WHY CLIMATE CHANGE COLLECTIVE ACTION HAS FAILED AND WHAT NEEDS TO BE DONE WITHIN AND WITHOUT THE TRADE REGIME

Daniel C. Esty and Anthony L. I. Moffa*

I. CLIMATE CHANGE AS A COLLECTIVE ACTION PROBLEM

Climate change stands out as the quintessential global-scale collective action problem with implications that require carefully managed policy coordination and multi-level governance. The build-up of greenhouse gases in the atmosphere threatening global warming, sea level rise, changed rainfall patterns (leading to shifting agricultural productivity), and increased intensity of hurricanes and typhoons can neither be successfully addressed by any one nation acting alone nor by governmental action at any one level of geographic scale.1

The atmosphere into which greenhouse gases are emitted is inescapably shared by all nations and the emissions from each travel freely across national borders. Although the emissions are global in scope, the polluting activities often require local, state/provincial, or national monitoring and control. Where a natural resource is shared among many countries as in the case of the atmosphere (or the oceans), fostering sustainable resource use often proves to be excruciatingly difficult. Some countries (or subjurisdictions) may not share the views of others as to how serious the problem is, how much should be invested in a policy response, or how to trade-off a commitment to the shared problem versus other priorities. Will India pay for greenhouse gas controls—or insist that scarce environmental resources go toward expanded drinking water infrastructure? And some nations may act strategically—hoping to ‘free ride’ on the efforts of others. Problems of the ‘global commons’, of which climate change is the ultimate example, thus highlight the need to manage ecological interdependence alongside economic interdependence and to develop versatile governance regimes that can manage across the multiple scales at which action will be required.

Without a commitment to managing interdependence, institutional flexibility, and carefully crafted policy instruments, this sort of ‘public good’ will be under-provided, leading to a ‘tragedy of the commons’, where national

* Respectively, Commissioner of the Connecticut Department of Energy and Environmental Protection (DEEP); research-assistant at Yale Center for Environmental Law & Policy.

policy optimization leads to global over-exploitation of a limited resource.\(^2\) In the case of climate change, this risk translates into an increased threat of global warming and the other harms identified above. Without cooperation and discipline on ‘free riding’, the environmental concerns related to climate change will go unaddressed. Moreover, any country acting unilaterally to reduce emissions—and bearing costs that others do not—faces the prospect of competitive disadvantage. For every nation, the benefit–cost calculus related to their own greenhouse gas emissions control efforts will be negative. Simply put, no nation will reap benefits from their own climate change mitigation efforts alone that would justify the costs. The case for action comes solely from the logic of reciprocity, supported by governance cooperation across both vertical and horizontal scales.\(^3\)

Reciprocity and a commitment to manage interdependence systematically depends on the burden of responsive action being spread in a manner that engages all parties (or at least all major players) fully and fairly. In the case of climate change, two separate ‘burdens’ must be considered: (i) the distribution of the harms from climate change (and thus the benefits of emissions control) and (ii) the costs of emissions control. Unfortunately, the distribution of potential harms from climate change is neither evenly spread nor correlated with emissions. Small island states, for instance, emit very little but are likely to bear high costs in the form of sea level rise and more severe windstorms. Likewise, some powerful political interests within the biggest emitters, including both China and the USA, perceive the benefits of a reduced threat of climate change to be less than the costs in the form of higher energy prices and potentially diminished economic growth.

Thus, while there is generally agreement on the need for ‘common but differentiated responsibility’,\(^4\) no consensus exists on the particulars of what ‘burden-sharing’ should look like in the climate change context. European nations have committed to action ahead of the pack. But other industrialized nations such as the USA (as well as Australia and Canada) have balked at taking action for fear of ‘free riding’ on the part of major developing nations who have become trade competitors. China and India, the particular targets of this concern, continue to insist that they are too poor to be assigned greenhouse gas emissions control obligations. These emerging industrial powerhouses argue that the developed countries are responsible for most

---

\(^2\) See generally, Mancur Olson, Jr., *The Logic of Collective Action: Public Goods and the Theory of Groups* (1965). Highlighting public goods as the source of all collective action problems and defining them, in the traditional economic terms, as goods which are non-excludable (i.e. one person cannot reasonably prevent another from consuming the good) and non-rivalrous (one person’s consumption of the good does not affect another’s, nor vice versa).


of the historic emissions and should therefore bear the responsibility for fixing the problem. Of course, some recently developed nations, such as South Korea, Mexico, Brazil, and Chile, acknowledge their greenhouse gas emission obligations and would accept targets in a ‘Beyond Kyoto’ climate change treaty. Still many developing nations remain too poor to be asked to do very much at all, thus, each Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC), including Copenhagen in 2009, Cancun in 2010, and Durban in 2011, has simply resulted in aspirational agreements to agree at a later date.

Divergent values and priorities across the nations of the world exacerbate this burden-sharing problem. The higher discount rates used in benefit-cost analyses by poor countries with fast-growing economies make coordinated environmental governance even more difficult. Thus, even when costs and benefits are carefully calculated and the value judgments are made explicit; the various peoples around the world may come to different conclusions regarding the optimal level of commitment to emissions reductions. There has not yet been a unifying burden-sharing principle enunciated or even commitment to a sufficiently robust environmental governance mechanism to facilitate collective decisions—and more importantly, ensure adherence to an emissions control regime.

Climate change also presents a ‘commons problem’ of a unique scale and complexity. Due to the wide range of greenhouse gas sources and issues, climate change implicates a large number of international, national, regional, state/provincial, and local regulatory bodies with overlapping jurisdiction and, at the same time, incomplete coverage and limited accountability. This phenomenon, dubbed a ‘regulatory commons problem’, results from hesitation of those with jurisdiction to act unilaterally. This second-order commons problem is further complicated by the challenge of sovereignty, with international institutions generally deferring to nation states to choose how to regulate their own citizens.

This article argues that more effective global environmental governance will be needed to adequately address climate change. In particular, we believe that a new environmental regime needs to be constructed with institutional capacities designed to respond to global-scale collective action problems in general and the specific challenges of climate change in

---


particular. But we do not believe that even a robust Global Environmental Organization (GEO) can succeed without support from other international bodies, most notably the World Trade Organization (WTO). In laying out this argument, we begin by providing a diagnostic profile of the current environmental regime’s failure. Although there have been numerous scholarly attempts to derive frameworks for international institutional success, few studies have focused on the elements of failure. This gap persists despite the acknowledgement by many in the field that poor institutional design is one of the core problems plaguing global environmental governance. We group the elements of institutional failure into three categories: (i) political economy considerations, (ii) negotiation roadblocks, and (iii) structural deficiencies with regards to ensuring adherence to shared commitments (i.e. lack of discipline on free riding). We present the specific characteristics in each of these problem areas and then develop the case for a GEO to address the identified shortcomings.

We go on to explain that even a well-functioning GEO will not be able to respond adequately to the climate change challenge alone. Given the nature of climate change costs and benefits as well as the disagreement over burden-sharing, the environmental regime must be reinforced by a broader framework of global governance—in particular an international trading system which ensures that access to the gains from economic integration made possible by global markets are available only to those who share the burdens of ecological interdependence. Ongoing cooperation to address a problem that requires all to bear costs cannot be achieved without a system of discipline—which is easier to base on withheld benefits than imposed through threats. In this regard, we note that the trading system (with its recognized benefits) has made great strides in moving toward greater recognition of environmental concerns, including climate change, but still has some distance to go. We spell out the further steps required within the WTO to ensure that the trade regime plays a constructive role in reinforcing the proposed GEO and responding to climate change.

---

8 See, e.g. ibid, describing a framework labelled the ‘three C’s’ which claims that any effective action of environmental institutions is likely to increase concern or capacity, or improve the contractual environment; Scott Barrett and Robert Stavins, ‘Increasing Participation and Compliance in International Climate Change Agreements’, 3 International Environmental Agreements: Politics, Law and Economics (2003), at 349, 369.

9 See, e.g. Ivanova, above n 1, at 46.


II. DIAGNOSIS OF FAILED CLIMATE CHANGE POLICYMAKING AT THE GLOBAL INSTITUTIONAL SCALE

Progress at the global scale in addressing climate change has been modest. The trajectory of global scale climate change policy progress has been flat, or even downhill, since the Framework Convention on Climate Change was signed in Rio de Janeiro in 1992. The two intervening decades of negotiations have failed to produce the serious international commitments needed to address the problem. Recent ‘conferences of the parties’ in Copenhagen, Cancun, and Durban made strides with regard to financing mitigation and adaptation, deforestation, and adaptation strategy, but a real decision on a new over-arching climate change treaty has been repeatedly deferred.

The burgeoning literature on the international climate change negotiations reveals a number of breakdowns. These diagnostic elements fall into three broad categories: political economy considerations, roadblocks to negotiation, and inadequate incentives for cooperation.

A. Political economy considerations

1. Complexity of the system

The first commonly identified source of regime failure is the complexity of the international environmental governance structure. A complex system makes directed and coordinated efforts especially difficult. The institutional inertia makes collective action even less likely. The overlapping jurisdiction of numerous international bodies is particularly problematic in the climate change arena. With the UNFCCC, UN Environment Programme (UNEP), United Nations Development Programme, United Nations Conference on

---


13 Most recently, in Durban, South Africa, the parties agreed only to establish yet another working group that has as its stated goal the development of a new ‘protocol, legal instrument or agreed outcome with legal force’ by 2015, which will take effect by 2020. The Ad Hoc Working Group on the Durban Platform for Enhanced Action group is in addition to the existing Ad Hoc Working Group on Long-term Cooperative Action under the Convention. See Draft Decision -/CP.17/2011 on the Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, December 2011, published on the website of the UN Climate Secretariat.

Sustainable Development (CSD), United Nations Food and Agriculture Organization, World Health Organization, World Meteorological Organization (WMO), and the World Bank all playing a role, coordination becomes difficult and accountability limited. Each of these institutions has a distinct mandate and divergent goals, core competences, and practices. This fragmented structure translates into limited environmental cooperation, lost opportunities for synergistic actions, and poor results. In addition, there has been little effort put into aligning the efforts of those with international environmental policymaking responsibilities with the goals and programs of the institutions with economic and development mandates. This means little integration between environmental cooperation efforts and other policies necessary to achieve sustainability goals.15

2. Disagreement concerning burden-sharing
Disagreement over burden-sharing across nations represents another source of regime failure.16 The lack of fundamental reciprocity and the disparate impacts of climate change and costs of mitigation and/or adaptation across countries have been well documented. The divergent views on national self-interest and whether the risks from climate change merit a significant response cuts across the traditional North–South divide. Europe favours a robust policy response while the USA has not yet agreed to take action. The plea from the island states for emissions controls has fallen on deaf ears in China and India.

Divergent perceptions about the scale, magnitude, and timing of climate change impacts—and thus the costs of inaction—have been exacerbated by disputes over who should bear the costs of intervention. The division is not so much between developed and developing nations (‘North–South’), but rather among high-emitting nations as to who should take action and who should pay for emissions controls. Most notably, the USA has been unwilling to commit to action unless all nations (or at least all major emitters) also make commitments. But China, India, and some other emerging economies have pled poverty. They further argue that, as a historical matter, much of the current build-up of greenhouse gases in the atmosphere can be attributed to the nations that industrialized in the 20th century, particularly the USA and Europe. In response, the USA and others have argued that China and other recently industrialized nations are no longer poor—and that they should bear a share of the burden of ecological interdependence as a price for the huge benefits they have gotten from global economic integration.

This ‘values divide’ has become even more salient with the onset of the economic downturn, as the US public has become unwilling to bear costs while China does not. Competitiveness tensions exacerbate this sense that free riding by China and India cannot be tolerated. Despite studies highlighting the cost of climate inaction, the immediacy of job losses in developed nations has led many US citizens to believe that the burden of international action would simply be too great unless major trade competitors, such as China and India, share the load.

B. Negotiation roadblocks

1. Large size of the group attempting coordination

Climate change negotiations have been strained from a purely practical standpoint by the sheer number of parties involved. Growing participation in climate change negotiations has had an inverse relationship with the productivity of the policy dialogue since 1992. While almost 200 countries now participate in the negotiations (up from roughly 150 in the early 1990s) the results have gotten worse, not better. The number of seats at the table and the attention paid to new voices has grown to accommodate rising powers, such as China, India, and Brazil. Although a positive development from an inclusiveness standpoint, this expansion has not made getting a consensus any easier. Quite to the contrary, collective action problems become increasingly challenging to solve as the size of the group grows. The logic of reciprocity becomes harder to recognize—and the balancing of divergent interests harder to reconcile.

Likewise, the larger the number of parties that are included in a negotiation, the larger the transaction costs that must be incurred to reach an agreement. Negotiations with such a large group will inevitably fall victim to Arild Underdal’s ‘law of the least ambitious program’, holding that the effectiveness of an international agreement is limited by the commitment level of the agreement’s least interested party. Progress may thus require the convening of a smaller ‘key players’
group. It might make sense to work out a basic framework among ‘pivotal states’, including the top 15 emitting nations and key regional representatives beyond this.

2. Lack of US leadership
The lack of clear vision and forceful leadership represents another commonly cited functional deficiency in the negotiating process. The reluctance, in particular, of the USA to take a leadership role is seen by many as crippling. As the world’s largest economy, the USA has played a major role in all of the most effective international environmental agreements and efforts. Without the USA as a guiding and committed voice many nations have been hesitant to make any real commitments. What’s worse, the actual negotiations are less focused and not at all consolidated as a result. Groups attempting to coordinate action develop intrinsic characters and interests as well as the capacities to pursue an autonomous line of thought, which further explains the need for a powerful guiding influence exerted by an individual leader.

The US hesitation on climate change has been driven by many factors including conflicting ideologies, shifting scientific attitudes, and partisan politics. But economic concerns, magnified by the severe 2008 downturn, have shaken the US public’s belief in globalization in general and trade liberalization in particular. Diminished competitiveness, leading to job losses and a perceived ‘hollowing out’ of the US industrial base, has angered many Americans—intensifying the need for creative thinking at the trade–environment interface. In the USA, popular opinion now holds that China, India, and other new developing nation competitors have profited at the expense of

23 Esty, above n 18.
25 Compare, e.g. the success of the Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987, UNTS I-26369, which has US support, with the resolute ineptitude of the Kyoto Protocol (note 4), which did not.
26 See Section I (Political Economy Considerations) on the Complexity of the System; see also Ivanova above n 1, at 46, attributing most of UNEP’s deviations from its mandate as the global leader on the environment to the lack of support from member states, particularly the United States.
27 Ivanova, above n 1, at 47.
the USA—and thus cannot be exempted from bearing a share of the burden of environmental collective action. Thus, the USA, will not act until China and India commit to taking a share of climate change responsibility. And China and India will not make any such commitment until the USA shows that it will take the issue seriously, creating a chicken–egg problem. This negotiating standoff has completely stalled the possibility of any real collaborative efforts to mitigate climate change.

C. Lack of institutional discipline
The breakdown in climate change cooperation has been further exacerbated by lack of a robust mechanism to ensure reciprocity and maintain the discipline of shared burdens. Without a well-functioning global environmental governance regime, those who will be asked to make sacrifices and bear costs cannot be sure that others will do the same.29 Fear of free riding and non-compliance with agreements makes concluding a serious climate change action commitment all the more difficult.

The structure of the climate change challenge—which requires parties to bear costs and forbear certain actions (which, when viewed from a national perspective yield benefits that exceed costs)—makes cooperation especially difficult. The logic of reciprocity may be insufficient to maintain discipline. In the face of a problem which has benefits that derive entirely from future risks not faced and costs not borne, the global environmental regime seems hopelessly inadequate. The advantages of international cooperation are much easier to make vivid where nations face the loss of perceived opportunities for gains. Thus, success in advancing a regime of global climate change cooperation seems hard to imagine without linkage to the broader structure of global governance—and the trading system in particular.

From a WTO point of view, such linkage may well be unwanted and appear burdensome. But the inescapability of the trade effects on the environment and environmental impacts on trade have been well documented.30 So the real issue is not whether but how this relationship will be managed. And to be clear, absent a carefully worked out trade–environment structure, and in the face of significant uninternalized externalities in the form of greenhouse gas emissions, the trading system will (however inadvertently) produce results that are economically inefficient, lower social welfare, and

29 Cf. Abram Chayes and Antonia Handler Chayes, The New Sovereignty: Compliance with International Regulatory Agreements (Cambridge: Harvard University Press, 1998), at 9–17, detailing the reasons for non-compliance with international treaty obligations, including, inter alia, the indeterminacy of treaty measures.

produce fundamental unfairness across nations and within societies as well as on an intergenerational basis—not to mention generate significant environmental degradation.

III. HOW A GEO ADDRESSES THE IDENTIFIED SHORTCOMINGS

As the previous section demonstrates through the diagnosis of regime failure, improved global environmental governance is essential to climate change policy progress. The current gaps in issue coverage and a lack of clear lines of authority plague the international environmental regime in general and the prospect for action on climate change in particular. At present, no international institution seems up to the task of coordination. This gap needs to be filled. A GEO that is carefully crafted to avoid the identified pitfalls of regime failure and tightly coordinated with the trade regime provides a potential solution.

Climate change makes manifest the need for an overarching mechanism to support international cooperation in response to transboundary environmental problems. What is needed is a 21st-century international organization that is sharply focused, lean, agile, and effective in leveraging the strengths of the rest of the international governance system to attain better environmental results. Although some observers have suggested that UNEP could fill this role, it was originally conceived as a ‘program’ not an institution, and it has never been able to grow into a conception of a broader institutional role because of the pathologies described previously.

Some scholars have taken note of UNEP’s shortcomings and concluded that no international body has any real hope of solving a collective action problem of the magnitude of climate change. But the limitations of UNEP and the absence of systematic synergies with current UN bodies offer no real argument against the creation of a GEO. Indeed, the existing difficulties argue for overhauling the international environmental regime rather than tinkering with reforms to UNEP.

31 See Daniel C. Esty, ‘Stepping Up to the Global Environmental Challenge’, 8 Fordham Environmental Law (1996), at 103, at 105; see also Frederick J. Lee, ‘Global Institutional Choice’, 85 New York University Law Review (2010), at 328, at 329, at 336, arguing that global regulation from some type of world government organization may be the most efficient and only practical means of overcoming a climate change collective action problem.

32 Ivanova, above n 1, at 54.

33 See section ‘Climate Change as a Collective Action Problem’.


Undoubtedly, sovereignty concerns will make creation of any new international institution problematic. But, ecological interdependence is inescapable. The fact of our shared biosphere makes the issue not whether to have an international environmental policy mechanism but rather what sort of institution to have. In this context, a new GEO offers an attractive option as it could be specifically designed to address the identified systematic failures that plague the current system.

A. A lean and consolidated organizational structure
A fresh start in global environmental governance would offer a way to rationalize the existing mass of confusing international entities and jurisdictional overlaps. A GEO could be fashioned from the consolidation or elimination of the existing international bodies that have some jurisdiction over the environment including UNEP, WMO, the CSD, and all of the existing environmental treaty secretariats. Modelled on the concept of ‘networked governance’, a GEO would offer a faster, problem-oriented entity with access to state of the art knowledge, and simultaneous proximity to decision-makers at the international, national, state/provincial, and city scales. It might also provide a compliance mechanism designed to track transboundary environmental harms and member states adherence to treaty commitments. Such a monitoring mechanism would function better if reinforced by the WTO. This new structure would make it possible to strengthen the overall coherence of international environmental governance by taking advantage of a coordinated approach to the range of existing environmental treaties and programs—minimizing potential or actual conflicts. A GEO should be lean, flexible, and focused on the specific challenges presented by international environmental problems drawing on expertise from governments at all levels.

B. A GEO could help narrow the ‘values divide’
A GEO could also help to bridge the gap with regards to burden-sharing and the ‘values divide’. A GEO would not only provide a mechanism for bargaining, but could also offer a forum for data collection and analysis, information exchange, policy benchmarking, identification of best practices, technology transfer, and dispute resolution functions. A GEO would

---

36 See Anne-Marie Slaughter, ‘Sovereignty and Power in a Networked World Order’, 40 Stanford Journal of International Law (2004), at 283 (expounding on the concept of networked international governance); see also John F. Kennedy School of Government, Program on Networked Governance, published on hks.harvard.edu/netgov/html/index.htm, a program with the two-fold objective: ‘(1) to foster research on networked governance and (2) to provide a forum to discuss the challenges of networked governance.’

37 Esty and Ivanova, above n 35.

38 van Asselt, above n 14, at 2.

39 Esty et al. n 10.
enhance environmental policy cooperation by permitting jurisdictions to
draw on each other's experiences, technologies, and training programs.
High quality data with cross-country comparability is necessary to support
an effective policy response—supporting efforts to define the scope of the
problem, assess policy options, and evaluate the results of emissions control
programs. Reduced technology and information gaps between nations might
well narrow the values divide and facilitate agreements on policy instru-
ments. The UNFCCC conventions have been conspicuously devoid of real
efforts to provide an adequate forum and incentives for technology transfer
between nations; a GEO would provide such a forum along with a structured
process and incentives for technology transfers. To ensure that there is ef-
effective technology to exchange, a GEO would also help to create financing
instruments for the development of innovative low-carbon technologies.

Furthermore, a GEO would provide a policy formation space that would
facilitate coordination of regulatory policies so as to avoid a competitiveness-
driven race toward the bottom. Such a collaborative process would also allow
for some convergence of environmental standards across countries at similar
levels of development—broadening the marketplace for clean energy
solutions.

In addition to bridging gaps in technology and regulatory policy, a GEO
could provide a mechanism to manage financial assistance to developing
nations. Financial support is an essential element of any ‘global bargain’
that might garner the support of nations with limited resources, many of
whom feel that the ‘polluter-pays’ principle argues for industrialized nations
contributing more funds to climate change mitigation. A financial transfer
instrument has become even more critical with the recent global recession as
many nations now fear that the policy instruments necessary to respond to
climate change will chill economic recovery. Without a straightforward and
streamlined formula and mechanism for financial transfers, the burden-
sharing problem will continue to weigh down any effort to advance a
global response to climate change.

C. A GEO could mitigate the difficulties of coordinating a large group

Because of the global nature of the climate change problem and the neces-
sarily comprehensive nature of any meaningful solution, coordination across
many nations will be needed for policy success. But not everyone needs to be
part of the negotiations or the administration of an agreed-upon policy re-
sponse. The goal should be to craft a functioning regime that can respond
systematically and coherently to the global collective action problem. A GEO
might help with this task through several institutional design elements. First,
a small and efficient organization—perhaps even a ‘virtual’ organization in
many respects—could be tightly focused on handling just the global-scale
aspects of climate change. This ‘light’ structure of global governance
would need to leverage the capacities of national governments as well as provincial/state, regional, and local governments. It would also be useful to draw on business, civil society, academic research, and community organizations.

Second, a GEO could serve as a forum for negotiations on rulemaking as well as coordination on strategy implementation. With a ‘pivotal states’ Executive Committee guiding the collaboration, a GEO might avoid the stasis associated with reaching consensus among almost 200 nations on every minute detail of the international climate change policy agenda.

Finally, a GEO might provide a mechanism not only to support policy implementation on an international scale but also capacity building and policy coordination at the national and sub-national levels. Such a multi-tiered structure would make it easier to tailor policy instruments to local circumstances, traditions, risk preferences, and values. ‘Networked governance’ and mechanisms to draw on the expertise and strengths of local organizations offers the prospect of a leaner and more efficient institutional structure better positioned to deliver on-the-ground-results.

D. A GEO presents a leadership opportunity for the USA

Getting the world’s climate change process out of the Kyoto Protocol framework and into a new forum would provide a graceful way for the USA to move from being disengaged back into a leadership role. As noted above, the prospects for real action to control greenhouse gas emissions, enhance carbon sinks, and invest in appropriate adaptation in vulnerable places around the world will remain low until the USA reasserts itself in the process. While the push to reinvigorate global environmental policy cooperation through a GEO would not itself guarantee US engagement on climate change, it would make it easier for a US administration to come back into a leadership position.

IV. CLIMATE CHANGE AND TRADE—WHY SEPARATE BUT COORDINATED REGIMES ARE NECESSARY

The recognized need for discipline on free-riders and a mechanism for enforcing international environmental obligations has led a number of commentators to look to the trading system for institutional muscle. While trade experts worry that the trade regime is itself fragile (highlighting the lack of

success of the Doha Round)\(^{42}\) and that any attempt to enforce climate change commitments through trade penalties will further weaken the WTO, the environmental world perceives the WTO as a venerable institutional success with dispute settlement procedures that deliver real results.

There exists, however, an undeniable link between trade and the environment—and a need to have those who are the beneficiaries of open world markets bear a share of responsibility for the burden of responding to global-scale environmental threats.\(^{43}\) Interdependence requires recognition of responsibilities as well as rights.

While economic integration is a policy choice, ecological interdependence is not. It is a physical fact that must be managed—or the world risks sub-optimal outcomes from free trade including an increasing threat of climate change. The call to keep trade and environmental policymaking on separate tracks is not just normatively inadvisable; it is practically impossible.

As trade expands and the bonds of globalization thicken, the future of trade liberalization cannot be disentangled from transboundary environmental challenges in general and climate change in particular. Ignoring the environmental impacts of expanded trade poses not just a risk of ecological degradation but also a backlash against further economic integration. So the WTO must act to reinforce the global response to climate change not just out of some sense of social responsibility, but out of self preservation. Successful management of ecological interdependence requires policy coordination at the global scale and action undertaken at more decentralized levels by governmental authorities with operational control over those responsible for emissions, capable of enhancing sinks, and positioned to mitigate harms.

The case for a GEO emerges from theory and practice. The matching principle argues for policy collaboration at the scale of the harm to be addressed.\(^{44}\) In the case of climate change, this means worldwide. Thus, the need for an overarching global-scale action plan suggests that a GEO of some kind must be established. But in practical terms, those positioned to reshape the behaviour of the actual emitters—factories, farmers, vehicle drivers, etc.—must have operational control. Thus, the logic of multi-scale governance becomes overwhelming. The WTO, although a crucial player in the environmental regime, cannot be expected to do all the heavy-lifting.


\(^{43}\) Esty above n 11.

Coordinated and complimentary WTO and GEO institutions would bring environmental governance to the fore of international policymaking and go a long way towards making environmental commitments real, as opposed to merely aspirational rhetoric.

V. CONCLUSION

Climate change must be understood as an economic as well as an environmental issue—requiring ‘governance’ in both an economic (WTO) and environmental (GEO) context to avoid market failures and ecological peril. The pervasive weakness of the UNEP and other existing international environmental bodies argues for a reconfiguration of the current global environmental regime—and the creation of a GEO. Success of any reengineered environmental regime, including a new GEO, would necessarily depend on cooperation with governmental entities at more disaggregated levels. Thus, progress in addressing climate change will require both horizontal and vertical investments in improved environmental governance. The world needs a GEO as a counterpart—and counterbalance—to the WTO. But it also needs multi-tier environmental policymaking so as to achieve operational success.