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## CLIMATE CHANGE AND HUMAN RIGHTS

Amy Sinden\*

The scientific consensus is now clear. Carbon dioxide and other greenhouse gases released through the burning of fossil fuels and other human activity are accumulating in the atmosphere and causing average global temperature to rise.<sup>1</sup> We are already beginning to feel the effects. 2005 was the hottest year on record. Of the 21 hottest years ever measured since they started keeping records in 1860, 20 have occurred in last 25 years. The permafrost is melting in the arctic.<sup>2</sup> Glaciers around the world are receding.<sup>3</sup> By 2030, there will be no more glaciers in Glacier National Park. As the earth heats up, ecosystems across the globe are changing. Species that have evolved over millennia to adapt to particular climatic conditions are finding their habitats so drastically altered that their very survival is threatened. As the arctic sea ice melts, polar bears—a species that couldn't be farther from any center of human industrial activity—are facing extinction.<sup>4</sup> And that's only the tip of the ice berg. Scientists estimate that human-induced climate change will drive a quarter of the species on earth to extinction by mid-century.<sup>5</sup> There is literally no longer any spot on earth that remains untouched by human action. In the words of Bill McKibben, we are witnessing “the end of Nature.”<sup>6</sup>

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<sup>1</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers* 2, 5 (Feb. 2007) (hereinafter IPCC 2007 Summary), available at <http://www.ipcc.ch/SPM2feb07.pdf> (reporting “very high confidence [90% certainty] that the globally averaged net effect of [the atmospheric accumulation of greenhouse gases due to] human activities since 1750 has been one of warming”).

<sup>2</sup> IPCC 2007 Summary, *supra* note 1, at 8.

<sup>3</sup> *Id.* at 7.

<sup>4</sup> The U.S. Fish and Wildlife Service has issued a proposed rule listing the polar bear as threatened throughout its range under the Endangered Species Act. See Department of Interior, Fish and Wildlife Service, 12-Month Petition Finding and Proposed Rule to List the Polar Bear (*Ursus maritimus*) as Threatened Throughout its Range, 72 Fed. Reg. 1064 (Jan. 9, 2007).

<sup>5</sup> Chris D. Thomas, *Extinction Risk from Climate Change* 427 NATURE 145 (2004) (predicting on the basis of mid-range climate-warming scenarios that 15–37% of species will be “committed to extinction” by 2050).

<sup>6</sup> BILL MCKIBBEN, *THE END OF NATURE* (1989).

If we continue on our present course, the coming decades will bring increasing drought, increasingly severe storms, the spread of tropical diseases, and massive human dislocation as low-lying coastal areas around the globe are inundated by rising seas.<sup>7</sup> Because there's a significant lag time between when heat-trapping gases accumulate in the atmosphere and when the earth's climate reaches a new equilibrium in response to the change, we've already done far more damage than we realize.<sup>8</sup> We won't feel the full effects of the heat-trapping gases we've already pumped into the atmosphere for another century or more.<sup>9</sup> Jim Hansen, NASA's top climate scientist, says we are nearing a "tipping point."<sup>10</sup> If emissions of GHGs continue at their current pace for even just another decade, we may reach point of no return—a point at which feedback loops have been triggered and avoiding "devastating consequences" becomes impossible.<sup>11</sup> We will have effectively created a new planet—one entirely different from the place in which human civilization evolved over the past 10,000 years.

In one sense, all of humanity is in this together. But in another sense this crisis divides us both in terms of culpability and vulnerability. The haves of the world are responsible for the vast majority of the greenhouse gases that have already accumulated, and yet it is the have-nots who are likely to bear the brunt of its effects.<sup>12</sup> The U.S., for example, with less than five percent of the world's population, is responsible for more than 28 percent of GHGs. But many of the areas most vulnerable to sea level rise and to debilitating drought are in the developing world.<sup>13</sup> Additionally, throughout the world, the poor are generally less likely to have the resources to cope with calamity when it strikes.

Indeed, Hurricane Katrina offered a grim preview of things to come. Not that the hurricane itself was necessarily caused or made more severe by global warming. It may have been, but we'll never know for sure. The point is rather that as global climate change triggers more severe storms and rising sea levels in coming decades, the calamity of Katrina is likely the kind of thing that we'll see more and more of around the globe.<sup>14</sup> And perhaps the most disturbing lesson

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<sup>7</sup> IPCC 2007 Summary, *supra* note 1, at 9, 16.

<sup>8</sup> IPCC 2007 Summary, *supra* note 1, at 17.

<sup>9</sup> IPCC 2007 Summary, *supra* note 1, at 17; Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report, Summary for Policymakers, Question 5 (2001)* (hereinafter *IPCC Synthesis 2001*), *available at* [http://www.grida.no/climate/ipcc\\_tar/vol4/english/005.htm](http://www.grida.no/climate/ipcc_tar/vol4/english/005.htm) (last visited Apr. 1, 2007).

<sup>10</sup> James E. Hansen, *The Threat to the Planet: Actions Required to Avert Dangerous Climate Change*, Presentation at SOLAR 2006 Conference on Renewable Energy, Denver, July 10, 2006, *available at* <http://www.columbia.edu/~jeh1/> (last visited Apr. 1, 2007).

<sup>11</sup> *See* Hansen, *supra* note 10, at 1.

<sup>12</sup> *See* IPCC Synthesis 2001, *supra* note 9; DONALD A. BROWN, *AMERICAN HEAT: ETHICAL PROBLEMS WITH THE UNITED STATES' RESPONSE TO GLOBAL WARMING* 92–94 (2002).

<sup>13</sup> IPCC Synthesis 2001, *supra* note 9, at 12.

<sup>14</sup> IPCC 2007 Summary, *supra* note 1, at 7, 16.

from Katrina is that when disaster strikes and existing infrastructure is inadequate, it is those who lack power and resources who will suffer.

The projections on sea level rise are particularly sobering. The latest IPCC report predicts seven inches to two feet of sea level rise by the end of the century, which will have devastating consequences for millions of people. One and a half feet of sea level rise will double the number people at risk of flooding from storm surges from 46 million per year to 92 million.<sup>15</sup> But it could be far worse. The IPCC projections do not take into account the possibility that warming will trigger abrupt, rapid melting of the Greenland and Antarctic ice sheets.<sup>16</sup> In just the past few years, scientists have discovered new evidence of feedback loops that are melting the polar ice far faster than anyone imagined ten years ago. There is now significant concern that vast ice sheets on Greenland and Antarctica may abruptly collapse and slide into the sea, triggering dramatic and possibly instantaneous sea level rise on the order of 10 or 20 feet, or ultimately even as much as 80 feet.<sup>17</sup> Sea level rise of these magnitudes would have devastating consequences for millions of people. Much of the world's population is concentrated in low-lying coastal areas. And worse yet, much of the world's poorest populations are concentrated in such areas. Twenty feet of sea level rise would displace 23 million people in Indonesia and Malaysia, 24 million in Bangladesh, 46 million in India, and 96 million in China.<sup>18</sup> And that's only twenty feet. At eighty feet, things get far worse. For comparison purposes, consider that Hurricane Katrina displaced two million people. And that was in the richest nation in the world.

We are conducting a grand experiment on the only earth we have. An experiment that, if unchecked, is likely to dramatically and irreversibly alter the entire planet, changing the ecosystems to which we and all the other species on earth have adapted for millennia. This is a tragic legacy to leave to future generations of humanity, not to mention every other species on earth. Global warming may well be the most profound moral issue ever to face the human species. At a minimum, I'll venture to say that it is likely to be the defining moral issue of the twenty-first century—just as the holocaust, racial segregation in the U.S., apartheid in South Africa, and a host of other struggles made the oppression of stigmatized groups the defining moral issue of the twentieth century.<sup>19</sup>

Profound moral issues demand a profound response from law, and as we enter the twenty-first century, human rights is (at least at a rhetorical level) the law's best response to profound, unthinkable, far-reaching moral transgression.

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<sup>15</sup> See BROWN, *supra* note 12, at 92.

<sup>16</sup> IPCC 2007 Summary, *supra* note 1, at 13.

<sup>17</sup> See Hansen, *supra* note 10, at 6–7.

<sup>18</sup> See Hansen, *supra* note 10, slide show at 27.

<sup>19</sup> I am not the first to draw an analogy between the struggle for civil rights and the problem of global warming. See Bill McKibben, Op-Ed, *Indifferent to Planet Pain*, N.Y. TIMES, Sept. 4, 1999 (“It took the emotional shock of seeing police dogs rip the flesh of protestors for white people to really understand the day-to-day corrosiveness of Jim Crow . . . We need that same gut understanding of our environmental situation if we are to take the giant steps we must take soon.”).

More fundamentally, it is the law's strongest condemnation of the exploitation of the weak by the powerful. As such, it was the law's response to the moral crises of the twentieth century, and I want to suggest that it may be an appropriate legal response to the moral crisis of the twenty-first century as well.

This is not just a hair-brained scheme from the ivory tower. There are already two legal actions that have been filed claiming human rights violations in connection with the harms caused by climate change. The Inuit people of the Arctic have filed a petition with the Inter-American Commission on Human Rights claiming that the acts and omissions of the United States with respect to climate change are violating their human rights.<sup>20</sup> And communities in Africa's Niger Delta have won an injunction in a Nigerian trial court in a lawsuit against Shell and the Nigerian National Petroleum Company claiming that the climate change impacts of the wasteful practice of "gas flaring" constitute a human rights violation.<sup>21</sup> But are such claims anything more than creative rhetorical posturing? Can our human rights tradition legitimately justify a right to security from climate change? While I don't have space here to fully elaborate in precise terms how such a right might be theoretically justified and how it might operate in practice, I will offer a few broad-brush reflections that suggest why thinking about climate change as a human rights issue may make sense.

I will begin with the amorphous concept of human rights. What are human rights? What makes something a human right rather than just an ordinary kind of right? In my view, the core function of human rights is to counteract gross imbalances of power in society—most commonly those that exist between the state and the individual.<sup>22</sup> This may at first blush appear to have little to do with

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<sup>20</sup> Petition to the Inter-American Commission 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.ciel.org/Publications/ICC\\_Petition\\_7Dec05.pdf](http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf). The Inter-American Commission responded to the petition on November 16, 2006, stating that "the information provided does not enable us to determine whether the alleged facts would tend to characterize a violation of the rights protected by the American Declaration." Letter from the Organization of American States to Sheila Watt-Cloutier, *et al.* regarding Petition No. P-1413-05, Nov. 16, 2006, *available at* <http://graphics8.nytimes.com/packages/pdf/science/16commissionletter.pdf>. The petitioners subsequently requested a hearing, which was held on March 1, 2007. *See* Letter from Sheila Watt-Cloutier, Martin Wagner, and Daniel Magraw to Santiago Cantón, Executive Secretary, Inter-American Commission on Human Rights, Jan. 15, 2007 (on file with author); Letter from the Organization of American States to Sheila Watt-Cloutier, *et al.* regarding Petition No. P-1413-05, Feb. 1, 2007 (on file with author). *See also* Jane George, *ICC Climate Change Petition Rejected*, NUNATSIAQ NEWS, Dec. 15, 2006, *available at* [http://www.nunatsiaq.com/news/nunavut/61215\\_02.html](http://www.nunatsiaq.com/news/nunavut/61215_02.html).

<sup>21</sup> *Gbemre v. Shell Petroleum Development Co.*, Suit No. FHC/CS/B/153/2005, Order (Nov. 14, 2005) [hereinafter *Gbemre Order*], *available at* <http://www.climatelaw.org/cases> (last visited Apr. 1, 2007).

<sup>22</sup> Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405 (2005).

global warming, but I will suggest that our inability to stem the warming of the globe stems fundamentally from the problem of power imbalance. In the second half of this essay I will elaborate that idea. Because the economic model has become the dominant lens through which we view the world, climate change is often analyzed as a market failure brought on by the tragedy of the commons.<sup>23</sup> But market failure is only part of the problem. There is a far more fundamental and intractable problem that is standing in the way of meaningful action to stem global warming. That is the political failure brought on by the enormous disparity in power and resources between those interests that stand to gain from climate change regulation and those that—at least in the short run—stand to lose. Once we frame climate change as a problem of power imbalance rather than economics, we can begin to see the possibility that our human rights tradition might offer some useful insight.

### I. HUMAN RIGHTS

Within the term “human rights,” I include both international human rights and domestic constitutional rights. Both stand in some sense outside of and above the state, and both trace their lineage to the Enlightenment, when the idea of human rights first took form in the by now familiar and well-recognized slate of political and civil rights enshrined in the U.S. Bill of Rights and the French Declaration of the Rights of Man.<sup>24</sup>

But what are human rights? What makes a human right a human right? What makes an interest worthy of protection as a *human* right rather than an ordinary right? What function do they serve? Human rights are often described and justified as protecting the autonomy and dignity of the individual.<sup>25</sup> But that’s not a very satisfying conception because it doesn’t distinguish human rights from the ordinary private rights of tort and contract. My autonomy gets invaded any time any one hits me over the head with a club, but if Bob hits me over the head with a club, we just call it a tort. It’s when a guy in uniform—with the power and authority of the state behind him—hits me over the head with a club, that we call it a human rights violation. In order to distinguish human rights claims from other kind of rights claims, we have to look at them in relational terms.<sup>26</sup> That is, we look not just at the person being beaten, but at the person doing the beating. What makes human rights violations human rights violations—what evokes the sense of outrage that warrants giving them that kind of special treatment—is that

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<sup>23</sup> See, e.g., Kristen H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *ECOLOGY L. Q.* 183 (2005).

<sup>24</sup> See MORTON E. WINSTON, ED., *THE PHILOSOPHY OF HUMAN RIGHTS* 4–5, 18–19 (1989); TOM CAMPBELL, *RIGHTS: A CRITICAL INTRODUCTION* 5–10 (2006).

<sup>25</sup> See Richard H. Pildes, *Why Rights are Not Trumps: Social Meanings, Expressive Harms, and Constitutionalism*, 27 *J. LEGAL STUDIES* 725, 729 (1998); FREDERICK SCHAUER, *FREE SPEECH: A PHILOSOPHICAL INQUIRY* 47-72 (1982).

<sup>26</sup> See Pildes, *supra* note 25, at 729.

they're David-and-Goliath stories—stories of the weak being exploited by the powerful.<sup>27</sup>

During the Enlightenment, when human rights were born, the largest aggregation of power in society was the state. Thus, most of our core human rights aim at counteracting the disparity of power between the state and the individual.<sup>28</sup> For example, many of the rights that we consider central to our civil and political rights tradition have to do with leveling the playing field between the state and the accused in criminal proceedings.<sup>29</sup> And the right to free speech is

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<sup>27</sup> See Christina Brooks Whitman, 'Emphasizing the Constitutional in Constitutional Torts' (1997) 72 CHI.-KENT L. REV., 661, 669 (Constitutional rights "are defined with reference to the unique power that government has over those subject to its jurisdiction.").

<sup>28</sup> See LAWRENCE TRIBE, AMERICAN CONSTITUTIONAL LAW 770 (2d ed. 1988) (describing rights protected by Bill of Rights as "aim[ing] to exclude governmental power from certain specific substantive spheres"); Stanley v. Illinois, 405 U.S. 645, 656 (1972) (Bill of Rights "designed to protect the fragile values of a vulnerable citizenry" from overbearing government officials); Wolff v. McDonnell, 418 U.S. 539, 558 (1974) ("The touchstone of due process is protection of the individual against arbitrary action of government."). Indeed, counteracting the imbalance of power between the individual and the state has long been viewed as perhaps the central function of rights. See Kenneth Minogue, *The History of the Idea of Human Rights*, in Human Rights Reader (W. Laqueur & B. Rubin, eds. 1979) ("[F]rom early modern times the idea began to develop that, in addition to eyes and ears and all the other normal equipment, human beings also possess invisible things called "rights" that morally protect them from the aggression of their fellow men, and especially from the power of the governments under which they live.")

<sup>29</sup> See U.S. v. Gouveia, 467 U.S. 180, 189 (1984) (right to counsel aimed at correcting the imbalance of power between the government and the accused); Miranda v. Arizona, 384 U.S. 436, 460 (1966) (right against self incrimination aimed at ensuring "the proper scope of governmental power over the citizen . . . and maintaining a fair state-individual balance"); Green v. United States, 355 U.S. 184, 187–88 (1957) ("The underlying idea [behind the double jeopardy clause], one that is deeply ingrained in at least the Anglo- American system of jurisprudence, is that the State with all its resources and power should not be allowed to make repeated attempts to convict an individual for an alleged offense, thereby subjecting him to embarrassment, expense and ordeal and compelling him to live in a continuing state of anxiety . . ."); Yale Kamisar, *The Right to Counsel and the Fourteenth Amendment: A Dialogue on "the most Pervasive Right of an Accused,"* 30 U. CHI. L. REV. 1, 7 (1962) ("It is helpful to view criminal procedural due process as containing two great values or objectives: 'The attainment of justice and the containment of power.'") (quoting Barth, THE PRICE OF LIBERTY 26 (1961)); William J. Brennan, Jr., *The Criminal Prosecution: Sporting Event or Quest for Truth*, 1963 WASH. U. L. Q. 279, 280 (arguing that constitutional criminal procedural "safeguards are checks upon government – to guarantee that government shall remain the servant and not the master of us all"); Susan Bandes, *We the People" and Our Enduring Values*, 96 MICH. L. REV. 1376, 1389, 1391 (1998) (arguing that the criminal procedure amendments "serve to address the inequality of power between the government and the individual and the need to curtail abuse of that power").

often justified on the ground that by allowing public criticism of government officials, it provides a crucial check on government power.<sup>30</sup>

But civil and political rights are not limited to power disparities between government and the individual. The equal protection guarantee was added to the U.S. Bill of Rights after the Civil War in response to what is perhaps the most extreme example of power imbalance between private groups in society—the institution of slavery. And since then, of course, the Fourteenth Amendment’s Equal Protection Clause has been interpreted to address the subordination of other stigmatized groups as well.<sup>31</sup>

Several of the most prominent rights theorists of recent decades have analyzed human rights in this way, as correctives for distortions in government decision making processes caused by power imbalance. John Hart Ely, for example, draws from the U.S. Supreme Court’s famous *Carolene Products* footnote to identify two functions of judicially enforceable constitutional rights: 1) to clear the channels of political participation and representation from obstacles erected by those in power, and 2) to correct for distortions in the political process caused by prejudice.<sup>32</sup>

Perhaps because at the time he was writing, the civil rights movement had dominated domestic American politics for over a decade—Ely’s analysis focused largely on the distorting effects of prejudice. Similarly, writing around the same time, Ronald Dworkin viewed rights as correcting for distortions in democratic decision making and focused much attention on the way in which racism and prejudice can operate to cause such distortions.<sup>33</sup> But the underlying problem that animates both theories is power imbalance.<sup>34</sup> And indeed, subsequent theorists, including Bruce Ackerman and Richard Parker, have argued that these theories

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<sup>30</sup> See Vincent Blasi, ‘*The Checking Value in First Amendment Theory*’ (1977), AM. B. FOUND. RES. J. 521.

<sup>31</sup> See Ruth Colker, *Anti-Subordination Above All: Sex, Race, and Equal Protection*, 61 N.Y.U. L. REV. 1003, 1007 (1986); see also Owen M. Fiss, *Groups and the Equal Protection Clause*, 5 PHIL. & PUB. AFFAIRS 107, 154–55 (1976) (arguing that the Equal Protection Clause should be interpreted to protect social groups that have suffered perpetual subordination and severely circumscribed political power rather than as an individual anti-discrimination model); Kimberlé Williams Crenshaw, *Race, Reform and Retrenchment: Transformation and Legitimation in Anti-discrimination Law*, 101 HARV. L. REV. 1331, 1336 (1988) (asserting that existing anti-discrimination law has allowed black material subordination to be perpetuated, and arguing for a “societal commitment to the eradication of the substantive conditions of Black subordination”); MARTHA MINNOW, MAKING ALL THE DIFFERENCE: INCLUSION, EXCLUSION, AND AMERICAN LAW 112 (1990) (“[A]tributions of difference should be sustained only if they do not express or confirm the distribution of power in ways that harm the less powerful and benefit the more powerful.”).

<sup>32</sup> See JOHN HART ELY, DEMOCRACY AND DISTRUST: A THEORY OF JUDICIAL REVIEW 75, 103–179 (1980).

<sup>33</sup> See RONALD DWORIN, TAKING RIGHTS SERIOUSLY 234–35, 275 (1977).

<sup>34</sup> See Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405, 1472 (2005)

should be expanded to encompass other kinds of power imbalance as well, like that between rich and poor, and that between politically powerful and influential minorities and politically diffuse majorities.<sup>35</sup>

Civic republican theorists also view rights as protecting the democratic process from the distorting effects of power—what the founding fathers called “the problem of faction.”<sup>36</sup> Cass Sunstein argues that much of modern constitutional doctrine reflects “a single perception of the underlying evil: the distribution of resources or opportunities to one group rather than another solely because those benefited have exercised the raw power to obtain government assistance.”<sup>37</sup> Human rights aim to counteract that underlying evil.<sup>38</sup>

The common denominator, then, is power imbalance. Human rights function to counteract power imbalances in society. By acting as “trumps” human rights effectively put a thumb on the scale in favor of the weaker party in order to correct for the distorting effects of power.<sup>39</sup> Most of the specific rights in our tradition aim at counteracting imbalances of power between the individual and the state, but that is only because, at the time our civil and political rights tradition was born, the state was viewed as the largest aggregation of power in society. In recent years, as multi-national corporations have come to rival and even surpass many states in terms of wealth and power, there has been a building chorus of voices calling for the imposition of human rights norms on multi-national corporations as well.<sup>40</sup>

## II. CLIMATE CHANGE

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<sup>35</sup> See Bruce A. Ackerman, *Beyond Carolene Products*, 98 HARV. L. REV. 713, 722–23, 740–41 (1985); Richard Davies Parker, *The Past of Constitutional Theory—And its Future*, 42 OHIO ST. L. J. 223, 241–46 (1981).

<sup>36</sup> Cass R. Sunstein, *Interest Groups in American Public Law*, 38 STAN. L. REV. 29 (1985)

<sup>37</sup> Sunstein, *supra* note 36, at 50–51.

<sup>38</sup> See CASS R. SUNSTEIN, *THE PARTIAL CONSTITUTION* 25 (1993)

<sup>39</sup> See DWORKIN, *supra* note 33, at 184–205.

<sup>40</sup> See Amy Sinden, *Power and Responsibility: Why Human Rights Should Address Corporate Environmental Wrongs*, in *THE NEW CORPORATE ACCOUNTABILITY: CORPORATE SOCIAL RESPONSIBILITY AND THE LAW* (Doreen McBarnet, Aurora Voiculescu, & Tom Campbell, eds., Cambridge University Press) [forthcoming 2007]; Steven R. Ratner, *Corporations and Human Rights: A Theory of Legal Responsibility*, 111 YALE L. J. 443 (2001); Tom Campbell, *Moral Dimensions of Human Rights*, in *HUMAN RIGHTS AND THE MORAL RESPONSIBILITIES OF CORPORATE AND PUBLIC SECTOR ORGANISATIONS* 11 (Tom Campbell & Seamas Miller, eds., 2004); Menno T. Kamminga, *Holding Multinational Corporations Accountable for Human Rights Abuses: A Challenge for the EU*, in *THE EU AND HUMAN RIGHTS* 553 (Philip Alston, ed. 1999); NICOLA JAGERS, *CORPORATE HUMAN RIGHTS OBLIGATIONS: IN SEARCH OF ACCOUNTABILITY* (2002); MENO T. KAMMINGA & SAMAN ZIA-ZARIFI, *EDS., LIABILITY OF MULTINATIONAL CORPORATIONS UNDER INTERNATIONAL LAW* (2000); Rebecca M. Bratspies, “*Organs of Society*”: *A Plea for Human Rights Accountability for Transnational Business Enterprises and Other Business Entities*, 13 MICH. STATE J. INTL. L. 9 (2005).

If human rights aim fundamentally to counteract power imbalance, then do they have any relevance to the problem of global warming? Answering that question requires us to think closely about the origins and causes of the climate change crisis. What is the “underlying evil” that is driving humanity to continue to pursue activities that may well lead to seriously damaging if not catastrophic consequences?

The economic world view that now dominates so much of our public policy discourse gives us a neat and tidy answer—the “tragedy of the commons.” In his famous 1969 essay by that name, Garrett Hardin told the story of a group of cattle herders who all graze their cattle on a commonly held pasture.<sup>41</sup> The problem, of course, is that each time a cattle herder decides to add another cow to her herd, she reaps the full benefit of being able to sell the extra cow on the market, but bears only a fraction of the grazing burden that the new cow imposes on the commons. Because there’s a mismatch between individual and social costs and benefits, incentives are skewed and each herder will continue adding cows to her herd well beyond the point at which the carrying capacity of the commons is exceeded. As Hardin himself pointed out, many pollution problems can be usefully conceptualized in this way.<sup>42</sup> In the context of climate change, for example, we can think of the global atmosphere as a “commons” and we can describe the skewed incentives that drive each individual to continue engaging in activities that pump greenhouse gases into the atmosphere (and that drive each country to avoid regulating such behavior) as an example of the same phenomenon.<sup>43</sup>

Hardin’s parable is insightful and it certainly goes at least part of the way toward explaining why we’ve been unable to reduce greenhouse gas emissions despite decades of compelling evidence on the dangers of climate change. One of the problems with economic theory, however, is that in its single-minded focus on maximizing aggregate social welfare, it quite self-consciously ignores the distribution of wealth and power in society.<sup>44</sup> Thus, the cattle herders in Garrett Hardin’s story are described in generic terms and assumed to be identical in terms of wealth, power, and status. Accordingly, when Hardin tells us that the solution to the tragedy is collective agreement—what he calls “mutual coercion mutually agreed-upon”<sup>45</sup>—we imagine the cattle herders all getting together in some kind of idyllic New England town meeting and coming up with an agreement to limit grazing.

But what if a few of the cattle herders are big corporate conglomerates operating enormous factory farms, adding 100 new cows to their operation every

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<sup>41</sup> See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI.* 1243 (1968).

<sup>42</sup> *Id.* at 1244-45

<sup>43</sup> See Kristen H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *ECOLOGY L. Q.* 183 (2005).

<sup>44</sup> See Amartya Sen, *The Possibility of Social Choice*, 89 *AM. ECON. REV.* 349, 351–52 (1999); see also Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 *ECON. J.* 549, 550–51 (1939).

<sup>45</sup> Hardin, *supra* note 41, at 1244–45

month? They know their farming practices will eventually destroy the commons, but the profits they can make in the meantime are so huge, they don't care. And, by the way, who's selling the cows to all these cattle herders? The cow suppliers stand to lose a lot in short term profits if limits are imposed. Imagine that the cow suppliers start visiting individual cattle herders and offering them lots of money to vote against grazing limits. Then they hire a PR firm to conduct an ad campaign that portrays the evidence that over-grazing is destroying the commons as "junk science." And they start funding think tanks with names like "People for a Healthy Commons" that employ experts who publish articles and white papers and appear on T.V. talk shows arguing that the over-grazing problem is just a hoax perpetrated by the liberal media.

The point is, that unless we take into account the distribution of power and resources in society, we're only going to see part of the story. And in the context of climate change, there is an enormous power imbalance between the interests that stand to gain from climate change regulation and those that stand—in the short run at least—to lose. Those who stand to lose are those who profit from the extraction and combustion of fossil fuels. These are some of the wealthiest and most powerful corporations in the world. Exxon-Mobil pulled in over \$328 billion in revenues in 2005, more than any other corporation in the world.<sup>46</sup> Furthermore, this group is exactly the kind that has a relatively easy time organizing politically. They are small in number, and each one stands to suffer substantial, concrete, economic losses in the short run if climate change regulation is enacted.<sup>47</sup>

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<sup>46</sup> Scott DeCarlo, *Forbes Global 2000: The World's Largest Public Companies*, *Forbes* (Mar. 31, 2006), available at: [http://www.forbes.com/2006/03/30/largest-public-companies\\_06f2k\\_cz\\_sk\\_0331forbes2000intro.html](http://www.forbes.com/2006/03/30/largest-public-companies_06f2k_cz_sk_0331forbes2000intro.html).

<sup>47</sup> See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION* 16-23 (1965); Richard B. Stewart, *Pyramids of Sacrifice: Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 *YALE L. J.* 1196, 1213 (1977)

("Industrial firms, developers, unions and others with incentives to avoid environmental controls are typically well-organized economic units with a large stake in particular decisions, [while] [t]he countervailing interest in environmental quality is shared by individuals whose personal stake is small and who face formidable transaction costs in organizing for concerted action . . . . The technical complexity of environmental issues exacerbates this disparity by placing a premium on access to scarce and expensive scientific, economic and other technical information and analytical skill.");

Kirsten H. Engel & Scott R. Saleska, *Facts are Stubborn Things: An Empirical Reality Check in the Theoretical Debate Over the Race-to-the-Bottom in State Environmental Standard-Setting*, 8 *CORNELL J. L. & PUB. POL'Y* 55, 64 (1998); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 *MICH. L. REV.* 570, 597-98 (1996); Peter P. Swire, *The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition Among Jurisdictions in Environmental Law*, 14 *YALE L. & POL'Y REV. & YALE J. ON REG.* (Symposium Issue), 67, 101 (1996).

On the other side, those who stand to gain are primarily individual people—the coastal residents from Florida to the Netherlands to Bangladesh whose homes will be inundated by rising seas, the farmers in Africa whose crops will be killed by drought, the children in the tropical and sub-tropical developing world who will fall ill and die from the spread of malaria and other insect-borne diseases, and the Inuit in the arctic whose homes are already sinking into the melting permafrost. These “gainers” from climate change regulation are enormous in number, widely dispersed around the globe, and have interests that are often hard to measure in precise economic terms and in many cases are not likely to be felt until well into the future. This is just the kind of group that has a particularly hard time organizing politically.<sup>48</sup> Moreover, because they are disproportionately from the developing world, the gainers have no political voice or standing in those developed countries where the vast bulk of the problem originates and where a well-organized lobby and public disinformation campaign by the “losers” holds political sway.<sup>49</sup>

To be sure, there have long been corporate interests on the “gainers” side as well. The insurance industry recognized over a decade ago that by increasing the severity and intensity of storms and flooding, global warming was a likely culprit in the dramatic increase in insurance payouts during the 80s and 90s.<sup>50</sup> And the alternative energy industry has always clearly stood to gain from the imposition of limits on carbon emissions. But at least until very recently, the power of these companies to influence public opinion and political outcomes has been dwarfed by the enormous wealth and power that the fossil fuel industry has put behind this fight.

It is clear that this imbalance of power between the fossil fuel industry and the public has resulted in a massive political failure in the United States over the past two decades—a political failure in which our elected representatives at the federal level have acted in direct opposition to the expressed wishes of the electorate. A New York Times poll taken right before the Kyoto accord was reached, showed 65 percent of Americans saying that the U.S. should take steps now to cut its own emissions “regardless of what other countries do.”<sup>51</sup> Yet just four months earlier the Senate had passed, by a 95 to 0 margin, the Byrd-Hagel Resolution, which essentially said the opposite: that the U.S. should not sign Kyoto unless it mandated reductions by developing countries too.<sup>52</sup> And since the treaty that ultimately resulted from the 1997 negotiations in Kyoto did not mandate immediate reductions from developing countries, this resolution

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<sup>48</sup> See *supra* note 43.

<sup>49</sup> See Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report, Summary for Policymakers* 12 (2001), available at [http://www.grida.no/climate/ipcc\\_tar/vol4/english/005.htm](http://www.grida.no/climate/ipcc_tar/vol4/english/005.htm) (last visited Apr. 1, 2007).

<sup>50</sup> See Jeremy Leggett, *The Ill Winds of Change: As Hurricane Follows Hurricane, the Trillion-Dollar Insurance Industry is Now Waking Up to Global Warming*, THE GUARDIAN, Oct. 2, 1992, at 29.

<sup>51</sup> James Bennett, *Warm Globe, Hot Politics*, N.Y. TIMES, Dec. 11, 1997, at A1.

<sup>52</sup> See Byrd-Hagel Resolution, S. Res. 98, 105th Cong. (1997).

ultimately marked the death-knell for any attempt to ratify it.<sup>53</sup> The only explanation, of course, for this dramatic disconnect between what the American people wanted and what their Senators voted for is the overwhelming power and influence of the corporate interests that stand to lose from climate change regulation, including most prominently, the coal, oil, and car manufacturers' industries.<sup>54</sup>

This political failure has been exacerbated by a massive disinformation campaign orchestrated by the fossil fuel industry. Since the late 1980s, oil companies, car companies and other industrial interests have formed a whole series of front groups with the mission of creating public doubt about the science behind global warming.<sup>55</sup> The Global Climate Coalition is perhaps the best known. It was formed in 1989 by Exxon, General Motors, Ford, Shell, Texaco, Chevron, Chrysler, Amoco, the American Forest and Paper Association and dozens of other big corporations and industry groups.<sup>56</sup> The GCC hired a PR firm—the E. Bruce Harrison Company—whose previous successes included working on behalf of the pesticide industry in the early 1960s to discredit Rachel Carson and her book *Silent Spring*.<sup>57</sup> Over the next decade, the GCC spent millions of dollars on a campaign that included heavy funding of scientists willing to express skepticism about global warming, efforts to publicly smear and discredit scientists on the Intergovernmental Panel on Climate Change, as well as massive advertising and lobbying.<sup>58</sup>

That particular group disbanded in 2002, but there are plenty of others. The Advancement of Sound Science Coalition was created in 1993 by a PR firm hired by Phillip Morris to discredit a report issued by EPA on the dangers of passive smoke.<sup>59</sup> In order to try to make it look like a spontaneous grass roots movement rather than the front for Phillip Morris that it is, the PR firm recommended having the group address other issues as well, including global warming. They have since been one of the major voices in the attempt to discredit climate change science and have received substantial funding from Exxon and other energy companies. In 2005 alone, ExxonMobil gave \$6.8 million to such think tanks like

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<sup>53</sup> See generally, MICHAEL GRUBB et al., *THE KYOTO PROTOCOL: A GUIDE AND ASSESSMENT* (1999).

<sup>54</sup> *Big U.S. Industries Launch Attack on Warming Treaty—Big Three Auto Makers, Steelmakers, Utilities are Leading the Charge*, WALL ST. J., Dec. 12, 1997, at A3.

<sup>55</sup> See generally Union of Concerned Scientists, *Smoke Mirrors and Hot Air: How ExxonMobil uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science* (Jan. 2007), available at [http://www.ucsusa.org/news/press\\_release/ExxonMobil-GlobalWarming-tobacco.html](http://www.ucsusa.org/news/press_release/ExxonMobil-GlobalWarming-tobacco.html) (last visited Apr. 1, 2007).

<sup>56</sup> See Bob Burton & Sheldon Rampton, *Thinking Globally, Acting Vocally: The International Conspiracy to Overheat the Earth*, 4 PR WATCH NEWSLETTER (1997).

<sup>57</sup> See *id.*

<sup>58</sup> See Matthew F. Pawa & Benjamin A. Krass, *Behind the Curve: The National Media's Reporting on Global Warming*, 33 B.C. ENVT. AFF. L. REV. 485, 500 (2006).

<sup>59</sup> See Clifford Krauss, *Exxon Accused of Trying to Mislead Public*, N.Y. TIMES, Jan. 4, 2007, at C7; Chris Mooney, *Beware 'Sound Science': It's Doublespeak for Trouble*, WASH. POST, Feb. 29, 2004, at B2.

the Competitive Enterprise Institute, which ran a television ad claiming that carbon dioxide is actually good for the environment, timed to coincide with the release of Al Gore's movie last spring.<sup>60</sup>

To be sure, after nearly two decades, the strength of this disinformation campaign is finally waning as the evidence that the earth is warming has become harder and harder to refute. Beginning in the late 1990s with BP and Shell, big companies have been gradually defecting from the strategy of outright denial championed most vigorously by Exxon-Mobil.<sup>61</sup> Even Exxon-Mobil itself has softened its stance, announcing last fall that it will no longer fund the Competitive Enterprise Institute.<sup>62</sup> Cutting energy use, of course, has always been a win-win proposition for business and the environment, and as public awareness of the dangers of global warming grows, companies are recognizing that improving energy efficiency can also pay a public relations dividend.<sup>63</sup> But as the political inevitability of mandatory carbon limits becomes undeniable, an increasing number of corporations—including even some of those in the fossil fuel industry—are recognizing that cutting carbon emissions now may ultimately be good for the bottom line.<sup>64</sup> Indeed, the recent TXU buy-out, in which the company reached a well-publicized deal with environmental groups to scrap plans for eight of eleven coal plants is just one example of a growing trend. Some major players in the fossil fuel industry have also begun to recognize that when carbon limits inevitably come, it will be the details of the legislation—including how credits in a trading scheme are initially distributed—that will determine who wins and who loses. And those who step up early to support the general idea of carbon regulation will gain a seat at the negotiating table and so fare better when the deal is ultimately cut. So it was that Duke Energy and nine other major corporations joined with Environmental Defense and the NRDC in January to call

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<sup>60</sup> See Joseph V. Amodio, *Al Gore Comes Back, Greener than Ever*, NEWSDAY, May 22, 2006, at B4; Jeff Nesmith, *Climate Debate Sizzles as Democrats Take Over: ExxonMobil is Accused of Paying Skeptics*, ATLANTA JOURNAL-CONSTITUTION, Jan. 4, 2007, at 6A.

<sup>61</sup> See Jeffrey Ball, *Digging In – Exxon Chief Makes a Cold Calculation on Global Warming – BP and Shell Concede Ground as Raymond Funds Skeptics and Fights Emissions Caps – A ‘Reality Check’ on Kyoto*, WALL ST. J., June 14, 2005, at A1.

<sup>62</sup> See David Adam, *Royal Society Tells Exxon: Stop Funding Climate Change Denial*, THE GUARDIAN, Sept. 20, 2006, at 1.

<sup>63</sup> See, e.g., Alana Semuels, *B of A has a Payoff for the Ecosystem: The Nation's Largest Retail Bank is Unveiling a \$20-billion Project to Shrink Energy Use and Address Global Warming*, L.A. TIMES, Mar. 6, 2007, at A12.

<sup>64</sup> See Daniel C. Esty, *When Being Green Puts You in the Black*, WASH. POST, Mar. 4, 2007, at B1. Companies that fail to take action to reduce greenhouse gas emissions in anticipation of future regulation may face difficulty obtaining directors' and officers' liability coverage. See Jeffrey Ball, *Global Warming May Cloud Directors' Liability Coverage*, WALL ST. J., May 7, 2003, at C1.

for nationwide limits to reduce carbon dioxide emissions by ten to thirty percent over the next fifteen years.<sup>65</sup>

In the face of all of this corporate greening, it's easy to lose sight of the vast power imbalance that still forms the backdrop for the political debate on climate change. Increasingly, these stories of corporations going green are being spun into a larger cultural narrative of the corporation as redeemed sinner. Like the Grinch stopping at the top of the mountain to hear the joyful voices of the carolers below, the new green corporation has heard the environmental gospel and its heart has grown five sizes. But it would be a mistake to think that the recent concessions of many in the fossil fuel industry with respect to global warming mean that corporations have suddenly come around to represent the best interests of the general public. Corporations are still structured by law to put the short-term profits of shareholders first. Even as they abandon their oppositionist stance and come to the table acknowledging the existence of climate change and the need for regulation to curb it, they will come to the bargaining table with the primary purpose and duty of protecting short-term share price.

In sum, while the prevailing explanation of our inability to take the actions necessary to prevent the possibly catastrophic consequences of climate change is the market failure brought on by the tragedy of the commons, that is really the least of our problems. To be sure, there is a classic tragedy of the commons playing out here, but as Garrett Hardin told us forty years ago when he first coined that term, the tragedy of the commons has a solution: "mutual coercion mutually agreed upon."<sup>66</sup> Intelligent rational actors who recognize the consequences of their joint exploitation of a common resource have the capacity to join together and take collective action to prevent over-exploitation. And as the work of Elinor Ostrom has demonstrated, in small egalitarian communities, such collective solutions to commons problems are commonplace.<sup>67</sup> So the tragedy of the commons is not in and of itself such a tragedy. The more intractable and fundamental problem—the problem that is really at the root of our two decades of paralysis in the face of strong evidence that our continued emissions of greenhouse gases are creating a significant possibility of catastrophic global harm—is the political failure brought on by the gross imbalance of power between those who stand to gain and those who stand to lose from climate change regulation.

Our ability to see power imbalance as the root cause of our failure to address climate change is further clouded by another cultural narrative—a subplot in the corporation-as-redeemed-sinner story. In this narrative, virtuous green corporations are pulling their weight to solve our climate change ills by offering consumers the choice to buy (usually at a premium) environmentally friendly

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<sup>65</sup> See Steve Lohr, *A Coal Executive with a Clean-up Mission*, N.Y.TIMES, Mar. 7, 2007, at H2.

<sup>66</sup> Hardin, *supra* note 41, at 1247.

<sup>67</sup> See generally ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 2* (1990).

products.<sup>68</sup> We can offset the emissions from our plane flight by buying credits toward tree planting; we can buy recycled coat hangers at Walmart. While on an individual level, such products no doubt do some good, on a cultural level they help feed a narrative that masks the power imbalance that is at the root of the problem and casts the climate change problem as simply a failure of individual will. In this story, the corporation's role is re-cast as that of the innocent broker—a neutral facilitator of free market exchange—simply satisfying individual consumer preferences by delivering to consumers the products they demand. Corporations and the vast power and resources they wield, thus drop out of focus. The problem becomes not power imbalance, but consumer as wrongdoer. If we would all just use energy efficient light bulbs and stop driving SUVs, everything would be fine.

This story of climate change as a failure of individual will serves to mask the problem of power imbalance, shifting attention back to the market as the locus of both the origins and the potential solution to the problem. It holds out the hope that if we can somehow tweak consumer preferences, we can still rely on the market to provide an efficient, welfare maximizing outcome. Moreover, this story suffers from two of the fundamental misconceptions that underlie the economic world view more generally.

First, the “individual will” story fails to recognize that individual market preferences are significantly shaped and constrained by corporate power. You may or may not believe that corporate advertising and the corporate-backed entertainment industry plays a major role in shaping consumer preferences—that if ads, movies and T.V. shows made Prius's look cool instead of SUVs, there would be more Prius's and fewer SUVs on the road. But if you've seen the movie “Who Killed the Electric Car”—which documents General Motors' deliberate decision to take its electric car off the market in the face of overwhelming consumer demand—then you'll agree with me at least that the preferences individual consumers express in the market place are significantly *constrained* by corporate power.

Second, the “individual will” story fails to recognize that individuals can hold political preferences that differ markedly from their market preferences. From an economic perspective, *of course* climate change reflects a failure of individual will. That's because, as a result of the tragedy of the commons, each individual's market preference is to take no action to prevent climate change. But Garrett Hardin told us four decades ago that we could solve the tragedy of the commons through collective action. And the reason such collective action is possible is because individuals can hold political preferences that are radically different from their market preferences.<sup>69</sup> Even though I may very well be unwilling to go to the trouble of installing energy efficient light bulbs on my own

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<sup>68</sup> See Claudia H. Deutsch, *Attention Shoppers: Carbon Offsets in Aisle 6*, N.Y.TIMES, Mar. 7, 2007, at H1.

<sup>69</sup> See ERIC T. FREYFOGLE, *THE LAND WE SHARE: PRIVATE PROPERTY AND THE COMMON GOOD* 195–97 (2003).

because I can't be sure enough other people will do the same to make a difference, I may at the same time be very much in favor of my legislature passing a law that would require everyone to install energy efficient light bulbs.<sup>70</sup>

Indeed, that's exactly the attitude of the American public with respect to climate change. For at least a decade, a solid majority of the American people have been in favor of regulatory measures to curb greenhouse gas emissions even if it requires some financial sacrifice. A Time/ABC News Stanford University poll last spring showed 87 percent of respondents in favor of government measures to reduce greenhouse gas emissions.<sup>71</sup> Fifty-nine percent are even willing to go along with a gas tax if the result would be less global warming.<sup>72</sup> A 2003 poll showed more than 80 percent of Americans in favor of higher mileage standards for cars as a way of curbing global warming and 69 percent would support such standards even if it meant paying more for a car.<sup>73</sup> But for the political failure brought on by power imbalance, these citizen preferences could long ago have been translated into meaningful political action to slow global warming.

Because our human rights tradition is fundamentally rooted in concerns about power imbalance, framing climate change related claims in human rights terms may help effect a needed shift in the debate, focusing attention on the problem of political failure rather than market failure. Instead of arguing over how to best measure in dollar terms the costs and benefits of climate change regulation, we should be thinking about how to best counteract the distorting effects of power imbalance on our collective decision making processes. When the Inuit people of the arctic challenge the United States government's failure to curb greenhouse gas emissions in the language of human rights, it helps to push us in that direction, bringing into stark relief the profound disparity in power and resources between the subsistence hunters and fishermen of the arctic, who are already witnessing the destruction of their way of life by changing weather patterns and melting ice, and those who shape policy in the wealthiest countries of the world. So to do the human rights claims by poverty-stricken residents of the Niger Delta challenging the decision by Royal Dutch Shell, the world's fourth most profitable company,<sup>74</sup> to burn off billions of cubic feet of natural gas from their oil wells every day, contributing more greenhouse gases to the atmosphere than all of sub-Saharan Africa combined.<sup>75</sup>

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<sup>70</sup> See MARK SAGOFF, *THE ECONOMY OF THE EARTH* 171–72 (1988).

<sup>71</sup> See Jeffrey Kluger, *Global Warming Heats Up*, TIME, Apr. 3, 2006.

<sup>72</sup> See Louis Uchetelle & Megan Thee, *Americans are Cautiously Open to Gas Tax Rise, Poll Shows*, N.Y. TIMES, Feb. 28, 2006, at A14.

<sup>73</sup> See Jennifer Lee & Andrew C. Revkin, *Senate Defeats Climate Bill, But Proponents See Silver Lining*, N.Y. TIMES, Oct. 31, 2003, at A14.

<sup>74</sup> Shell earned \$11 billion in profits in 2001. See Global Policy Forum, *Major Oil Companies Among Largest Transnational Companies*, available at <http://www.globalpolicy.org/socecon/tncs/oiltable.htm> (last visited Apr. 1, 2007).

<sup>75</sup> Environmental Rights Action/Friends of the Earth Nigeria, *The Shell Report: Continuing Abuses in Nigeria—Ten Years after Ken Siro Wiwa* 4–5 (Nov. 8, 2005).

### III. CONCLUSION

Just as human rights was the law's response to the most profound moral crises of the twentieth century, it may also form part of an appropriate response to what is likely the most profound moral crisis of the twenty-first century: climate change. Human rights serve fundamentally to counter the exploitation of the weak by the powerful—to give David a leg up in his battle with Goliath. But framing climate change as a David-and-Goliath story may at first seem strange to a society steeped in the logic of welfare economics. We're so busy hunched over our calculators trying to work out the costs and benefits of a warming globe as a percentage of GDP that we've lost sight of much of what's going on around us. Thinking of climate change as a human rights issue can help us see that it is not just a matter of aggregate costs and benefits but of winners and losers—of the powerful few preventing the political system from acting to protect the powerless many. But perhaps even more importantly, treating climate change as a human rights issue simply begins to imbue it with a sense of gravity and moral urgency that communicates to all of us: this is something different; this is an issue that must be understood to stand apart from the normal clatter and noise of day-to-day politics and to demand attention from our best selves.