

Rethinking Global Environmental Governance to Deal with Climate Change: The Multiple Logics of Global Collective Action

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From the buildup of greenhouse gases in the atmosphere threatening climate change to depleted fisheries in the world's oceans and the spread of persistent organic pesticides bioaccumulating across the food chain, a particularly challenging set of transboundary global environmental problems has emerged—defined by the need for a worldwide policy response. While the logic of collective action at a scope that corresponds to the scale of the public good to be provided is well understood in theory (Mancur Olson 1965; Henry N. Butler and Jonathan R. Macey 1996), the practice of good environmental governance at the supranational scale lags behind.

The need to manage interdependence, and thus the economic logic for policy coordination in the context of problems such as climate change, is clear. Where natural resource consumption or pollution harms spill across national boundaries and affect neighboring countries or the shared resources of the global commons, the “super-externalities” that emerge present a special policy challenge (André Dua and Esty 1997). Absent a collaborative response that draws all harm-causers and harm-bearers into a regime that internalizes these externalities and provides an appropriate degree of global-scale environmental protection, a tragedy of the commons will likely unfold (Garrett Hardin 1968; E. Donald Elliott, Bruce A. Ackerman, and John C. Millian 1985). Pollution-causing activities will be conducted at an inefficiently large scale and open-access resources, such as the atmosphere, will be overexploited.

But a successful response to climate change and other international environmental problems requires more than good economic theory. Legal, policy, ethical, and institutional underpinnings must also be established for effective global environmental governance. In this paper,

I begin the process of weaving these other necessary elements together with economic logic. I spell out the legal and policy issues related to global environmental governance that must be addressed to mitigate climate change. And I highlight the need for agreed “burden-sharing” principles that balance a common approach to shared problems with a recognition that diversity in environmental circumstances, values, and levels of development must be accommodated. And I lay out the case for a global-scale institutional architecture to respond to climate change and other supranational environmental challenges. In building a case for a Global Environmental Organization (GEO), this article identifies:

- Problems with the existing international environmental regime;
- Institutional elements that should underpin global environmental governance;
- Core functions that a GEO needs to be able to perform; and
- A path forward in response to climate change

I. Failures of the Existing Global Response to Climate Change

There is little dispute that the existing international response to climate change is failing (Andy Kerr 2007; David G. Victor 2004; Thomas C. Schelling 2002). The existing international agreement does both too much (in the short run) and too little (in the long run). Greenhouse gas emissions are rising. Nations that have taken on greenhouse gas emission reduction targets are largely missing them. More critically, the Kyoto Protocol controls cover only a subset of the world's countries—and a diminishing percentage of global emissions. The fact that a number of nations, including the United States and Canada, have backed away from their treaty obligations, and that the developing world has not signed onto a truly global policy response,

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means that the existing agreement cannot achieve the level of emissions reductions necessary to stave off the threat of global warming, increased intensity of windstorms, sea level rise, changed rainfall patterns, and other potential harm from climate change.

Simply put, the Kyoto Protocol fails to provide an economic, legal, policy, or ethical logic sufficient to motivate global-scale collective action. From an economic point of view, what is needed is a clear price signal attached to greenhouse gas emissions that provides a significant incentive to cut emissions. This could take a number of forms: tradable emissions allowances, a tax on carbon dioxide and other greenhouse gas emissions, or various hybrid options. The Kyoto Protocol is likewise legally inadequate to the extent that it does not hold greenhouse emitters accountable for the harms they cause. While there is an emergent emissions control regime in Europe, there is no liability for greenhouse gas emissions in most of the world. The Kyoto Protocol's institutional structure similarly falls short, providing a forum for discussion but little more. The policy cooperation engendered is thin. It fails, most notably, to promote innovation and drive technology development in response to the need for energy efficiency, alternative energy, or carbon capture and sequestration. Even more fundamentally, the Kyoto Protocol lacks a clear principle for burden sharing. Without a mechanism for allocating the costs and benefits of responding to climate change, little progress can occur.

II. Broader Failures of Global Environmental Governance

More generally, there is widespread agreement that the international environmental regime suffers from significant design flaws and does not provide a functioning institutional structure (Esty and Maria H. Ivanova 2002; Frank Biermann 2000; Oran R. Young 1999). In particular, the United Nations Environment Programme (UNEP), based in Nairobi, has underperformed throughout its 35-year life. Structured as a "program" of the United Nations rather than a full-fledged international organization, UNEP has a narrow mandate, a very limited budget, and even more limited political support. The lines of authority with regard to global-scale pollution problems and natural

resource management are unclear and, as a result, the global environmental governance process is highly fragmented and haphazard.

UNEP competes for responsibility, political support, and resources with more than a dozen other UN bodies, including the UN Commission on Sustainable Development (CSD), the UN Development Programme (UNDP), the World Meteorological Organization (WMO), and the International Oceanographic Commission (IOC). Several dozen independent treaty secretariats also compete for time and attention, including the Montreal Protocol (ozone layer protection), the Basel Convention (trade in hazardous waste), the Convention on International Trade and Endangered Species (CITES), and the Climate Change Convention. The lack of a coherent institutional structure complicates the task of identifying problems, tracking environmental trends, setting priorities, rationalizing budgets, and delivering effective and efficient results.

III. Institutional Designs for Effective Global Environmental Governance

So what sort of governance structure would be required to respond to climate change and other transboundary environmental problems? Or to put the question in another way, what would a Global Environmental Organization (GEO), which had the requisite economic, legal, policy, and ethical underpinnings, look like? Three fundamental institutional virtues can be identified: effectiveness, fairness, and legitimacy.

A. Effectiveness

Effectiveness is the *sine qua non* of institutional design. Unless there is a promise that a policy mechanism will produce net benefits, there is little reason to invest in governance and to bear the costs of providing public goods. In the international environmental arena, effectiveness has a number of important elements. First, an institution must be capable of helping to clarify the science that underpins pollution control and natural resource management. In particular, the organization must have access to expert guidance to address the inescapable uncertainties that are a hallmark of environmental decision making. The organization must similarly have the capacity to evaluate risks, track problems and trends, assess policy options, undertake

rigorous cost-benefit analyses, assess policy performance and results, and promote cost-effective policy instruments

Focus is a further requirement of good global environmental governance. Optimal institutional design would ensure a balance between the “matching principle,” which argues for an institutional response commensurate with the scope of each individual problem, and the recognition that too many tiers of governance would be administratively burdensome (Dua and Esty 1997). At the scale of the nation state, policy analysts have come to believe that a multitier structure of regulatory authority (national, state/provincial, local) is appropriate. A similar multitier approach to environmental governance at the supranational scale probably makes sense. Many transboundary issues can be addressed by neighboring countries working together bilaterally. A subset of issues is best dealt with by regional organizations that link larger groups of countries. Issues that are truly worldwide in scope should be addressed by a GEO (Ernesto Zedillo and Tidjane Thiam 2006; Inge Kaul et al. 2003).

B. *Fairness*

Fairness has a number of elements that must be reflected in global environmental governance. First, property rights must be respected. In this regard, polluters (or consumers of shared natural resources) must be held accountable for transboundary harms, whether in neighboring countries or the global commons. In the climate change context, emitters of greenhouse gases must be required to stop their emissions or pay for the damage caused. Note that the legal logic of liability for causing harm dovetails nicely with the economic logic requiring internalizing of externalities.

A second dimension of fairness requires distributional equity. Richer countries should bear more of the costs of providing global environmental public goods. Any agreement on burden sharing must therefore take account of the “ability to pay.” More generally, a successful mechanism of global collective action in the environmental realm must accommodate the diversity of circumstances and preferences that are found across the nations and peoples of the world.

Finally, fairness has a procedural dimension. Political dialogue is widely understood to be essential to good policy (Jürgen Habermas

1984). International decision making should therefore be undertaken in a way that gives “due process” to all parties interested in the outcomes that emerge, including national governments, nongovernmental organizations, business entities, and individuals. More specifically, good governance requires carefully constructed procedures, including transparency, public participation, mechanisms for holding decision makers accountable, controls on corruption and conflicts, a clear and orderly rulemaking process, checks and balances, and an appeal or review mechanism (Esty 2007; Esty 2006).

C. *Legitimacy*

Legitimacy is particularly hard to establish in an international organization where top officials are appointed rather than elected, making lines of accountability hard to establish. But mechanisms can be developed to ensure that international officials stay connected to the needs of the public around the world in whose name they advance policies. Success is another key element of legitimacy (Esty 2006). International institutions that demonstrably enhance social welfare, provide order and stability, and promote peace and prosperity are thus valued and their exercise of authority is much more readily accepted. Legitimacy is also a function of the broader structure within which a policy institution works. A successful GEO therefore needs to have carefully designed links to, and some defined division of labor with, other international institutions including the World Trade Organization (WTO), UNDP, the World Bank, and the World Health Organization (WHO).

IV. Foundational Elements

In designing a structure of global environmental governance to respond to climate change and other challenges, a number of issues must be addressed.

A. *Core Principles*

Successful international regimes almost always have a core set of principles that are widely accepted and that provide a foundation for decision making within the institution. The international environmental regime has suffered from a lack of clarity in this regard. Thus, while

the international trading system has benefited from a common understanding that freer trade depends on a commitment to “nondiscrimination,” there is no such widely accepted starting point for international environmental cooperation. Several principles on which global environmental governance might be grounded can be identified:

- Polluter pays principle;
- Common but differentiated responsibility.

The polluter pays principle has been repeatedly endorsed in international agreements and has thus taken on a quasi-constitutional aura in international environmental law (Organisation for Economic Co-operation and Development (OECD) 1972). The notion that polluters should pay for the harms they cause is found in the domestic environmental law of nearly every country in the world. It represents a foundational principle that supports the internalizing of externalities to ensure economic efficiency and the legal logic of holding harm-causers liable for the damage they inflict.

A commitment to “common but differentiated responsibility” would provide an ethical foundation for international environmental efforts. All countries would be expected to play a role in emissions controls, but the degree of emissions cuts would vary according to their differing circumstances.

B. Data and Information Exchange

Establishing an empirical foundation for decision making is one of the most critical functions an international institution can fulfill. The existing work of UNEP in this regard is very uneven. Any effort to strengthen the global environmental regime must include a commitment to a robust program of data collection, problem identification, risk assessment, trend tracking, comparative metrics on policy performance, and other elements of cross-country benchmarking.

C. Scientific and Analytic Capacity

Good global governance, like good decision making at the national level, needs to build on sound scientific underpinnings and careful analysis. With a clear picture of the issues to be addressed, policymakers can then

turn to creating incentives to change behavior and reduce harms. In the climate change arena, innovation and technology development loom large as the way to reduce harms. Understanding how various policy instruments will affect the investment flows into the environmental arena is thus very important. Ensuring that the marketplace has appropriate incentives for cost internalization that spurs investment in the search for solutions to the buildup of greenhouse gases in the atmosphere is the central challenge of global environmental policymaking today. The right incentives will induce venture capital, private equity, and corporate research and development money to enter the search for technologies that reduce emissions, advance energy efficiency, provide alternative energy sources, and test the possibility of sequestering carbon dioxide before it is released into the atmosphere.

D. Negotiating Forum

A forum for negotiation and a place to bargain over who will bear the costs and benefits of intervention (or nonintervention) must be at the heart of any institution designed to deal with climate change and other environmental problems at the international level. Finding ways to combat free riding and encourage policy cooperation will require intensive negotiation and creativity. Multi-issue agreements that weave together costs and benefits from various policy arenas into a comprehensive package that a large number of parties will find attractive will likely be needed (John Whalley and Ben Zissimos 2002).

E. Compliance Incentives

Compliance lies at the heart of any regulatory system. Ensuring that countries comply with the international commitments they make is, thus, essential to the effectiveness of the international environmental regime (Abram Chayes and Antonia Handler Chayes 1995). In this regard, the Montreal Protocol, phasing out ozone-layer-depleting chlorofluorocarbon (CFCs) and other chemicals, emerges as the gold standard in global-scale environmental policymaking (Duncan Brack 1996). This agreement provides a structure of subsidies for those shifting to CFC substitutes and specific additional financial incentives to engage both China and India. At the same time, trade measures are available to

penalize countries that either fail to sign on to the agreement or fail to comply with its terms. A similar package of carrots and sticks is likely to be needed to advance global action on other issues, including climate change.

F. Dispute Resolution

The institutional response to climate change, and to transboundary environmental issues more generally, must be reinforced by a dispute settlement mechanism to help countries resolve disagreements. This mechanism should have clear procedures and be able to work from clearly specified principles.

G. Administrative Procedures

An effective global response to climate change cannot be achieved without both vigorous debate and creation of a policymaking process that promotes dialogue. A structure of decision making that aligns with the emerging consensus around principles of good governance will thus be needed.

V. The Path Forward

Success in establishing a regime of collective action in response to climate change and other transboundary environmental problems will not be achieved on the basis of economic principles alone. But an institutional approach that starts with the well-established learning about public goods and the logic of collective action can provide, in combination with appropriate legal, policy, and ethical principles, a foundation that moves the world forward.

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