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STEPPING UP TO THE GLOBAL ENVIRONMENTAL CHALLENGE

*Daniel C. Esty**

Environmental policy has come a long way over the last century. From its origins in the conservation movement of John Muir, Gifford Pinchot, and Theodore Roosevelt, our efforts at environmental protection have flowered into a diverse and broad set of programs aimed at a variety of pollution and resource problems. But while we have developed quite elaborate structures for addressing public health and ecological harms at the local, state, and federal levels, we have done relatively little in the way of an institutional response to problems that arise at the international level. Therefore, the most important issue facing the environmental world on the brink of the twenty-first century is the need to develop coherent strategies and mechanisms to combat transboundary environmental threats which range from pollution in rivers shared across borders to acid rain, ozone layer depletion, and climate change.

Globalization actually presents three distinct environmental challenges. First, we must come to grips with a set of harms that inherently span multiple countries or even the entire planet and cannot be addressed successfully with environmental programs defined at the national level. This might be called the challenge of ecological interdependence. Second, unless managed appropriately, trade liberalization and the globalization of the world economy will create competitiveness pressures that undermine country-level environmental policies. These tensions, arising from environmental

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standards that vary across jurisdictions, can be seen as the environmental dimension of the challenge of economic interdependence. Third, as the result of the emergence of an international "civil society," policymakers face new public demands for environmental action arising at the level of the global community — a challenge of ecological identity.

This Essay offers a description of these environmental challenges. It recounts the failure of past and present policies to address these concerns adequately and concludes with a call for the development of a new international environmental regime in response.

THREE ENVIRONMENTAL CHALLENGES

National policies, no matter how good, cannot achieve success in combating threats to the "global commons." Even if, for example, the United States were to eliminate all production and use of chlorofluorocarbons ("CFC"s) and other chemicals harmful to the ozone layer, as long as other countries fail to control their CFC releases, the ozone layer will continue to thin. Because the deleterious effects of CFCs spread relatively evenly across the entire planet, the anticipated adverse impacts, from increased cases of skin cancer to reduced agricultural production, will still be felt in the United States as well as other countries that are doing the "right thing" by reducing emissions. We also now recognize the risk posed by regional pollution spillovers or "externalities." The Danube River winds its way through seven countries on its way to the ocean. Those upriver profoundly shape the quality of the water downriver. If upriver countries fail to impose adequate pollution controls, downriver people pay the price. Similarly, coal burning, with its attendant sulfur dioxide emissions, creates acid rain that drifts from the United States into Canada, from Poland into Sweden, and from China into Japan.¹

1. See, e.g., JURGEN SCHMANDT ET AL., *ACID RAIN AND FRIENDLY NEIGHBORS: THE POLICY DISPUTE BETWEEN CANADA AND THE UNITED STATES* (revised ed. 1988); GREGORY S. WETSTONE & ARMIN ROSENCRANZ, *ACID RAIN IN EUROPE AND NORTH AMERICA: NATIONAL RESPONSES TO AN INTERNATIONAL PROBLEM* 52 (1983) (tracing acid deposition in Sweden to European countries including Poland); Hilary E. MacGregor, *Clearing the Air with a Neighbor. Japan is Spending Big on Technology to Improve China's Environment*, L.A. TIMES, Nov. 6, 1995, at D1.

The need for an overarching sovereign to respond to the *collective action* problem posed by pollution harms that cross jurisdictional boundaries has been understood for more than a century.² Yet these global and transboundary environmental threats persist because there is no government with the requisite breadth of authority to impose effective and equitable responses on the violators. Absent an environmental policymaker who takes into account all of the beneficiaries and cost-bearers from prospective pollution policy interventions, optimal results are unlikely to be achieved.³

Whether nations will find cooperative solutions to transboundary problems depends on: (1) the distribution of costs and benefits from action (or inaction); and (2) the strength of common environmental and legal norms. Where harms are identifiable and reciprocal — for example, if the wind blows from the east on some days and from the west on other days — countries may recognize their interdependence and agree on coordinated national programs of environmental protection.⁴ But cooperative policies are unlikely to succeed in circumstances where this reciprocity is not present. Upriver jurisdictions do not clean up fully the pollution they cause because much of the harm falls on “outsiders” downstream. Similarly, Chinese officials know that, given prevailing winds, a considerable portion of the acid rain damage from new Chinese power plants falls beyond the Chinese border.⁵ This meteorological fact causes China to systematically under-attend to its sulfur dioxide emissions.⁶

2. See JOHN STUART MILL, *ON LIBERTY* (Viking Penguin 1982) (1859).

3. See, e.g., John B. Braden, *The Economics of Environmental Policy-making in a Multi-layer Government Structure*, in RECENT ECONOMIC AND LEGAL DEVELOPMENTS IN EUROPEAN ENVIRONMENTAL POLICY 49-74 (Filip Abraham et al. eds., 1995); see also Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570 (1996) (discussing this jurisdictional problem as a “structural failure”).

4. See, e.g., ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990) (discussing the circumstances that produce cooperative action); *MAKING THE COMMONS WORK: THEORETICAL, HISTORICAL, AND CONTEMPORARY STUDIES* (Daniel W. Bromley ed., 1992).

5. See, e.g., MacGregor, *supra* note 1; Charles A. Radin, *With China's Miracle Pollution Surges*, BOSTON GLOBE, Jan. 2, 1995, at 47; Sheila Tefft, *Rush to Burn Coal Turns China into Asia's Polluter*, CHRISTIAN SCI. MONITOR, Aug. 30, 1995, at 1.

6. See, e.g., Radin, *supra* note 5 (reporting that Chinese officials “bristle at

Nor will collaboration emerge if the causes of harm or its effects are unclear or disputed. As long as the United States persisted with the view that the death of Canadian lakes and forests had nothing to do with U.S. coal burning, no agreement on acid rain controls was possible.⁷ Furthermore, if ownership of the relevant "property rights"⁸ is indeterminate, further problems emerge. China, for example, rejects Japan's entreaties to control its acid rain not so much because the source of harm is in doubt but because it claims a right to pollute and insists that the richer country should pay for any clean-up efforts.⁹

Unless these pitfalls can be avoided and the "transaction costs" of negotiating and maintaining agreement on a common policy are low, the chances of obtaining effective *national* responses to international environmental problems are limited.¹⁰ In these circumstances, the lack of international capacity to enforce environmental protection norms means the polluting nations carry on with impunity. It is left up to the victims to pay for any controls that are to be undertaken. In particular, the absence of an overarching authority means that polluting nations persistently violate the Polluter Pays Principle.¹¹ Rather than holding polluters responsible for the harms

suggestions from other countries that China should take drastic conservation steps at its own expense").

7. See SCHMANDT ET AL., *supra* note 1, at 73-75 (chronicling the difficulties in U.S.-Canadian acid rain negotiations and attributing much of the "impasse" to scientific disagreement).

8. As discussed in this context, the conflict over "property rights" reflects the tension between one party's right to dispose of her property as she pleases, with another party's right to not be injured by that choice. In most domestic circumstances, who holds the rights is well established by the common law of nuisance or by statute. In the international setting, however, who holds the rights may be less clear. For a more detailed discussion of this conflict, see Esty, *supra* note 3.

9. See, e.g., Radin, *supra* note 5; Tefft, *supra* note 5; MacGregor, *supra* note 1.

10. See Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960) (demonstrating that efficient agreements can be negotiated if transaction costs are low); see also Esty, *supra* note 3 (discussing the need to have a mechanism to enforce agreements as well).

11. The "Polluter Pays Principle" holds that polluters should bear the costs of their pollution. Many economists and environmentalists see such cost "internalization" as the appropriate approach to resolving environmental disputes. See, e.g., WILLIAM J. BAUMOL & WALLACE E. OATES, *THE THEORY OF*

they cause, which is the fundamental legal principle of the common law of nuisance and of most regulatory systems, the rule in international environmental law has become, by default, let pollution harms fall where they may. This effectively lodges the property rights with polluters, instead of with those who seek to be free of pollution.¹²

From a perspective of naked self-interest, this lodging of rights with polluters has served U.S. interests. To date, the United States has caused much more transboundary pollution harm than it has suffered. But the U.S. position, as a net polluter, appears likely to change in the very near future. Indeed, the growing economies of the developing world are shifting the balance of polluting activities away from the traditional industrial powers such as the United States. By early in the next century, for example, China will surpass the United States as the world's leading emitter of greenhouse gases.¹³ As the environmental shoe shifts to the other foot, the United States will find that it has a much greater interest in establishing and enforcing the Polluter Pays Principle as the foundation for international environmental law.

The rise of developing economies leads as well to the second key

ENVIRONMENTAL POLICY (2d ed. 1988). See also Daniel Bodansky, *Customary (And Not So Customary) International Environmental Law*, 3 IND. J. GLOBAL LEGAL STUD. 105, 110-11 (1995) (observing that, despite the omnipresent Polluter Pays Principle, transboundary pollution is the rule not the exception); DANIEL C. ESTY, GREENING THE GATT: TRADE, ENVIRONMENT, AND THE FUTURE 38 (1994); PIERRE MARC JOHNSON & ANDRE BEAULIEU, THE ENVIRONMENT AND NAFTA: UNDERSTANDING AND IMPLEMENTING THE NEW CONTINENTAL LAW 198 (1996); AGENDA 21 . . . EARTH SUMMIT-UNITED NATIONS PROGRAM OF ACTION FROM RIO, U.N. Doc. A/Conf.151/5, U.N. Sales No. E.93.I.11 (1993) [hereinafter RIO DECLARATION].

12. For example, although Japan should enjoy the right to be free from Chinese sulfur dioxide pollution, it currently is forced to discourage pollution through a "Green Aid" program which subsidizes improved pollution controls within China. See Peter Evans, *Japan's Green Aid: Tokyo Has Taken the Lead in Introducing Environmental Technologies in China*, CHINA BUS. REV. (July 1, 1994) at 39-43; MacGregor, *supra* note 1.

13. See Daniel C. Esty & Robert Mendelsohn, *Powering China: Environmental Implications of China's Economic Development*, Yale Center for Environmental Law and Policy (May 1995) (unpublished study, on file with the authors).

trend that shapes our international environmental future. Notably, we are increasingly part of a globalized economy. Even the United States, traditionally not a particularly large participant in trade because of its extensive domestic market, now has almost a quarter of its Gross Domestic Product moving as imports or exports.¹⁴ Moreover, much of the U.S. job growth that has been generated in the last decade has been in export-oriented industries.¹⁵

The need to maintain the path toward trade liberalization and the economic benefits that it promises creates a whole new set of environmental policy tensions. In particular, one of the core elements of most trade agreements is a commitment to provide other countries with "market access."¹⁶ This can sometimes mean that national regulatory programs come under attack as barriers to free trade.¹⁷ Striking an appropriate trade and environmental policy balance that protects legitimate environmental programs but does not permit programs that unfairly discriminate against foreign-produced goods requires a careful mix of thoughtful national policymaking and attentive international oversight.

Economic interdependence can also create competitiveness tensions that may make it difficult for countries with high standards to maintain their environmental programs. In particular, faced with competition from low-cost producers in other countries with less demanding environmental requirements, industries may lobby to have their pollution control requirements relaxed. While there is little evidence that this "race toward the bottom" results in any mass business migration to "pollution havens,"¹⁸ there is consider-

14. U.S. Dept. of Commerce, U.S. Int'l Trade in Goods & Services, U.S. Doc. FT-900 (Sept. 1996).

15. See, e.g., Paul Lewis, *Is the U.S. Souring on Free Trade?*, N.Y. TIMES, June 25, 1996, at D1 (reporting that in the last four years, exports have grown 31%, creating 1,000,000 new jobs).

16. See, e.g., LAURENCE W. GORMLEY, PROHIBITING RESTRICTIONS ON TRADE WITHIN THE EEC (1985); PETER OLIVER, FREE MOVEMENT OF GOODS IN THE EUROPEAN COMMUNITY (3d ed. 1996); The North American Free Trade Agreement, Dec. 8, 11, 14, 17, 1992, Can.-Mex.-U.S., ch. 7B, 9, 32 I.L.M. 289.

17. See, e.g., ESTY, *supra* note 11, at 44-46.

18. See, e.g., JEFFREY H. LEONARD, POLLUTION AND THE STRUGGLE FOR WORLD PRODUCT (1988); Joseph Kalt, *The Impact of Domestic Environmental Regulatory Policies on U.S. Competitiveness*, in INTERNATIONAL COMPETITIVENESS (Michael Spence & Heather Hazard eds., Cambridge Univ. Press 1988);

able anecdotal evidence that the threat of competitive disadvantage affects the environmental policymaking dynamic.¹⁹ The Clinton Administration's effort to introduce a BTU (energy) tax in 1993 collapsed when energy-intensive industries complained that they would be disadvantaged in the global marketplace.²⁰ Similarly, the European Union has not moved forward on new energy taxes because of a fear of lost competitiveness.²¹ Thus, mechanisms must be developed to ensure that international competition does not play out in the form of inappropriate pressures on environmental standards.²²

Finally, the public's perception, both in the United States and elsewhere, of its own interest and identity is globalizing. News travels far and fast. Television makes distant harms seem palpable. More people vacation or work abroad — or know someone who does. New forms of communication from cheap overseas telephone calls to the Internet link people across national boundaries as never before. The distinction between "us" and "them" is blurring.

We are witnessing, moreover, the emergence of a vast number of transnational non-governmental organizations ("NGO"s) that represent people with common interests across many countries. The World Wildlife Fund, for example, operates in more than a hundred countries and increasingly seeks to shape international politics as well as decisionmaking at the national level. Efforts to preserve

Patrick Low & Alexander Yeats, *Do Dirty Industries Migrate?*, in INTERNATIONAL TRADE AND THE ENVIRONMENT (Patrick Low, ed., 1992, World Bank Discussion Paper 159).

19. See JOHNSON & BEAULIEU, *supra* note 11, at 43-47.

20. See, e.g., Steven Greenhouse, *Energy Tax Plan to be Scaled Back*, *Moynihn Reports*, N.Y. TIMES, May 30, 1993, at 1; Steven Greenhouse, *Clinton Says He Has Made No Decision on Energy Tax*, N.Y. TIMES, Jan. 26, 1993, at D1.

21. See, e.g., *ESC Adopts Opinion on CO₂ /Energy Tax*, THE REUTER EUROPEAN COMMUNITY REP., Apr. 5, 1996, available in LEXIS, World Library, AllNews File.

22. See Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race to the Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210 (1992) (arguing that interjurisdictional competition over environmental standards is not only appropriate but beneficial); *but see* Esty, *supra* note 3 (refuting Revesz's claim and demonstrating why regulatory competition in the environmental realm is likely to yield sub-optimal results).

African elephants, Brazilian rain forests, and Pacific coral reefs transcend national boundaries, and the people who worry about the loss of these resources view themselves as part of a global community. Their interest in environmental protection may not be adequately met with programs exclusively at the nation-state level.

THE FAILURE OF PAST POLICIES

The 1992 Earth Summit at Rio de Janeiro presented an opportunity to develop new mechanisms for responding to globalization in the environmental domain. World leaders failed to seize the moment. Although the theme of "sustainable development" emerged, no consensus developed on how this concept might play out in practice. In particular, very little progress was made in bridging the North-South gap that separates countries that perceive environmental policy to be an essential component of the quality of life they seek to provide for their people from those that view public health and ecological protection as a worthy goal but one which they cannot yet afford given their modest state of development.²³

The opportunity at Rio for institutional reform also slipped away. In large part because of opposition from the United States, efforts to restructure and reposition the international environmental regime to improve its ability to address transboundary and global harms did not go forward. Efforts, for example, to consolidate the United Nations Environment Program ("UNEP") and the United Nations Development Program ("UNDP") were turned aside.²⁴

Instead, the participants in the U.N. Conference on Environment and Development, as the Earth Summit was officially called, agreed to create a new Commission on Sustainable Development ("CSD").²⁵ This new U.N. entity has proven to be entirely incapa-

23. See RIO DECLARATION, *supra* note 11.

24. RICHARD N. GARDNER, NEGOTIATING SURVIVAL: FOUR PRIORITIES AFTER RIO (1992); Daniel C. Esty, *Turning the Giant's Head*, in *ECODECISION* (September 1993).

25. See, e.g., Anthony Carroll & Jill Rhodes, *ASIL UN Observers' Reports: Commission on Sustainable Development*, AM. SOC'Y INT'L L. NEWSL. (Am. Soc'y Int'l Law), Mar. 1994, available in LEXIS, International Law Library, IntLR File. See also S. Jacob Scherr & Jared E. Blumenfeld, *Implementing UNCED*, in *GREENING INTERNATIONAL LAW* 227, 236-41 (Philippe Sands ed., 1994).

ble of addressing international environmental challenges. The CSD's charge is too sweeping. To be told to follow through on "Agenda 21," the 700-page compendium of all environmental problems compiled at the Earth Summit, is a bit like being told to follow through on the Bible. The CSD further suffers from a lack of political support from the nations of the world, an inadequate budget, and competition for jurisdiction over environmental issues with UNEP, UNDP, and half a dozen other U.N. bodies, as well as the secretariats to the many environmental treaties that have been concluded in the last few years. In short, we are attempting to respond to global environmental problems with a jumble of inadequate and uncoordinated institutions.

THE NEED FOR A NEW INTERNATIONAL ENVIRONMENTAL REGIME

The need for improved global environmental governance is clear. It is also clear that improved *governance* need not mean world *government*. A better international environmental regime need not be a bigger one. An effective and efficient response to transboundary and global environmental problems will require some institutional restructuring and perhaps the creation of a Global Environmental Organization ("GEO"). A GEO could be fashioned from the consolidation and elimination of six or seven of the U.N. bodies that now address various aspects of the environment. It should be lean, flexible, and focussed on the specific challenges presented by international environmental problems.

By providing a single mechanism for addressing transboundary harms, a GEO would help to ensure that worldwide policy interventions are both cost-effective and environmentally effective. With appropriate (narrowly-tailored) authority, a GEO could discipline "free-riders" that threaten to disrupt successful collective action by the world community in response to international public health and ecological threats. A GEO might also provide a forum for the exchange of data, information, and policy analysis with regard to the wide range of national-scale but "common" problems that environmental policymakers face around the world. Given the technical complexity, science-intensity, and resulting analytic scale economies of many environmental problems, this sort of exchange of information is likely to yield benefits for all.

A GEO would also facilitate trade liberalization and economic

integration. Specifically, a GEO provides a mechanism for coordinating regulatory policies so as to avoid competitiveness-driven races toward the bottom. It would also allow for some convergence of environmental standards across countries at similar levels of development. Such convergence would facilitate business access to overseas markets by ensuring that only a single standard needs to be met. It would also enhance environmental policy administration by permitting jurisdictions to draw on each other's experiences, technologies, and training programs.

Of course, there are many people who find the performance of the current U.N. system to be so faulty that they dare not add a new organization to the U.N. structure.²⁶ But the existence of poorly functioning U.N. bodies offers no real argument against creation of a GEO. To the contrary, dysfunctional parts of the U.N. system should be disbanded to make room for new structures of international governance in areas that were not previously recognized, such as the environment. No matter how much one stresses the potential for making a new environmental body a small and efficient organization — perhaps even a “virtual” organization in many respects — with a tightly-defined mission and set of authorities, fears of lost national sovereignty are likely to be advanced as a reason not to proceed. But this complaint also holds no water. Ecological interdependence is inescapable. The fact of our shared biosphere makes the issue not whether to have an international environmental policy mechanism, but what sort of institution to have. In this context, the logic of a GEO becomes overwhelming. Simply put, we cannot protect the American public from ecological threats acting alone. To gain control over our environmental destiny, we must cooperate and coordinate with others.

The need to manage the regulatory tensions arising from a global marketplace and the demands of an international civil society adds to the case for a revitalized international environmental management structure. Again, the issue is not whether these pressures will exist but whether we create a functioning regime to respond explic-

26. See Daniel C. Esty, *The Case for a Global Environmental Organization*, in *MANAGING THE WORLD ECONOMY: FIFTY YEARS AFTER BRETTON WOODS* 287 (Peter B. Kenen ed., 1994) (assessing the arguments for and against a new international environmental body).

itly, systematically, and coherently or persist with an indirect, ad hoc, and inefficient patchwork of national environmental programs.

History offers numerous examples of what happens when international institutions fail to meet global challenges. Indeed, it took the calamities of the Great Depression and World War II to awaken the world community to its economic interdependence and the necessity of mechanisms such as the World Bank and the Global Agreement on Tariffs and Trade to facilitate international economic cooperation. Let us hope it does not take a comparable environmental crisis to bring the world's leaders face-to-face with the need to manage their interdependence in the face of globalized environmental challenges.

