraterritorial application of domestic law to a foreign defendant not otherwise subject to personal jurisdiction. There has been some movement in Canada to recognize the "effects test," which allows for the exercise of personal jurisdiction when the effects of a defendant's actions are felt in a jurisdic-

268. A Canadian court would no more likely hear a case based primarily on U.S. law than would a U.S. court on Canadian law.

269. For a discussion of the likelihood of a Canadian court exercising extraterritorial jurisdiction over the U.S. electricity generating industry, see Hsu & Parrish, *supra* note 76 (analyzing the possibility of a lawsuit brought by the Canadian province of Ontario against U.S. power plants for air pollution that physically travels over the border from the U.S. to Ontario).

tion other than that of the defendant.[270] Secondly, with the dramatic improvements in technology for measuring and tracking air and water pollution, the rationale for the effects test seems much more compelling than that for the traditional jurisprudential barriers to suit.[271] Finally, the exercise of jurisdiction by a U.S. federal district court over Teck Cominco, the Canadian mining giant, for pollution discharged in Canada but having effects in Washington State, has very noticeably raised temperatures in both Canada and the United States.[272] Something of a breakdown in bilateral relations between Canada and the United States seems to signal a chill that may be working its way down to Canadian courts in the form of less judicial restraint when it comes to international comity as a bar to action. Indeed, in the recent case *British Columbia v. Imperial Tobacco*,[273] the Canadian Supreme Court upheld a judgment against U.S. tobacco manufacturers for health care costs incurred by the province of British Columbia in caring for people stricken with tobacco-related diseases, an extraterritorial application of domestic law.

However, a Canadian court exercising personal jurisdiction over a U.S. defendant in a case involving a Canadian plaintiff is by no means a foregone conclusion. Judicial restraint and respect for international comity would probably still be the default position of Canadian courts in such a case, which would be one of several difficult obstacles for an Inuit suit brought in Canada to overcome. It is no longer, however, an outcome that U.S. defendants can take for granted, as the *Imperial Tobacco* case signals.

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270. Hsu & Parrish, *supra* note 76, at 32–35 (citing Moran v. Pyle Nat'l Ltd., [1973] 43 D.L.R.3d 239, 250–51 (Can.), and Jenner v. Sun Oil Co., [1952] 2 D.L.R. 526, 526 (Ont. High Ct.)).

271. In order to overcome a traditional presumption against the extraterritorial application of law, traditional applications of the effects test required some tangible physical or economic transboundary harm, such as visible, physical air pollution crossing boundaries and causing extraterritorial harm. But with the advent of air pollution tracking technology, the effects test has become a plausible doctrine even for less tangible and more subtle harms from air pollution. *See, e.g.*, Hsu & Parrish, *supra* note 76, at 43–47.

272. *See id.* at 37–39.

273. British Columbia v. Imperial Tobacco, [2005] 2 S.C.R. 473, 2005 SCC 49 (Can.).

B. Canadian Nuisance Law

As Canada shares the same English common law roots as the United States, the law of nuisance in the two countries has many similarities. As in the United States, public and private nuisance in Canada have very different origins, but have converged somewhat due to overlap in the kinds of situations that could be remedied by each action.[274] In both the Canadian and American versions of public nuisance, plaintiffs are required to show that the defendant's actions, though interfering "with a right common to the general public,"[275] or affecting a "sufficiently large number of people,"[276] impose some kind of special or different injury on the plaintiff.[277] And courts in both countries have developed a set of factors that are used as guides in conducting what amounts to a balancing test.[278]

To the extent that the United States and Canadian common law have been diverging, the Canadian common law has been slower to change. While American courts have relaxed the "special damage" requirement for plaintiffs,[279] Canadian courts have been considerably more stingy, requiring plaintiffs to show injury different in kind *and* in degree from those suffered by the general public. In the leading Canadian case, *Hickey v. Electric Reduction Co.*,[280] the court dismissed a lawsuit brought by a fishermen's group for a toxic spill that fouled fishing waters and killed off the fish that plaintiffs relied upon. Surprisingly, the court found that the fishermen's group did not show that their injury was different in kind, since fishing is a right enjoyed by everyone.[281] The signals that Canadian courts may move away from such a stringent standing test have been "intermittent and inconclusive."[282]

Indeed, the *Hickey* case threw a second firebomb into the plaintiffs' bar by requiring plaintiffs' injuries to be a "direct and consequential" result of defendants' actions.[283] Apart from the

274. BETH BILSON, THE CANADIAN LAW OF NUISANCE 46–47 (Butterworths 1991); KEETON ET AL., *supra* note 138, § 87, at 618.
275. RESTATEMENT (SECOND) OF TORTS § 821B.
276. BILSON, *supra* note 274, at 49.
277. *Id.* at 52–58; KEETON ET AL., *supra* note 138, § 90, at 646–50.
278. BILSON, *supra* note 274, at 32–44; *see also supra* Part VI.A.
279. KEETON ET AL., *supra* note 138, § 90, at 646–50.
280. [1970] 21 D.L.R.3d 368 (Can.).
281. *Id.* at 370–72.
282. BILSON, *supra* note 274, at 55–56.
283. *Hickey*, [1970] 21 D.L.R.3d at 372.

obvious mischief that such vague language causes in nuisance law, it has contributed to the doctrinal confusion surrounding nuisance, and the difficulty that courts have had in separating out negligence causes of action.[284] A Canadian commentator, frustrated with the "spurious and fruitless discussion" of the meaning of this language has speculated that this little bit of mal-jurisprudence is an opaque way of keeping a lid on damages from private lawsuits, and discouraging public interest lawsuits.[285]

If *Hickey* were not bad enough for plaintiffs, Canadian courts have occasionally, in other lapses of concentration, undertaken an inquiry into the *reasonableness* of defendant's conduct in determining liability for public nuisance.[286] In the cases that have gone down this path, courts have in effect created a negligence-plus standard, requiring not only the elements of negligence, but also those of public nuisance. The effect of this line of inquiry has been, predictably, to make a finding of nuisance less likely.

A final significant way in which Canadian courts have been less hospitable than American courts to nuisance lawsuits is the way in which they have applied the statutory authorization defense. The genesis of this common law defense, available in both Canada and the United States (where it is more commonly known as "legislative authority") is the concept that legislatures acting within their constitutional bounds should be able to override certain common law doctrines by statute.[287] In the United States, this has played out most commonly in the context of zoning laws, where courts have disagreed somewhat as to the degree to which a zoning scheme immunizes a defendant's activity. Where a zoning law clearly contemplates a particular land use, then courts have generally found that the complained-of activity is not a *public* nuisance.[288] For actions in *private* nuisance, however, the illegality of an activity is only

284. BILSON, *supra* note 274, at 58.

285. *Id.*

286. *See, e.g.*, Chessie v. J.D. Irving, [1982] 140 D.L.R.3d 501 (Can.); Harper v. G.N. Haden & Sons, [1933] 1 S.C.K. 298, 320 (Can.). Some American cases have also gone down this unfortunate path, but typically only when a public nuisance suit is brought by a private party. *See, e.g.*, Quinnett v. Newman, 568 A.2d 786, 788–89 (Conn. 1990).

287. BILSON, *supra* note 274, at 94; KEETON ET AL., *supra* note 138, § 88A, at 632–33.

288. KEETON ET AL., *supra* note 138, § 88A, at 633.

one of several factors to consider in conducting the balancing test described in Section VI.[289] As a general matter, the legislative authority defense in the United States has been limited to situations in which a complained-of activity was of the *specific* nature as that set forth in a statute.[290]

The statutory authority defense in Canada, however, has been interpreted to sanction a range of activities that Parliament could have contemplated in passing a statute. The Canadian Supreme Court case *Tock v. St. John's Metropolitan Area Board*[291] yielded three concurring but not altogether consistent opinions on the scope of the defense.[292] Justice Sopinka's opinion granted the defense the widest scope, focusing the inquiry on whether the public body is carrying out work "in accordance with the statute."[293] In *Ryan v. Victoria,*[294] the Court took up the issue and held that Justice Sopinka's opinion was the correct one, thereby maximizing the scope of the defense.[295]

In our hypothetical suit between the Inuit and the U.S. electricity generating industry, the differences in the *Tock* opinion are critical. For nearly the entire history of large-scale electricity generation in the United States, there have been statutes creating special state- and federal-level commissions to regulate electricity generation. Implicit in all of the statutes, of course, is the authorization of the business of generating electricity. Since the Canadian Supreme Court has subsequently adopted Justice Sopinka's expansive view of the defense, these state and federal statutes authorizing electricity generation will almost certainly be considered to have authorized the greenhouse gas emissions as well. Statutory authority

289. *Id.* The suitability of the defendant's conduct to the character of the locality is a factor to be considered in the balancing test. *See* RESTATEMENT OF TORTS § 828 (1965).

290. Maykut v. Plasko, 365 A.2d 1114, 1118 (Conn. 1976); KEETON ET AL., *supra* note 138, § 88A, at 633 ("There would seem to be a fundamental difference between a general zoning ordinance that authorizes many different kinds of uses within broad classifications and an authorization of a specific use such as the authorization of a site for an airport or . . . airport expansion.").

291. [1989] 2 S.C.R. 1181 (Can.).

292. In Canadian jurisprudence, all opinions are accorded precedential weight.

293. "A work is authorized by statute whether the statute is mandatory or permissive, if the work is carried out in accordance with the statute." *Tock*, [1989] 2 S.C.R. 1181, ¶ 92.

294. [1999] 1 S.C.R. 201 (S.C.C.).

295. *Id.* ¶ 54–56.

would afford the U.S. electricity generating industry a complete defense.

C. Whither, Canadian Law?

In short, Canadian courts can be expected to be considerably less friendly to an Inuit lawsuit against the U.S. electricity generating industry. Public interest litigation simply does not enjoy the storied tradition in Canada as it does in the United States. Following the British system of fees, Canadian courts as a default rule require the loser to pay for the attorneys' fees of the winning party.[296] This is a double-edged sword, of course, but for relatively underfunded environmental plaintiffs, it is a significant bar to the courthouse doors.[297] A greater bar still is the rarity of citizen suit provisions in Canadian statutes, federal or provincial.[298] The legal difficulty in establishing standing, among other procedural problems, has probably served as the greatest obstacle to public interest litigation. The Inuit may not necessarily be bringing a citizens claim, but the rarity of citizen suit provisions, coupled with these other jurisprudential obstacles, is part of a legal culture that does not look to litigation as a means of righting wrongs.

Whether the Canadian legal culture created a legal system that discourages remedial, public interest litigation, or the legal system itself created a legal culture that seems litigation-averse, is a debatable question that this Article does not address. What I can safely conclude, however, is that Canadian courts offer no better, and probably much worse, a venue for Inuit hoping to obtain some redress for climate-change-related harms from the U.S. electricity generating industry.

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296. *See, e.g.*, British Columbia Rules of Court, R. 57(9) (1990) (Can.); Popke v. Bolt, [2005] 392 A.R. 220 (Can.); Sierra Club of Western Canada v. British Columbia (Chief Forester), [1994] 117 D.L.R.4th 395 (Can.).

297. There are exceptions to the general rule that the loser pays, such as in cases where the court finds that the losing litigant raises a novel issue, Abramovic v. Canadian Pacific Ltd. I [1989] 69 O.R.2d 487 (Can.); Chitel v. Rothbart [1987] 60 O.R.2d 38 (Can.), or where the losing litigant represents a "public interest" and litigates "responsibly." Sierra Club of W. Can. v. B.C. (Att'y Gen.), [1991] 83 D.L.R.4th 708 (Can.).

298. Randy Christensen, *The Citizen Submission Process Under NAFTA: Observations After 10 Years*, 14 J. ENVTL. L. & PRAC. 165, 171–72 (2004).

CONCLUSION

The legal analysis in this Article suggests that the Inuit, if they were to bring a lawsuit against electricity generating companies in the United States, would have a reasonable chance of success. The Inuit could sue through the Inuit Circumpolar Conference, or, in the wake of *Massachusetts v. EPA*, might wish to convince the Attorneys General of the Yukon, Northwest Territories, and Nunavut to bring an action *parens patriae*. Alternatively, a large number of Inuit could simply bring a class action lawsuit, without involving any formal institutions at all. In all of these cases, Inuit plaintiffs would have a very plausible chance of withstanding procedural challenges and winning on the merits. The case would be much more advantageously brought in the United States, in the home district of one of the larger electricity generating companies.

But what does this mean for climate change litigation? In my view, the Inuit occupy a very rare sweet spot in terms of who they are, what they do, and where they live. There might well be a number of climate change plaintiffs who are a distinct group that suffers unique and specific harms from climate change; there might well be plaintiffs that live in a place that is uniquely vulnerable to climate change; and there might be plaintiffs who could lose a cultural identity as a result of dislocation necessitated by climate change. But few can claim all of these litigation advantages. Add to that the headache of finding a forum for an action to remedy climate-related harms, and the list of potential plaintiffs suddenly narrows down to only a few.

On the defendant side, it is possible but far from clear that a court would really take the step of imposing liability on a group of electricity generating firms, the largest feasible group of defendants. Courts have erected a number of jurisprudential gates that policy-making plaintiffs would have to pass through in order to win, and courts have historically made use of them to avoid dealing with pressing social issues in a judicial forum. Even if U.S. electricity generating firms could lose such a case, I am hard-pressed to identify other defendants that would truly have much to fear from private lawsuits sounding in nuisance or any other tort.

Climate change litigation could well be an important aspect of bringing about the vast societal changes that need to

take place if humankind is to have a chance of arresting global climate change. But it is far from being the magic bullet that some seem to hope it is. Climate change litigation should be viewed as just one of many subnational activities currently taking place to reduce greenhouse gases. But climate change litigation and the numerous state, local and private initiatives are only gap-fillers; in the absence of any effective foundational measures at the national or international levels to reduce greenhouse gases, these noble measures will fall short in achieving climate change goals.

As cumbersome, messy, and slow the international treaty-making process is, it remains the preferred policy path. For one thing, universality or near-universality cannot be achieved without both international and national mandates. Only international treaty-making can accomplish this. For all of the cities that have joined the U.S. Mayors Climate Protection Agreement, many have not joined, including any in China, Russia, or India. And for all of Hollywood flair of Arnold Schwarzenegger, Al Gore, and Richard Branson, few new ideas have been discovered or considered in this most recent year or two of heightened climate awareness. The kind of research that needs to be undertaken can only be undertaken at the national and international levels, with resources that not even Richard Branson has. Regrettably, the climate change problem is at this point in time a problem that seems vulnerable to leakage problems—greenhouse gas emitting capital flowing to jurisdictions that do not impose greenhouse gas controls, such as China and India. For all of these reasons, we have reason to cheer on climate litigants, but not place too much reliance on their success.