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TAKING PROPERTY RIGHTS SERIOUSLY: THE CASE OF CLIMATE CHANGE*

By Jonathan H. Adler

I. Introduction

The contemporary debate over global warming is not so much over whether anthropogenic emissions will affect the climate. Rather, the debate focuses on the nature and magnitude of the likely effects and on what, if anything, should be the policy response. Many of the most ardent global warming skeptics within the scientific community believe that the increased accumulation of greenhouse gases in the atmosphere will have *some* effect on the atmosphere and contribute to a gradual warming of the planet. Where they diverge from the so-called consensus is in their assessment of the likely magnitude of the projected warming, its consequences for human societies, and whether decisive mitigation measures are justified.[1]

Even assuming that climate change science is settled, the policy debate would remain. The existence of an anthropogenic contribution to global warming does not, in itself, recommend (let alone mandate) a set policy response. Assuming that the likelihood and magnitude of climatic changes can be predicted with any precision, there is ample room for disagreement over how policymakers should respond. Whether the threat of global warming justifies controls on greenhouse gas emissions, investments in adaptation to a warmer climate, geoengineering efforts, or other policy

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[1] See, for example, Roy W. Spencer, *Climate Confusion: How Global Warming Hysteria Leads to Bad Science, Pandering Politicians, and Misguided Policies That Hurt the Poor* (New York: Encounter Books, 2008); John R. Christy, "The Global Warming Fiasco," in Ronald Bailey, ed., *Global Warming and Other Eco-Myths: How the Environmental Movement Uses False Science to Scare Us to Death* (New York: Prima, 2002); Patrick J. Michaels and Robert C. Balling, Jr., *The Satanic Gases: Clearing the Air about Global Warming* (Washington, DC: Cato Institute, 2000); Richard S. Lindzen, "Global Warming: The Origin and Nature of the Alleged Scientific Consensus," *Regulation* 15, no. 2 (1992); and Patrick J. Michaels, *Sound and Fury: The Science and Politics of Global Warming* (Washington, DC: Cato Institute, 1991).

Some skeptics argue that global warming is largely natural, and any human contribution to such warming is outweighed by natural variability. See, for example, S. Fred Singer and Dennis T. Avery, *Unstoppable Global Warming: Every 1,500 Years,* updated and expanded edition (Lanham, MD: Rowman and Littlefield, 2008). Even among skeptics this appears to be a minority view.

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measures is informed, but not dictated, by scientific conclusions.[2] Ultimately, the threat of global climate change presents policy questions that must be resolved on normative grounds.

Those who are risk averse, or place a high value on avoiding anthropogenic disruption of natural systems, or place a relatively low value on economic growth may be more predisposed to support costly controls on greenhouse gas emissions. In contrast, those who place a high value on individual liberty and property rights, or are more suspicious of government regulation, or believe that economic growth is more important than a pristine environment to human prosperity may be more reluctant to endorse emission control measures. Similarly, those who have a utilitarian preference for the maximization of net human welfare may come to different policy conclusions than those who believe that certain actions necessarily violate rights or otherwise constitute "wrongs" worthy of redress.

Most of those on the political right oppose the adoption of regulatory controls on greenhouse gas emissions. Conservative politicians, libertarian thinkers, and market-oriented policy experts typically argue that the best response to the risk of climate change is to do little or nothing. The risks of climate change policy, they argue, are greater than the risks of climate change itself.[3] Some adopt this position because they do not believe that anthropogenic emissions are likely to have a significant effect on the global climate. Many others accept the likelihood that human activity is contributing to a gradual warming of the atmosphere, even if they still reject predictions of a greenhouse apocalypse. While some advocate various "no regrets" policies to improve the efficiency of energy markets (and perhaps pave the way for alternative fuels),[4] few conservatives, libertarians, or other free-market advocates believe the most reliable climate forecasts justify mitigation measures, such as limitations on greenhouse gas emissions or carbon sequestration mandates. The costs of such measures, they note, are likely to swamp the costs of climate change, and more direct measures to address global ills that could be exacerbated by climate change (disease, flooding, weather extremes, etc.) would be far more cost-effective than reducing greenhouse gas emissions.

The conservative and libertarian critiques of emission control policies are probably correct as an analytical matter. Unless one adopts rather

[2] On the problems caused by the reliance upon scientific argument to resolve normative policy disputes, see Roger A. Pielke, Jr., *The Honest Broker: Making Sense of Science in Policy and Politics* (New York: Cambridge University Press, 2007).

[3] For my own contribution to this literature, see *The Costs of Kyoto: Climate Change Policy and Its Implications,* ed. Jonathan H. Adler (Washington, DC: Competitive Enterprise Institute, 1997). The present essay represents a substantial evolution of my views on climate change policy.

[4] "No regrets" policies are policy measures that may reduce the risks posed by climate change but that could be justified independent of the risks posed by climate change. For examples of such policies, see Jonathan H. Adler, ed., *Greenhouse Policy Without Regrets: A Free Market Approach to the Uncertain Risks of Climate Change* (Washington, DC: Competitive Enterprise Institute, 2000).

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apocalyptic climate scenarios and makes Herculean assumptions about the ability of government regulators to move industrial economies away from their current reliance on carbon-based fuels, it is hard to argue that regulatory controls on emissions, such as those envisioned in the Kyoto Protocol, are cost-beneficial. Stabilizing atmospheric concentrations of greenhouse gases could require emission reductions in excess of 80 percent in developed nations, such as the United States, and draconian limits on emissions growth in developing nations. The costs of such measures would almost surely outweigh the monetized environmental gains, and various analysts have argued quite persuasively that such resources could be put to better use.[5] Yet unless one accepts the utilitarian approach implicit in such analyses, it is not clear that the proper conservative or libertarian response to the threat of global warming is "do nothing." To the contrary, this essay suggests, the consistent application of a stated commitment to property rights requires a complete rethinking of the conventional conservative and libertarian approach to climate change.

The dominant approach to environmental policy endorsed by conservative and libertarian policy thinkers is "free market environmentalism" or "FME."[6] The FME approach to environmental policy is grounded in the recognition and protection of property rights in environmental resources. Yet if the protection of property rights, rather than a simple concern for allocative efficiency or welfare maximization, lies at the heart of FME, then FME adherents should be troubled by the normative implications of human-enhanced climate change. Even if anthropogenic climate change is decidedly less than catastrophic—indeed, even if it is net beneficial to the globe as whole—human-induced climate change is likely to contribute to environmental changes that violate private property rights. Viewed globally, the actions of some countries—primarily developed nations, such as the United States and other countries that are part of the Organization for Economic Cooperation and Development (OECD), as well as those nations that are industrializing most rapidly, such as China and India—are likely to increase environmental harms suffered by less-developed nations—nations that have not (as of yet) made any significant contribution to global climate change. It may well be that aggregate human welfare would be maximized in a warmer, wealthier world, or that the gains from climate change will offset environmental losses. Such claims, even if demonstrated, would not address the normative concern that the

[5] See, for example, Indur M. Goklany, "What to Do about Climate Change," *Policy Analysis,* no. 609 (Washington, DC: Cato Institute, February 5, 2008); and Bjørn Lomborg, *Cool It: The Skeptical Environmentalist's Guide to Global Warming* (New York: Alfred A. Knopf, 2007).

[6] See, for instance, Terry L. Anderson and Donald R. Leal, *Free Market Environmentalism,* revised edition (New York: Palgrave, 2001); Jonathan H. Adler, ed., *Ecology, Liberty, and Property: A Free Market Environmental Reader* (Washington, DC: Competitive Enterprise Institute, 2000); and Fred L. Smith, Jr., "A Free-Market Environmental Program," *Cato Journal* 11, no. 3 (1992): 457–75.

consequences of anthropogenic global warming would infringe upon the rights of people in less-developed nations.

Section II of this essay provides a brief overview of FME, explaining the central role of property rights in FME theory. Section III explains how FME's commitment to the protection of property rights informs the FME approach to pollution. Section IV turns to the threat of global warming and discusses some of the predicted impacts of climate change to which human activity is likely contributing. Section V outlines and evaluates the arguments put forward by FME adherents to justify a "do nothing" approach to climate change. After concluding that the arguments embraced by many FME adherents conflict with their stated commitment to the protection of property rights, Section VI considers what a commitment to property rights would mean in the context of climate change policy and speculates on the likely outcome of a property-rights approach to the threat of anthropogenic global warming. The essay concludes with some qualifications and general thoughts on the implications of the argument.

II. "Free Market Environmentalism" as Property-Based Environmental Protection

Free market environmentalism is the dominant approach to environmental policy espoused by conservative and libertarian policy experts in the United States. At its core, FME is about the extension of property rights to ecological resources so as to facilitate their use and protection in a manner consistent with individual preferences, including any preferences for a clean and healthy environment. As succinctly explained by economists Terry Anderson and Donald Leal, "At the heart of free market environmentalism is a system of well-specified property rights to natural and environmental resources."[7] Such a system of property rights serves the goals of safeguarding individual liberty and enhancing economic efficiency. With property rights in natural resources, "a discipline is imposed on resource users because the wealth of the property owner is at stake if bad decisions are made."[8] Property-rights systems take advantage of the dispersed knowledge possessed by individuals about their own circumstances and subjective value preferences, as well as the availability of and demand for resources. At the same time, property-rights systems preserve a relatively large sphere of individual autonomy and reinforce notions of personal responsibility.

FME presents a radical departure from conventional approaches to environmental protection. The latter are generally premised upon a theory of "market failure." Under this theory, markets can be relied upon to

[7] Anderson and Leal, *Free Market Environmentalism*, 4.
[8] Ibid.

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efficiently allocate most resources to their highest-valued uses through the price system and voluntary exchange, but fail to account for environmental harms and other negative consequences of economic activity. Even where there are transaction costs that inhibit market exchange, it is generally accepted today that markets are more efficient than the available political alternatives, at least when it comes to delivering goods and services. Yet however efficient markets may be at meeting consumer wants, economic activity inevitably results in environmental impacts. Such impacts are often "external" to the market process in that their costs are not incorporated into market prices. In this respect, the market fails to account for environmental effects. So, for example, the pollution generated by the manufacture of widgets likely imposes costs on other people or the environment that are not borne by the manufacturer or reflected in the widget's price. Such externalities, the conventional paradigm supposes, represent market failures that must be addressed by government intervention into the marketplace.[9]

As virtually all economic activities generate environmental impacts, this conventional market failure paradigm justifies the regulation of virtually all economic activity. Indeed, if applied strictly, the market failure paradigm would seem to justify environmental central planning—an infinitely more complex undertaking than economic central planning, and an undertaking just as likely to fail.[10] Planning the "production" of air quality or other ecological "goods" is orders of magnitude more complex than planning the production of shoes or wheat—and yet the latter was too complex for Soviet planners. As Richard Stewart observes, centralized

[9] It is worth noting that Nobel laureate economist Ronald H. Coase, whose work on social costs has been very influential in environmental law and economics, takes a slightly different view, arguing that the mere existence of externalities, in and of itself, does not demonstrate any failure at all, as many externalities are too insignificant to address profitably. As Coase explained,

> the existence of "externalities" does not imply that there is a *prima facie* case for governmental intervention, if by this statement is meant that, when we find "externalities," there is a presumption that governmental intervention (taxation or regulation) is called for rather than the other courses of action which could be taken (including inaction, the abandonment of earlier governmental action, or the facilitating of market transactions). . . .
>
> The fact that governmental intervention also has its costs makes it very likely that most "externalities" should be allowed to continue if the value of production is to be maximized. . . . The ubiquitous nature of "externalities" suggests to me that there is a *prima facie* case against intervention.

R. H. Coase, "The Firm, the Market, and the Law," in Coase, *The Firm, the Market, and the Law* (Chicago: University of Chicago Press, 1988), 24, 26. See also James M. Buchanan and William Craig Stubblebine, "Externality," *Economica* 29 (1962): 371–84 (noting that externalities are only relevant in a limited set of circumstances).

[10] As economist Paul Heyne counsels, "Ardent environmentalists need to discover and acknowledge that the same limitations which made economic central planning impossible will make it impossible to establish a comprehensive system of central environmental planning." Heyne, "Economics, Ethics, and Ecology," in *Taking the Environment Seriously*, ed. Roger Meiners and Bruce Yandle (Lanham, MD: Rowman and Littlefield, 1993), 47.

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environmental regulation is inherently limited by "the inability of central planners to gather and process the information needed to write directives appropriately responsive to the diverse and changing conditions of different economic actors, and the failure of central planning commands to provide the necessary incentives and flexibility for environmentally and economically beneficial innovation."[11]

FME rejects the market failure model. Rather than market failures, FME advocates see a failure to have markets, or, more precisely, a failure to extend the market institutions of property rights and voluntary exchange, protected by the rule of law, to the full range of environmental resources. In the words of Competitive Enterprise Institute founder and president Fred L. Smith, Jr.: "Rather than viewing the world in terms of market failure, we should view the problem of externalities as a failure to permit markets and create markets where they do not yet—or no longer—exist."[12] Whereas the conventional environmental protection paradigm seeks to "internalize externalities" and cure market failures through regulations, taxes, and other government interventions, FME calls for extending markets through the recognition and protection of private property rights in ecological resources.

The conventional environmental protection paradigm and FME can be seen as contrasting responses to the "commons problem" identified by Garrett Hardin in his seminal essay "The Tragedy of the Commons."[13] Hardin described the fate of a common pasture, unowned and open to all. Without limitations on access to the pasture, it would be in each herder's own interest to maximize his or her use of the commons, even at the expense of exceeding the pasture's carrying capacity. Each herder can capture all of the benefit from adding one more animal to the pasture, whereas the costs of overgrazing are dispersed among all of the users as a whole. Should all the herders respond to these incentives, the pasture is eventually overgrazed. "Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited," Hardin

[11] Richard B. Stewart, "United States Environmental Regulation: A Failing Paradigm," *Journal of Law and Commerce* 15 (1996): 587.

[12] Fred L. Smith, Jr., "Conclusion: Environmental Policy at the Crossroads," in *Environmental Politics: Public Costs, Private Rewards*, ed. Michael S. Greve and Fred L. Smith, Jr. (New York: Praeger, 1992), 192.

[13] Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (December 13, 1968): 1243. Two qualifications should be noted with regard to Hardin's essay. First, while Hardin was responsible for popularizing the notion of the commons problem, he was hardly the first to make these observations. The commons problem with regard to ocean fisheries was identified several years earlier in H. Scott Gordon, "The Economic Theory of a Common-Property Resource: The Fishery," *Journal of Political Economy* 62 (1954): 124; and Anthony Scott, "The Fishery: The Objectives of Sole Ownership," *Journal of Political Economy* 63 (1955): 116. The general phenomenon was also identified some time earlier by Aristotle in *Politics* 1261b32, ed. Trevor J. Saunders, trans. T. A. Sinclair (New York: Penguin Books, 1981). Second, Hardin's analysis applies to open-access commons and should not be taken as a historical account of the actual conditions of commonly owned pastures, which were often protected by common property rules or social norms.

wrote. The pursuit of self-interest in an open-access commons results in a tragedy: "Freedom in a commons brings ruin to all."[14]

This tragedy is not inevitable, however. If access to the commons can be controlled, and use restrained, the commons can be conserved. As described by Hardin, there are two options: social control, such as could be provided by government regulation; or some form of private property. "The tragedy of the commons . . . is averted by private property, or something formally like it," Hardin explained. Yet where private property is lacking, the commons can only be saved by "mutual coercion, mutually agreed upon."[15] Recognizing that well-defined and enforceable property rights to environmental resources are often lacking, the conventional environmental protection paradigm follows Hardin's call for "mutual coercion, mutually agreed upon" through the political process. FME, in contrast, seeks to avert the tragedy of the commons and other environmental problems through the creation of property rights and equivalent institutions.[16]

FME draws support from the observation that where resources are privately owned, either individually or communally, they tend to be well maintained and conserved. Further, the security of property rights encourages owners to pursue the enhancement of their own subjective value preferences, including both commercial and noncommercial values.[17] As libertarian conservationist R. J. Smith explains:

> Wherever we have exclusive private ownership, whether it is organized around a profit-seeking or nonprofit undertaking, there are incentives for the private owners to preserve the resource. . . . [P]rivate ownership allows the owner to capture the full capital value of the resource, and self-interest and economic incentive drive the owner to maintain its long-term capital value.[18]

Looking at the fate of natural resources around the world, a striking pattern emerges. Stocks of natural resources that are fully incorporated into market institutions are stable or expanding, whereas those subject to regulation or left unprotected are less secure. In the context of fisheries, for example, those fish stocks subject to the most property-like institutional arrangements are, on the whole, managed far more sustainably

[14] Hardin, "The Tragedy of the Commons," 1244.

[15] Ibid., 1245, 1247.

[16] While all, or perhaps nearly all, environmental problems can be analyzed as variants of the commons problem, it is often useful to draw finer analytical distinctions among different types of environmental concerns, ranging from pollution spillovers to the provision of public goods, among others.

[17] Louis De Alessi, "Gains from Private Property: The Empirical Evidence," in *Property Rights: Cooperation, Conflict, and Law,* ed. Terry L. Anderson and Fred S. McChesney (Princeton, NJ: Princeton University Press, 2003), 108.

[18] R. J. Smith, "Resolving the Tragedy of the Commons by Creating Private Property Rights in Wildlife," *Cato Journal* 1 (Fall 1981), 456–57.

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than those governed by conventional regulation or left out in the open-access commons.[19] Privately owned forests exhibit higher rates of forest growth than those managed by the government or left in the public domain.[20] And so on. More broadly, the protection of private property rights appears to correlate with superior environmental performance.[21] Specifically, "environmental quality and economic growth rates are greater in regimes where property rights are well defined than in regimes where property rights are poorly defined."[22]

To be effective, property rights must protect popular and unpopular values alike, and be safeguarded against both private and public harm and expropriation.[23] Only then can private property facilitate the protection of resources that the political process would ignore. Indeed, over the course of American history, farsighted conservationists have used property rights to protect ecological resources that were underappreciated by political institutions and the public at large. For example, early conservation organizations, such as the National Audubon Society, were beginning to purchase and protect wetlands for use as bird habitat in the early 1900s—a time when wetlands were generally regarded as nuisances and the U.S. government actively subsidized their destruction.[24] Similarly, beginning even earlier, a handful of ranchers and private organizations saved the American bison from extinction through acquiring, breeding, and protecting them while the U.S. government was subsidizing their slaughter.[25] In the 1930s, Rosalie Edge purchased Hawk Mountain in Pennsylvania, and posted it against tres-

[19] This research is summarized in Jonathan H. Adler, "Legal Obstacles to Private Ordering in Marine Fisheries," *Roger Williams University Law Review* 8 (Fall 2002): 19–22.

[20] Jonathan H. Adler, "Poplar Front: The Rebirth of America's Forests," in Adler, ed., *Ecology, Liberty, and Property;* see also Roger A. Sedjo, "Forests: Conflicting Signals," in Ronald Bailey, ed., *The True State of the Planet* (New York: The Free Press, 1995).

[21] Richard L. Stroup, *Eco-nomics: What Everyone Should Know about Economics and the Environment* (Washington, DC: Cato Institute, 2003), 74–75 (summarizing research showing the relationship between the protection of property rights and environmental performance).

[22] Seth W. Norton, "Property Rights, the Environment, and Economic Well-Being," in Peter J. Hill and Roger E. Meiners, eds., *Who Owns the Environment?* (Lanham, MD: Rowman and Littlefield, 1998), 51.

[23] For instance, the excessive use of the eminent domain power could come at the expense of environmental conservation. See Ilya Somin and Jonathan H. Adler, "The Green Costs of *Kelo:* Economic Development Takings and Environmental Protection," *Washington University Law Review* 84, no. 3 (2006): 623–66.

[24] On the early activities of the National Audubon Society, and its precursor, the National Committee of Audubon Societies, see Frank Graham, Jr., *The Audubon Ark: A History of the National Audubon Society* (New York: Knopf, 1990). On early twentieth-century views of wetlands, and governmental efforts to make more "productive use" of such lands, see Jonathan H. Adler, "Wetlands, Waterfowl, and the Menace of Mr. Wilson: Commerce Clause Jurisprudence and the Limits of Federal Wetland Regulation," *Environmental Law* 29 (1999): 19–20.

[25] Ike C. Sugg, "Where the Buffalo Roam, and Why," *Exotic Wildlife,* January/February 1999. Sugg quotes wildlife conservationist Valerius Geist saying, "Bison were initially saved by six individuals who either saw business opportunities in the existence of bison or simply wanted to save a vanishing species."

passing, so as to protect migratory raptor populations. Her action was exceedingly unpopular at the time, yet the institution of private property enabled her to take private action to advance her environmental values. Today Hawk Mountain is an important site for raptor research.[26] Were property rights subject to less robust legal protection, such environmental resources could have been sacrificed to the demands of unsympathetic political majorities. Of particular importance for this discussion, property rights enable individuals and political minorities to second guess contemporary conceptions of how to maximize net social welfare or advance the public good.

III. Private Property, Pollution, and Common Law Principles

Free market environmentalism holds that property rights must be safeguarded against both privately and publicly initiated harm or expropriation, including harms caused by environmental pollution. Within the FME paradigm, pollution control is grounded in the protection of private property. Preventing pollution means preventing the forcible imposition of a waste or emission by one person onto the person or property of another. Where the deposit of waste or residuals onto private property is consented to by the owner, and the physical effects of such disposal are contained on the property, there may be ecological harm, but no pollution. As Anderson and Leal explain, "The free market environmental approach to pollution is to establish property rights to the pollution disposal medium and allow owners of those rights to bargain over how the resource will be used."[27] So long as such exchanges are consensual, and external harms prevented, there is no property-rights violation. With no harm to property rights, there is no foul. Waste itself is not pollution. Rather, pollution is waste out of place.

FME advocates typically eschew reliance on government regulation or administrative agencies for the purposes of pollution control, favoring private contractual arrangements and common law courts in their stead, or at least a given understanding of how such courts once operated. Specifically, they point to the common law as it developed in England and North America as the best way to protect property rights from environmental pollution.[28] Elizabeth Brubaker explains the underlying principles:

[26] U.S. Council on Environmental Quality, "Special Report: The Public Benefits of Private Conservation," in *Environmental Quality, 1984* (Washington, DC: U.S. Government Printing Office, 1984), 387–94.

[27] Anderson and Leal, *Free Market Environmentalism,* 132.

[28] For FME accounts of the common law's capacity to protect private property rights, see Elizabeth Brubaker, *Property Rights in the Defence of Nature* (Toronto, Ontario: Earthscan Publications Ltd., 1995); Bruce Yandle, *Common Sense and Common Law for the Environment: Creating Wealth in Hummingbird Economies* (Lanham, MD: Rowman and Littlefield, 1997);

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> Under the common law, people have very strong property rights: They have the right to both use and enjoy their property. Balancing this right, however, is a responsibility not to interfere with others' rights to use and enjoy their property. This responsibility dates back to the English law of the mid-thirteenth century. Henry of Bracton, a judge and prominent legal scholar of that era, wrote that "no one may do in his own estate any thing whereby damage or nuisance may happen to his neighbor." Bracton, whose writings provided a foundation for later nuisance law, noted that a landowner could not, in raising a pond, flood his neighbor's land, nor could he divert a watercourse and deprive his neighbor of water.
>
> This principle became embodied in a maxim that has governed common law decisions since being coined by an English court in 1611: "Use your own property so as not to harm another's." Clearly, the maxim has profound environmental implications.[29]

As understood by FME proponents, common law principles prohibit the forcible imposition of pollution or other harms onto the persons or property of others, even if such a forced exchange of rights would be net beneficial. For example, in one famous case from New York, the state's highest court upheld an injunction shutting down a $1 million pulp mill employing several hundred workers in order to protect the riparian rights of a single farmer. "Although the damage to the plaintiff may be slight compared with the defendant's expense of abating the condition," the court held, "that is not a good reason for refusing the injunction." Such a ruling, the court explained, "would deprive the poor litigant of his little property by giving it to those already rich."[30]

When property rights are violated by environmental pollution, landowners should have recourse in court. Legal victory is not automatic, however, as prospective plaintiffs must be able to demonstrate that they have suffered harm to a legally protected interest and that such harm is due to the conduct of another. As environmental economist and FME advocate Bruce Yandle explains, "Loose assertions about environmental quality and the need to protect it will not do the job. Ownership of damaged property or loss of recognized rights must be

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Roger Meiners and Bruce Yandle, "Common Law Environmentalism," *Public Choice* 94 (1998); Roger Bate, "Protecting English and Welsh Rivers: The Role of the Anglers' Conservation Association," in Roger E. Meiners and Andrew P. Morriss, eds., *The Common Law and the Environment: Rethinking the Statutory Basis for Modern Environmental Law* (Lanham, MD: Rowman and Littlefield, 2000); and Julian Morris, "Climbing Out of the Hole: Sunsets, Subjective Value, the Environment, and English Common Law," *Fordham Environmental Law Journal* 14 (Spring 2003): 343–73.

[29] Elizabeth Brubaker, "The Common Law and the Environment: The Canadian Experience," in Hill and Meiners, eds., *Who Owns the Environment?*, 88–89.

[30] *Whalen v. Union Bag & Paper Co.*, 208 N.Y. 1 (1913).

shown."[31] Even where reliance upon common law causes of action, such as nuisance and trespass, are impracticable, FME advocates call for the restoration or enhancement of traditional common law principles, rather than reliance on prescriptive regulations and modern administrative law.

A key aspect of the common law approach to pollution control is that it serves to clarify property rights and thereby facilitate bargaining among property owners over how land will be used.[32] For example, if the law clearly establishes that riparian owners have rights in a stream, and that a factory cannot dump effluent into a nearby river without their consent, the factory owner will either negotiate a settlement with the riparian owners or locate elsewhere. Historically, such bargains were facilitated by the strong protection the common law afforded property rights.[33]

The traditional remedy for property-rights violations caused by a trespass or nuisance was injunctive relief and the payment of damages for harm caused. This was strong medicine for industrial firms and other would-be polluters. Perhaps as a consequence, some courts eventually adopted a balancing approach whereby they compared the costs imposed upon the polluted landowner with the value of the activity to be enjoined. In such cases, courts became reluctant to award injunctive relief to private landowners, even though such an award could be effectively overturned by subsequent negotiation among the parties. In other cases, legislatures preempted common law causes of action or declared certain levels of pollution to be permissible as a matter of law if permitted by government authorities.[34]

It is important to note that most FME proponents do not defend a positivistic conception of property rights or environmental pollution. That is, they do not grant that existing laws concerning what constitutes a

[31] Bruce Yandle, "Coase, Pigou, and Environmental Rights," in Hill and Meiners, eds., *Who Owns the Environment?*, 138.

Typically, civil actions only require that the plaintiff show the existence of a tort by a preponderance of the evidence. Some theorists, however, such as the late libertarian economist Murray N. Rothbard, would go much further, requiring property owners to demonstrate the existence of harm from pollution "beyond a reasonable doubt," even if that renders most forms of pollution nonactionable. See Rothbard, "Law, Property Rights, and Air Pollution," *Cato Journal* 3, no. 1 (Spring 1982): 87–88. Even though the imposition of a higher burden of proof would mean that fewer individuals harmed by pollution would be able to achieve recompense in court, Rothbard argued that such a high standard of proof is necessary because "it is far better to let an aggressive act slip through than to impose coercion and commit aggression ourselves." Ibid., 70.

[32] Such bargaining over the allocation of property rights is often referred to as "Coasean bargaining," after the economist Ronald H. Coase, who argued that, in the absence of transaction costs, property rights will be transferred to their highest and best use through voluntary transactions among property owners. See R. H. Coase, "The Problem of Social Cost," *Journal of Law and Economics* 3, no. 1 (1960): 1–44.

[33] For examples of such negotiation in the context of stream pollution, see Bate, "Protecting English and Welsh Rivers."

[34] Brubaker, *Property Rights in the Defence of Nature*, 127–70; Morris, "Climbing Out of the Hole," 359–61.

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protected property right or an actionable property-rights violation necessarily conform with what is moral. To the contrary, FME advocates often complain that existing laws provide insufficient protection for private property rights. Specifically, some FME advocates argue that courts in the United States and other common law countries have failed to provide adequate levels of environmental protection because traditional common law principles have been undermined, either by the judicial embrace of utilitarian legal doctrines or by legislative enactments catering to powerful economic interests.[35] When calling for common law protections of private property, then, FME advocates are appealing to an ideal of property that is consistent with their understanding of traditional common law principles and the classical defense of property rights. In this regard, FME proponents are articulating normative prescriptions for what the law *ought* to be, rather than what it is, or perhaps ever was.[36]

IV. The Risks of Climate Change

Global climate change, even if not an environmental catastrophe, would seem to threaten property rights. Extensive scientific research suggests

[35] For example, Competitive Enterprise Institute president Fred Smith argues that progressive thought undermined classical liberal principles that had been embodied in the common law and had the potential to provide greater environmental protection:

> Progressives believed that markets and private property slowed progress, and that collective management of resources would more surely advance the public interest. Thus they blocked the extension of private property to resources that had not yet been privatized (indeed, in the case of the electromagnetic spectrum and some arid western lands, rolling back fledgling homesteading efforts). Progressives also transformed the rule of law, making it more utilitarian, more willing to ignore individual values to advance the "common good." Social concerns trumped individual rights. Earlier common-law defenses of individual property rights that might have encouraged economic development along more environmentally sensitive paths were weakened or abandoned. . . .
>
> The gradual emergence of the environment as a valued aspect of life occurred in a world bereft of classical-liberal institutions. Older property-rights defenses were slowly eroded, and their newer adaptations were blocked. The result was that when environmental values became majority values, few realized that they might better be protected privately via a creative program of ecological privatization.

Fred L. Smith, Jr., "The Progressive Era's Derailment of Classical-Liberal Evolution," *The Freeman: Ideas on Liberty* (June 2004): 28, 30.

[36] For example, in an essay on property rights and air pollution, Murray N. Rothbard explained:

> If the law is a set of normative principles, it follows that whatever positive or customary law has emerged cannot simply be recorded and blindly followed. All such law must be subject to a thorough critique grounded on such principles. Then, if there are discrepancies between actual law and just principles, as there almost always are, steps must be taken to make the law conform with correct legal principles.

Rothbard, "Law, Property Rights, and Air Pollution," 60. Similarly, economist Paul Heyne argues that the protection of private property rights is as much about justice as efficiency. See Heyne, "Economics, Ethics, and Ecology," 34.

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that human activity is having an effect on the global climate system.[37] In particular, the anthropogenic emission of carbon dioxide and other greenhouse gases is contributing to a gradual increase in global mean temperatures. Greenhouse gases are so-called because they absorb thermal radiation and effectively trap heat in the Earth's atmosphere. Concentrations of such gases, most notably carbon dioxide, have increased dramatically in the global atmosphere over the past century, largely due to the burning of carbon-based fuels and other human activities. Over this same period, the Earth's atmosphere has warmed slightly, most notably since 1976.[38]

The most recent report of the United Nations Intergovernmental Panel on Climate Change (IPCC) concluded that it was "very likely" that such human activity was responsible for a majority of the warming observed during the latter part of the twentieth century.[39] The IPCC further predicted that the global mean temperature will continue to rise over the next century, as much as several degrees Celsius, as atmospheric concentrations of greenhouse gases continue to rise.

The precise nature and degree of the human contribution to global warming is unknown, and may even be unknowable given the extent of natural variation and the complexity of the global climate system. Nonetheless, there is strong reason to believe human activity is contributing to significant changes in the atmosphere, with potential consequences for current and future generations. Even climate scientists with reputations as "skeptics" or "deniers" of climate change acknowledge the likelihood that anthropogenic emissions will produce some amount of global warming, albeit less than predicted by the IPCC and the computer models upon which it relies.[40]

The predicted increase in global temperature is expected to produce various environmental effects that have implications for private property rights, particularly an increase in sea level, increased precipitation and flooding, and changes in agricultural productivity. Global sea level, for example, is

[37] For a brief and accessible summary of the science of global climate change, see William Collins et al., "The Physical Science behind Climate Change," *Scientific American* (August 2007).

[38] Overall, global mean surface temperatures have risen over the past century, but not consistently. Surface temperatures warmed from 1911 to 1944, cooled from 1944 to 1976, and have warmed again since. The mid-century cooling is generally attributed to the emission of sulfates and other industrial pollutants.

[39] See S. Solomon et al., eds., *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (New York: Cambridge University Press, 2007). The IPCC is an international body created by the United Nations Environmental Programme and World Meteorological Organization "to provide an authoritative international statement of scientific understanding of climate change."

[40] For example, climatologists Patrick J. Michaels and Robert C. Balling, Jr., two prominent warming skeptics, have predicted that there will be 0.65–0.75 degrees Celsius warming by 2050. Michaels and Balling, *The Satanic Gases,* 210–11. They have also predicted a warming-induced sea-level rise of five to eleven inches over the next century. Ibid., 162.

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expected to rise anywhere from eighteen to fifty-nine centimeters, or more, by the year 2100 as a consequence of predicted atmospheric warming.[41] Nations, particularly wealthy nations, are fully capable of adapting to changes in sea level. Some already have. That is not the problem, however. The question is whether those nations most vulnerable to sea-level rise should bear the cost of protecting themselves against such effects, particularly if they have made no significant contribution to the atmospheric changes that cause (or at least contribute to) the sea-level rise.

The key difficulty for FME is that those nations most responsible for human contributions to global climate change are not the nations that will bear the greatest costs should predicted amounts of warming come to pass. For instance, Danish statistician Bjørn Lomborg, the "skeptical environmentalist," observes that existing data suggests that "within reasonable limits, global warming might actually result in lower death rates."[42] Yet, Lomborg adds, this will not be true everywhere. In the developing world, for instance, "deaths will outweigh lives saved" as a consequence of global warming.[43] Similarly, an increase in atmospheric carbon dioxide and global mean temperatures will likely benefit agriculture in wealthy, developed nations located in temperate regions, such as the United States, while harming agriculture in poorer, tropical nations.[44] Yet it is developed, industrial nations in temperate regions that are responsible for the lion's share of greenhouse-forcing emissions, while poorer, tropical nations have contributed little, largely due to their lack of industrialization and economic development. Insofar as global warming is expected to have effects tantamount to infringements on property rights at common law—and human activity is responsible for exacerbating such effects—global warming should be theoretically actionable within the FME framework. Yet this is not the position most proponents of FME approaches to environmental protection have espoused.

V. What Happened to Property Rights?

Even if anthropogenic climate change is less than catastrophic, it appears likely to have effects on property rights that would be considered nuisances under the common law principles endorsed by most FME propo-

[41] Solomon et al., *Climate Change 2007*. There is some controversy and uncertainty surrounding the IPCC's estimates of projected sea-level rise due to the failure to include the potential effects of rapid ice sheet collapse. See Michael Oppenheimer et al., "The Limits of Consensus," *Science* 317 (2007): 1505; and Susan Solomon et al., "A Closer Look at the IPCC Report," *Science* 319 (2008): 409.

[42] Lomborg, *Cool It*, 15.

[43] Ibid., 39.

[44] Robert Mendelsohn, *The Greening of Global Warming* (Washington, DC: The AEI Press, 1999), 12–13; see also Robert Mendelsohn, Ariel Dinar, and Larry Williams, "The Distributional Impact of Climate Change on Rich and Poor Countries," *Environment and Development Economics* 11 (2006): 159.

nents. Actions that caused downstream flooding, denial of the "natural" flow of waterways, or other kinds of interference with another landowner's quiet enjoyment of her land could be actionable at common law and would be recognized as infringements upon private property rights by FME proponents even if legal remedies were unavailable. By the same token, whether or not current legal institutions would recognize causes of action against human contributions to climate change, and whether or not legal institutions exist that are capable of adjudicating such claims, it seems that some of the predicted consequences of global warming, such as an increase in sea level and consequent flooding, would constitute property-rights violations under the theory of FME.

Despite the predicted consequences of global warming, and evidence of a human contribution to such effects, FME advocates have not analyzed global warming through the lens of a property-rights framework.[45] Rather, many FME advocates have argued against precipitous action to address the threat of climate change on the grounds that, in the aggregate, such action would not be justified by a cost-benefit analysis. For instance, in *Free Market Environmentalism,* economists Anderson and Leal write: "Before leaping into any policy prescriptions, we should know whether the cure is more costly than the disease. . . . [R]egulating the global commons can generate costs in excess of benefits."[46] Similarly, the Cato Institute's Jerry Taylor counsels that taking action to prevent or mitigate the threat of global warming is unnecessary because most economic studies of global warming's likely effects show small net economic losses from even a significant increase in global mean temperature.[47]

Many economists argue that proposals for near to medium term reductions in greenhouse gas emissions would not be cost-beneficial. In a paper for the American Enterprise Institute, environmental economist Robert Mendelsohn summarizes research indicating "that climate warming will not be as harmful as we once thought it might be" and that the damages wrought by climate change could well be outweighed by substantial benefits.[48] In a Cato Institute policy paper, analyst Indur Goklany argues persuasively that human health and environmental quality will be better under "richer but warmer" scenarios than under "poorer but cooler" scenarios.[49] In another work, Goklany argues that reducing greenhouse gas emissions could result in a net increase in mortality and morbidity rates.[50]

[45] For an exchange on this question among self-professed FME advocates, see "Global Warming: A Dialogue—Should Victims Receive Compensation?" *PERC Reports* (March 2005).

[46] Anderson and Leal, *Free Market Environmentalism,* 160.

[47] Jerry Taylor, "Clouds Over Kyoto: The Debate Over Global Warming," *Regulation,* 21, no. 1 (1998).

[48] Mendelsohn, *The Greening of Global Warming,* 1, 2.

[49] Indur M. Goklany, "What to Do about Climate Change," *Policy Analysis,* no. 609 (Washington, DC: Cato Institute, February 5, 2008).

[50] Indur M. Goklany, *The Precautionary Principle: A Critical Appraisal of Environmental Risk Assessment* (Washington, DC: Cato Institute, 2001).

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Lomborg makes a similar utilitarian argument in his book *Cool It:* "[T]here are many other and more pressing issues for the third world, such as four million people dying from malnutrition, three million from HIV/AIDS, 2.5 million from indoor and outdoor air pollution, more than two million from lack of micronutrients (iron, zinc, and vitamin A), and almost two million from lack of clean drinking water."[51] This is all true, but from an FME perspective there should be a problem with setting global policy priorities through a cost-benefit analysis rather than allowing such priorities to emerge from the spontaneous interactions of individuals and communities through the market process. One of the points of property rights is to preserve the decisional autonomy of property owners, so that they are able to act in accordance with their subjective value preferences. If other issues are to take priority over climate change, this should be the decision of the affected individuals and communities whose rights are at stake, rather than the outcome of a technocratic effort to rank the world's problems against some absolute metric of global well-being.

Such utilitarian analyses may be accurate, but they are not particularly responsive to the property-rights concern that underlies FME. Whether or not a given climate change policy would maximize net social welfare or have net positive effects on important social trends is less important than safeguarding the system of property rights upon which FME relies. Just as a large paper mill had to give way to the riparian rights of a single farmer, the net benefits of a warmer, wealthier world would not justify trampling the property rights of those in parts of the world most vulnerable to the consequences of climate change. Under the property-rights principles espoused by FME advocates, if P generates pollution that causes harm to the person or property of Q, it is irrelevant that the costs to Q are less than the costs of controlling the pollution by P. If Q's property rights have been violated, Q should be entitled to relief. If the costs to P are that much greater than the value of the harm avoided by Q, then P is free to seek a voluntary transfer of Q's rights so as to eliminate the property-rights violation. In the simplest terms, P could pay Q to acquire the relevant property or an easement that would allow for the continuation of the nuisance. Such a Coasean bargain is wholly consistent with FME principles. The forcible transfer or effective expropriation of Q's rights by P is not.

Applying these principles to climate change suggests that those nations most at risk from the consequences of climate change should be entitled to some form of protection or relief. The same analyses that suggest that emission reductions are not cost-justified reveal that the negative effects of climate change will not be uniform. Mendelsohn, for instance, concludes that wealthier nations will suffer less-serious consequences from climate change than poorer nations, and that "countries that happen to be in relatively cool regions of the world will likely benefit from warming

[51] Lomborg, *Cool It,* 42.

and . . . countries that happen to be in relatively warm regions of the world will likely be harmed by warming."[52] To add insult to injury, those nations most vulnerable to the nuisance-like effects of global climate change are nations that have yet to make significant contributions to greenhouse gas emissions.

Again, as noted above, for the consequences of climate change to constitute property-rights violations, climate change need not be catastrophic, nor must it produce more costs than benefits. All that is necessary is that it impose identifiable harms on those who do not consent to the imposition of such harms, a scenario that even ardent warming "skeptics" acknowledge is likely. For instance, climatologists Patrick J. Michaels and Robert C. Balling, Jr., posit that a "best guess range of sea-level rise during the next century would be about 5 to 11 inches."[53] Michaels and Balling suggest that such an increase in sea level would not be disastrous, and could be "a rise that most people might not notice and to which they could easily adapt."[54] This may be so, but those countries flooded by such an increase in sea level should not be forced to bear such costs if they are the foreseeable consequence of polluting activities by others.

Insofar as there are substantial costs from climate change borne by identifiable populations, such as the costs of sea-level rise that leads to the flooding of properties in poor low-lying countries, a concern for property rights requires a concern for those who bear those costs, irrespective of the benefits on the other side of the equation. Identifying relative contributions of greenhouse gas emissions is eminently feasible, at least on a national scale, so it is also possible to identify those who are primarily responsible for the "nuisance" at issue. As Anderson and Leal acknowledge, if there is an "imminent" threat, FME solutions must be grounded in "property rights and the rule of law."[55] The question, then, is what such a commitment implies for the question of climate change.

VI. Taking Property Rights Seriously

Assuming conventional predictions of anthropogenic climate change and its likely consequences are accurate, FME principles would suggest that some nations—particularly the wealthy, industrialized nations of North America and Europe—have contributed disproportionately to environmental harms that will be visited upon other nations—particularly the poorer, less-developed nations of tropical regions. Specifically, the largest emitters of greenhouse gases have already contributed—and continue to contribute—to the potential loss of land due to flooding and sea-level rise

[52] Mendelsohn, Dinar, and Williams, "The Distributional Impact of Climate Change on Rich and Poor Countries," 161.
[53] Michaels and Balling, *The Satanic Gases,* 162.
[54] Ibid.
[55] Anderson and Leal, *Free Market Environmentalism,* 160.

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in low-lying areas. What, then, do FME principles counsel should be done about it?

Customary principles of international law recognize that nations are responsible for polluting activities conducted within their borders that harm people or property in other nations. The United Nations Framework Convention on Climate Change also calls for industrialized nations to provide assistance to developing countries to facilitate adaptation to climate change. Thus, Daniel Farber suggests, "at least in principle, the United States and other signatories to the framework agreement already seem to have agreed to compensation at the international level."[56] Nonetheless, there is no international tribunal capable of adjudicating such claims in the context of global warming. Given the number of nations involved, and the need to apportion responsibility for relative contributions to climate change among many parties, there would be substantial (albeit not necessarily insurmountable) practical obstacles to such an adjudication even if such an institution were to exist. But such practical considerations should not obscure the fact that the underlying normative considerations that motivate FME counsel that the consequences of climate change constitute normative wrongs worthy of redress.

Setting aside practical considerations about how a given policy would be implemented on an international scale, a thought experiment may help elucidate the potential implications of FME theory and a commitment to property rights for climate change policy. Assume two sets of nations. The first set of nations (N_E) are those that have emitted substantial amounts of greenhouse gases and are not particularly vulnerable to the negative consequences of climate change. Such nations are readily identifiable. The second set of nations (N_F) are those that have not emitted significant amounts of greenhouse gases (at least as of yet) and are most vulnerable to the consequences of climate change, such as flooding due to sea-level rise. Again, such nations are readily identifiable. Thus, these assumptions are largely consonant with observed reality, since already-industrialized nations are primarily, if not exclusively, responsible for human contributions to climate change, and less-developed nations will suffer the greatest negative consequences of such climate change.[57] There is also ample precedent for the use of joint liability where multiple actors have contributed to a single nuisance.[58]

[56] Daniel A. Farber, "Basic Compensation for Victims of Climate Change," *University of Pennsylvania Law Review* 155 (2007): 1644–45.

[57] For the purposes of this thought experiment, intranational effects of climate change are being ignored. In actuality, however, such intranational effects could be significant. In the United States, for example, sea-level rise might impose substantial costs on coastal states, whereas states with substantial agricultural production may benefit significantly from a modest warming and a consequent expansion of growing seasons.

[58] Morris reports on cases in which "multiple sources have been held jointly liable for harms," even in cases where "individually their actions would not have constituted a nuisance." See Morris, "Climbing Out of the Hole," 358. Farber also discusses precedents for

Assume further that it is possible to identify with greater precision the likely amount of future sea-level rise due to human activities, and to identify where such sea-level rise would occur.[59] And, for perhaps the most unrealistic assumption, assume the existence of an international dispute-resolution institution capable of adjudicating and enforcing the claims of the flooded nations (N_F) that would find that N_E had violated the rights of N_F and that the members of N_F were entitled to relief—perhaps even to injunctive relief.

Given this scenario, N_F would almost certainly file claims against N_E. But would N_F seek and enforce injunctive relief against N_E? Probably not. First, the costs of ceasing (or even greatly reducing) greenhouse gas emissions are so vast that it would be exceedingly likely that N_E and N_F would reach a negotiated settlement whereby N_E would compensate N_F for the consequences of climate change. Specifically, it seems likely that N_F would accept indemnification from N_E or other compensation for the consequences of N_E's contribution to climate change. The members of N_F benefit substantially from economic activity in N_E. Indeed, insofar as industrial activity in N_E serves as the engine of global economic growth, N_F would suffer significant economic consequences from seeking to enjoin greenhouse-gas-emitting industrial activities in N_E. For this reason, even if N_F could obtain injunctive relief, N_F would likely be eager to negotiate a settlement whereby it would accept compensation in exchange for allowing continued emissions in N_E.[60] N_E would also be likely to accept such a bargain insofar as N_E would be likely to benefit substantially from a warmer, wealthier world. All that would be required would be for N_E to share some of this surplus with N_F.[61] Thus, if injunctive relief were sought, it would most likely be for the purpose of enhancing N_F's bargaining position with N_E.

Despite the potential for obtaining an enhanced bargaining position, the pursuit or enforcement of injunctive relief would be particularly unlikely

apportioning liability among multiple defendants who may all have contributed to a given harm. See Farber, "Basic Compensation," 1639–40.

[59] This assumption may be particularly unrealistic insofar as some apparent sea-level rise may actually be due to subsidence of coastal areas, and because some subsidence may be due to various human activities in affected nations. Nonetheless, there is little disagreement that anthropogenic climate change should produce some increase in mean global sea level.

[60] As Eric Posner and Cass Sunstein point out, "emission reductions are an in-kind benefit," and poor people in less-developed nations would almost certainly prefer a "cash transfer" or other compensation in lieu of emission reductions. Eric A. Posner and Cass R. Sunstein, "Global Warming and Social Justice," *Regulation* 31, no. 1 (2008): 17.

[61] There are precedents for such Coasean bargains under international law. As part of the Montreal Protocol, the international agreement to phase out the use and production of substances that deplete the stratospheric ozone layer that took effect in 1989, those nations most at risk from ozone depletion agreed to compensate other nations for giving up their right to produce and use such substances in the future. This exchange shows that such bargains are possible, even on an international scale, but that does not mean that this bargain was consistent with FME principles.

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if traditional common-law-type principles prevailed in the adjudication of N_F's claims.[62] This is because, under such principles, injunctive relief would only be available to the members of N_F if these nations were willing to forgo the same actions they would seek to enjoin when engaged in by N_E. Under the traditional equitable doctrine of "clean hands," where there is an alleged nuisance that is potentially reciprocal, the complaining party must not be committing the same wrongs as the party committing the alleged nuisance. So if the members of N_F wish to industrialize, emitting ever-increasing amounts of greenhouse gases in the process, they would have to forgo the pursuit of injunctive relief against N_E.

Forgoing injunctive relief would not leave N_F without any potential remedies, however. To the contrary, N_F could still seek damages, and potential indemnification, from N_E. Insofar as N_E's greenhouse gases have already contributed to damaging consequences from climate change, N_F would be entitled to monetary relief, as well as to proportional contributions from N_E for future or ongoing harms from N_E's emissions. Clean hands are necessary for equitable relief, such as an injunction, but not for legal relief, such as damages for past, present, and ongoing harm. Insofar as such relief is sought, the costs could further be apportioned among N_E based upon their present and historical greenhouse gas emissions (or their relative contributions to increased concentrations of greenhouse gases in the atmosphere).

Again, this is merely a thought experiment. In reality, no such adjudication will occur. But consideration of how such an adjudication premised upon the traditional property-rights principles embraced by FME advocates would proceed suggests the sorts of climate change policies that FME proponents should endorse in lieu of doing nothing. In particular, this thought experiment might suggest that FME advocates should support policies that would have the effect of compensating or indemnifying people in less-developed nations for the consequences of climate change. Such compensation could occur in the form of cash payments, development assistance, funding of adaptive measures to increase resilience and reduce climate-related vulnerabilities, or other equivalent measures. Such compensation would not have to take the form of government-to-government transfers, however. The members of N_E could fund various adaptive measures directly. Assuming that such compensation could be obtained from those most responsible for human contributions to climate change, in relative proportion to their contributions, and that such compensation would actually achieve the purpose for which it was provided, such compensation would do more to fulfill a commitment to the protection of property rights than a climate policy of just doing nothing.

[62] This is a reasonable assumption, since the contemporary customary international law of transboundary pollution disputes is largely based upon the law of interstate pollution disputes in the United States, which, in turn, is based upon traditional common law principles.

The aim of this argument is not to identify a practical way of obtaining or delivering such compensation in a way that would provide the actual relief or compensation sought. Rather, this essay has sought to lay the foundation upon which specific, and more practical, climate policy proposals can be constructed and evaluated for their normative consistency with FME principles. That said, of all the likely effects of anthropogenic climate change, sea-level rise is among those that are most susceptible to this form of analysis.[63] At the very least, this thought experiment should suggest that there are policies more consistent with FME than acceptance of the status quo and advocating doing nothing at all.

VII. Conclusion

This essay has argued that if FME advocates truly take property rights seriously, and reject utilitarian justifications for violating property rights, then they should reconsider their approach to global climate change policy. The focus on net welfare and other concerns in the context of climate change by many FME advocates represents a rejection of the libertarian principles upon which FME is based. There is nothing inconsistent with FME about opposing draconian emission-reduction policies or other mitigation measures that are unlikely to address the threat of climate change. But identifying policies to oppose is no substitute for identifying policies to support. While continuing to oppose global regulatory schemes, which may pose their own threats to property rights and individual liberty, FME adherents should consider the viability of various international compensation or indemnification mechanisms. An international liability regime, for instance, might come closer to realizing FME principles than the status quo.

The aim of this essay has not been to identify an actual legal cause of action that could be brought in court or before some international tribunal. The institutions necessary for resolution of such property-rights claims do not exist. Nor has the aim been to identify the precise contours of an FME climate policy agenda. Rather, it has been to suggest how FME advocates should approach the question of climate change as they seek to develop positive policy proposals that are consistent with FME principles. If FME advocates are to be true to their stated commitment to property rights, they will need to take the threat of climate change at least as seriously as they have taken the threat of ill-considered climate change policies.

Law, Case Western Reserve University School of Law

[63] As Farber notes, effects such as sea-level rise "are readily identifiable, do not raise the complicated causation issues that plague other potential forms of damages, and can be measured (at least roughly) in a fairly straightforward way." Farber, "Basic Compensation," 1606–7.

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