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**Comment:**  
**Legal Liability as Climate Change Policy**

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**Abstract:** Several U.S. states have attempted to use of legal liability imposed on greenhouse gas emitters as a public policy instrument for climate change. This brief comment considers the desirability of this approach, focusing on three possible roles for liability: as compensation, as a direct influence on greenhouse gas concentrations, and as a means to facilitate *ex ante* greenhouse gas control policies. I argue that the most desirable feature of legal liability is its potential to facilitate adoption of more efficient *ex ante* climate change policies by making revenue-raising policies more feasible.

Several attempts have been made to impose liability on private parties for the harms from their greenhouse gas emissions. Examples of such litigation in the U.S. include a case brought by Northeastern states against several electricity producers<sup>1</sup> and a case filed by the state of California against six automobile manufacturers in late 2006.<sup>2</sup> In addition to building on a broad tradition of tort law in response to other environmental damages, such litigation draws on the experience of the U.S. tobacco settlement and attempts to use liability an alternative to gun control legislation.

Three rationales have been offered for liability as climate change policy. First, litigation might be desirable for the compensation that it provides to victims of climate change. Second, liability might create incentives for private actors to reduce greenhouse gases. Finally, these lawsuits might make political conditions more favorable to *ex ante* public policies for greenhouse gas reduction. My comments address the desirability of each of these effects in turn.

## **I. Compensation for harms from climate change**

Compensation may be desirable from either the perspective of economic efficiency or of fairness, but strong arguments may also be made that it is undesirable from these perspectives as well.

Although arguments for compensation usually hinge on fairness, an efficiency argument might be made for compensation. People potentially harmed by climate change might be willing to pay for the ability to reduce the variance in their well-being as a result of climate change. Although some variance, such as that caused by local storms, may be managed through conventional insurance markets, these markets may not handle aggregate risks, such as the risk of rapid climate change or of catastrophic regional storms. If so, compensation for some harm through legal liability might help smooth well-being across states of the world and thus improve aggregate welfare.

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<sup>1</sup> State of Connecticut v. American Electric Power, Inc., 406 F.Supp.2d 265 (S.D.N.Y. 2005).

<sup>2</sup> California ex rel Lockyer v. General Motors Corporation, No.06CV05755, (N.D. Cal. Filed Sept. 20, 2006).

However, as is well-known, compensation may also be inefficient if it weakens incentives to avoid harm and thus raises social costs of climate change.<sup>3</sup> Recent research suggests that adaptation to climate change should be an important part of any response strategy. Examples of such adaptations include building sea walls to reduce the damages from sea level rise and replacing agricultural infrastructure to adjust to shifting crop zones. For example, Yohe and Schlesinger estimate the costs of sea-level rise in the U.S. to be 30% lower with private adaptation than without adaptation.<sup>4</sup> Compensation, even if only partial, will weaken incentives for private and public sector investments in adaptation and thus substantially increase the costs of climate change.

A stronger argument for compensation would focus on fairness rather than efficiency. Professor Farber<sup>5</sup> makes persuasive arguments of this nature. However, even so, it is possible that the redistribution that would occur would be undesirable. Rules for assessing damage based on lost property values would strongly favor the rich. For example, in the U.S., the property value losses from sea level rise would likely be fairly concentrated among wealthier households that have extremely high-value coastal real estate. Firms may raise energy prices to pay for compensation, so the burden of costs is likely to be regressive.<sup>6</sup> Thus, litigation could create a net transfer to wealthy households (in a “balanced budget” analysis).

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<sup>3</sup> For example, the reciprocal nature of externalities is a major theme in Coase’s famous article. Ronald Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960).

<sup>4</sup> Gary W. Yohe & Michael E. Schlesinger, *Sea Level Change: The Expected Economic Cost of Protection or Abandonment in the United States*, 38 CLIMATIC CHANGE 447 (1998). See also J. Jason West, Mitchell J. Small & Hadi Dowlatabadi, *Storms, Investor Decisions, and the Economic Impacts of Sea Level Rise*, 48 CLIMATIC CHANGE 317 (2001).

<sup>5</sup> See Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. Pa. L. Rev. (forthcoming 2007).

<sup>6</sup> Ian W.H. Parry, Hilary Sigman, Margaret Walls & Robertson C. Williams III, *The Incidence of Pollution Control Policies*, in INTERNATIONAL YEARBOOK OF ENVIRONMENTAL ECONOMICS 2006/2007 (Tom Tietenberg & Henk Folmer eds., 2006) 1.

## II. Greenhouse gas reduction

Another justification for liability is that it might give rise to greenhouse gas reductions. One way to achieve this goal would be to abandon compensation for victims and require defendants to spend on projects that create environmental improvements. Remedies might be similar to Supplemental Environmental Projects, which are used intensively in enforcement of U.S. federal environmental laws and require violators to improve the natural resources harmed by their violation.<sup>7</sup> For climate change, spending might include carbon sequestration projects, such as reforestation.

One question about this design for liability is whether it increases spending on these public goods or just crowds out government financing. Examining the effects of the tobacco settlement, Singhal found that states' propensity to spend on tobacco control programs from settlement was low, only 20 cents on the dollar, with the remainder treated as ordinary government revenue; however, their propensity to spend on these programs out of other revenue was zero. Thus, the settlement has affected spending.<sup>8</sup>

Another strategy is to use liability to generate desirable effects on *ex ante* pollution decisions. If defendants must pay damages that depend on the quantities of greenhouse gases they release, liability would create incentives for emission reductions, at least for damages that are prospective (not retroactive) at the time of the settlement. Along these lines, Professors Hersh and Viscusi<sup>9</sup> point to the effective tax created by the tobacco settlement. Professor Engel<sup>10</sup> makes the connection to *ex ante* policy even more explicit by suggesting that the remedy compel polluters to participate in tradable

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<sup>7</sup> In FY2005, spending on Supplemental Environmental Projects was about 30% of federal civil environmental penalties. U.S. Environmental Protection Agency, *Compliance and Enforcement Annual Results: FY2005 Results Charts* (January 3, 2007) <<http://epa.gov/compliance/resources/reports/endofyear/eoy2005/2005results.html>>.

<sup>8</sup> Monica Singhal, *Special Interest Groups and the Allocation of Public Funds*, NBER Working Paper 12037 (2006) <<http://www.nber.org/papers/w12037>>.

<sup>9</sup> See Joni Hersch & W. Kip Viscusi, *Allocating Responsibility for the Failure of Global Warming Policies*, 155 *U. Pa. L. Rev.* (forthcoming 2007).

<sup>10</sup> See Kirsten H. Engel, *Harmonizing Regulatory and Litigation Approaches to Climate Change Mitigation: Incorporating Tradable Emissions Offsets into Common Law Remedies*, 155 *U. Pa. L. Rev.* (forthcoming 2007).

greenhouse gas permit markets. Another approach would be more similar to command-and-control *ex ante* regulation. Remedies might require changes in production techniques, such as requiring lower-carbon electricity generation, or in product characteristics, such as requirements for the fuel efficiency of vehicles.

The problems with these approaches have been discussed by several authors, so I mention only briefly two that seem of particular concern. First, litigation seems poorly equipped to handle leakage — the possibility that greenhouse-gas-intensive activities relocate to jurisdictions with less restrictive controls. Leakage is a difficult problem for conventional tax and permit programs, but the government may be able to make adjustments (for example, an “embodied carbon” tariff on imports) to address industrial mobility. Given the necessarily limited number of defendants in any lawsuit, however, it will be even more difficult to avoid substantial leakage with legal remedies.

Second, the accumulative nature of greenhouse gases means that controls are only effective if in place over long time horizons. The need for long-term, time-consistent policies is a challenge for all responses, but seems especially difficult for restrictions that result from a one-time legal settlement. In particular, it will be difficult for legal remedies to update the baselines used to gauge compliance, as may be necessary because of unforeseeable changes over time in economic conditions or technology. On-going enforcement and updating is more compatible with a regulatory approach.

### **III. Public policy formation**

Given the likely inefficiency of liability, perhaps the best goal for it is indirect: liability may improve the political feasibility of *ex ante* public policies arrived at through legislation and regulation. The process of creating public policy may be viewed as a Nash bargaining game, in which the outcome of a negotiation between parties depends on the “threat points” that represent the outcome should they fail to reach agreement. In this game, parties with interests in greenhouse gas control negotiate with those who expect to

bear costs. The status quo gives a strong threat point to parties that favor limited climate change policy because they can expect to bear few costs. If the status quo included the possibility of climate change liability, and *ex ante* public policy might substitute for that liability, then their opposition to such public policy would subside.

Most analyses conclude that the U.S currently spends too little money on climate change mitigation.<sup>11</sup> Thus, a shift in threat points to support a more aggressive climate policy would likely be efficiency-improving. If so, features of the threat point that would otherwise reduce its efficiency actually become desirable. It could be helpful that climate change litigation threatens to have high transactions costs, such as the high legal fees that could result from the legal complexities discussed in this conference. Similarly, if defendants are risk averse, uncertainty about the outcomes of the litigation and the possible lack of insurance coverage for these risks discussed by Professors Kunreuther and Michel-Kerjan<sup>12</sup> might also be efficiency-enhancing, although their direct effects would be costly.

A shift in threat points might affect not just the likelihood that some climate change policy occurs but the form that the policy takes. To predict the nature of these effects would require a detailed model of both the public policy bargaining game and the climate change liability that different parties could face. For example, if political considerations affect the industries subject to lawsuits, they could alter the form of any public policies negotiated in the shadow of this threat. A formal model of the negotiation process would potentially be illuminating for these issues.

Even without a formal model, one can speculate that the threat of climate change litigation may alter the political environment to permit a more efficient policy instrument

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<sup>11</sup> For a summary, see David L. Kelly and Charles D. Kolstad, *Integrated Assessment Models for Climate Change Control*, in INTERNATIONAL YEARBOOK OF ENVIRONMENTAL ECONOMICS 1999/2000 (Tom Tietenberg & Henk Folmer, eds. 1999). More recently, prominent assessments include William Nordhaus, *Global Warming Economics*, 294 *SCI.* 1283 (2001) and HM Treasury, *Stern Review on the Economics of Climate Change* <[http://www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/stern\\_review\\_report.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm)>.

<sup>12</sup> See Howard C. Kunreuther and Erwann O. Michel-Kerjan, Climate Change, Insurability of Large-scale Disasters, and the Emerging Liability Challenge, 155 *U. Pa. L. Rev.* (forthcoming 2007).

to be chosen. The economics literature suggests large differences in the efficiency of alternative policy instruments for climate change. As is well-known, incentive-based policies such as pollution taxes and tradable pollution permits are more cost effective than traditional command-and-control policies. Within the class of incentive-based policies, policies have much lower costs if they raise revenue and the government uses this revenue to lower distortionary taxes, such as taxes on labor and capital income. Parry, Williams, and Goulder show that failing to take advantage of this “revenue recycling” can dramatically reduce the net benefits of a policy.<sup>13</sup> Revenue-raising instruments include taxes and tradable permits that are auctioned; many tradable permits programs, such as the popular cap-and-trade programs, do not fall into this category. In addition, economists argue that environmental taxes are more efficient than other policy instruments for climate change policy.<sup>14</sup> The argument is that policies, such as taxes, that target the marginal cost of greenhouse gas abatement represent the best response to uncertainty in the costs of greenhouse gas abatement.

Most current proposals for U.S. climate change policies do not use the more efficient instruments. Although incentive-based proposals have become common, these policies are most often cap-and-trade programs, which do not raise revenue and target quantities rather than marginal costs. One reason for the popularity of cap-and-trade approaches is that permits may be given out in a way that offsets the costs of the policy for some polluters or otherwise “buys off” the policy’s opponents.<sup>15</sup> However, the need to make these concessions may be weakened if some of these opponents will be liable for

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<sup>13</sup> For a \$75/ton carbon tax, failing to recycle revenue reduces the benefits of the tax by half. If a smaller carbon tax is appropriate, the net benefits may become negative in the absence of revenue recycling. Ian Parry, Robertson Williams III & Lawrence Goulder. *When can carbon abatement policies increase welfare? The fundamental role of distorted factor markets*, 37 J. ENVTL. ECON. & MGMT. 52 (1999).

<sup>14</sup> The difference is based on Weitzman’s “prices versus quantities” analysis of government intervention under uncertainty. Martin Weitzman, *Prices vs. quantities*, 41 REV. OF ECON. STUD. 477 (1974). Marginal benefits of greenhouse gas abatement are likely to be nearly flat, whereas marginal costs have a steeper slope. With these conditions, it is more important for policies to target marginal costs than quantities. William A. Pizer, *Optimal Choice of Policy Instrument and Stringency under Uncertainty: The Case of Climate Change*, 21 RESOURCE & ENERGY ECON. 255 (1999).

<sup>15</sup> However, in an empirical study of pollution permit allocation, Joskow and Schmalensee conclude that the allocation of U.S. sulfur dioxide allowances did not in fact favor regions that expected high costs, but rather played into more general national politics. Paul L. Joskow and Richard Schmalensee, *The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program*, 41 J. LAW & ECON. 37 (1998).



damages if the parties fail to agree on a public policy alternative. Any revenue-raising policy instrument might stand a better chance, with taxes at least a possibility among these instruments. Thus, liability might greatly increase the efficiency of climate change policy, even if used only as a threat.

In conclusion, liability is unlikely to be desirable either for the compensation it provides or for the greenhouse gas controls that might result from remedies. Liability is only a second-best response, which may be valuable if traditional public policies are infeasible or, better still, if liability can make these public policies more feasible and efficient.