

**Generating Effective Global Environmental Governance:
Canada's 2002 Challenge**

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Abstract/Executive Summary

The international community has been generating international environmental institutions at the bilateral, regional, plurilateral, and global level for well over a century, with a notable increase since the UNCED Rio conventions of 1992. Yet as Canada and its global partners confront such critical twenty-first century environmental challenges as fulfilling their climate change commitments, and forging new conventions on forests and freshwater, there is considerable doubt about the comprehensiveness, coherence and effectiveness of the cumulative assemblage. How can Canada best lead in generating effective global environmental governance?

As globalization generates intensifying national vulnerability, the result is increasing, integrated, potentially irreversible global ecological stress. To meet this urgent challenge, the existing array and approach of incremental, fragmented and fragile environmental institutions offers an inadequate global environmental governance response. Among the available alternative approaches, only the construction of an overarching powerful World Environmental Organization, as powerful as the WTO for trade and the IMF for investment can generate a comprehensive, coherent and effective answer. Canada's ecological vulnerabilities create a catalyst for it to lead in the creation of such an organization, while its broad array of capabilities suggest carefully-crafted Canadian leadership can be effective in realizing such an admittedly ambitious project. In the aftermath of the September 11 terrorist attacks, Canada's hosting of the G20 in Ottawa in November 2001, the G8 in Kananaskis in June 2002, and the preparatory process of for the World Summit on Sustainable Development give it the opportunity to lead in the creation of such an organization as the centerpiece deliverable of that Summit in September 2002.

Introduction

As the tenth anniversary of the June 1992 Rio United Nations Conference on Environment and Development (UNCED) approaches, the system of global environmental governance it created or catalyzed is increasingly inadequate to address the compounding ecological challenges that global society confronts. Despite the important achievements of Rio's landmark climate change and biodiversity conventions, its lengthy Agenda 21, its Declaration on Environment and Development, and subsequent conventions and conferences, there was a feeling even as Rio concluded that much had been left undone. That sense has spread during the subsequent decade. During this time there has been a major increase and intersection of stresses to the integrated global ecosystem, as the intensifying dynamics of economic globalization have proliferated. Yet leading national governments have proven reluctant to rely on and provide resources to international environmental organizations, or create new ones dedicated to govern critical environmental domains where none exist. The result has been a growing gap between the world's environmental governance capacity and its manifest ecological needs.

During the 1990's, the international community coped with this gap in two ways. The first was an incremental use of United Nations (UN)-based subject specific summits or conferences, and the crafting of issue specific convention – for high seas overfishing, desertification, and persistent organic pollutants (POPs) - to deal with individual, narrowly conceived media, pollutants, and problems. The second was to supplement these individual multilateral environmental agreements (MEAs) with islands of “hard law” and intense international organizational development at the restricted regional level, most notably in North America through the regime established by the North American Free Trade Agreement (NAFTA) and its companion North American Agreement on Environmental Co-operation (NAAEC) (Abbott et al. 2000, Kirton and Maclaren 2002), and the strengthening of the regional regime in the European Union (Fischer 2001).

As the twenty first century begins, the international community has reached the limits of this approach. For individualized, isolated, ad hoc multilateral agreements, accompanied by pockets of integrated regional institutions for the privileged few, can no longer cope with environmental challenges that are becoming more intense, interconnected and fully global. The time has thus come to consider a more comprehensive, integrated and ambitious approach to generating effective global environmental governance for the twenty first century – the creation of an overarching powerful World Environmental Organization (WEO) equal to and working with the WTO and IMF.

Conditions are ripe to realize such an ambitious project. Fiscal surplus has now returned to many major industrialized governments. The 1997-9 global financial crisis has tempered the previous neo-liberal consensus with a turn toward more socially sensitive, less market driven directions, provides a supportive climate for contemplating such advances (Kirton, Daniels and Freytag 2001). The prospect of a further far-reaching burst of trade

liberalization flowing from the WTO Ministerial in Doha in November 2001 increases the incentive for the environmental community to respond in an equally organized way. And the shock of the September 11 terrorist attacks have led to the creation of a global consensus to combat common enemies on a hitherto unimagined scale. And the World Summit on Sustainable Development scheduled for September 2002 in Johannesburg, South Africa provides both a pull and a process for bringing such an ambitious creation to life.

This paper considers the shape of a desirable international architecture for global environmental governance for the twenty first century and why and how Canada might help bring it to life. It focuses in particular on the intersection of environmental regimes with those for the trade, investment and finance that lie at the heart of the economic globalization process. It argues that the increasing, interconnected global environmental stress generated by economic globalization requires a system and centre of global environmental governance more comprehensive, coherent, capable and economically connected than is provided by the current system of fragmented and fragile multilateral environmental agreements supported by a few robust regional organizations. Given its world leading environmental vulnerabilities and capabilities, Canada has both an incentive and an ability to pioneer this new generation of environmental governance, centered on a powerful new World Environmental Organization that both it and the international community need. The confluence of three high level international negotiating process – the new Group of Twenty (G20) finance ministers which Canada hosts in November 2001, the G7/G8 summit it hosts in the Year 2002, and the “Rio plus Ten” review taking place in September 2002 – offer exceptional near term opportunities for Canada to bring this new body to life.

1. The Global Ecological Challenge: Increasing, Integrated, Global Ecological Stress

The challenge of creating effective global environmental governance begins with three central physical problems: the increasing stress on many of the world’s critical environmental resources; the interconnections among them revealed by unfolding scientific knowledge; and their growing global geographic nature. The current era of intensifying globalization is accelerating all three trends.

First a wealth of credible public and private sector “State of the Environment” reports focused at the global level reveal a global ecosystem under increasing stress both overall and in critical components (UNEP 2000, World Bank 2000, French 2000). To be sure, much uncertainty remains about the planet’s overall carrying capacity, sustainability thresholds in particular component ecosystems, the point at which irreversible dynamics are catalyzed and at which the loss of critical environmental resources can catalyze large-

scale effects in ecosystems as a whole. Additionally, there is solid evidence of a reduction in pollution and an increase in ecological capital in some domains and regions.¹

Yet amidst these uncertainties and offsetting forces, there is a wide range of areas where the global ecosystem is clearly under severe and increasing stress. Perhaps the leading example is the world's forests (French 2000: 19-25). As one expert has put it "the world's sylvan balance sheet still bleeds trees, owing to widespread deforestation in the tropics" (Victor and Ausubel 2000: 129). Each year 12 million hectares of forest cover, an area the size of Greece, are lost. One half of the world's tropical forests have disappeared in the last 50 years. Another acute threat comes from the depletion of the world fisheries, where 60% of marine fisheries are currently overexploited (Rogers 1995, Gummer 2000, French 2000: 56-61). Further acute threats include those to coral reefs, depletion of freshwater supplies in key regions such as China, the melting of polar ice and impacts arising from mining.

Secondly, these increasing threat to individual ecological resources and regions are accompanied by growing scientific evidence of their interconnections in an ultimately integrated global ecosystem. Even within the limited North American region, the old image created by migratory species such as the Monarch Butterflies and Gray Whales that traveled among Canada, the United States and Mexico is being altered by growing evidence of the pathways of the long range transport of air pollutants that suggest that production, transport and impact embraces a more extended geographic range. The presence in the Canadian Arctic of persistent organic pollutants (POP's) banned in Canada, the image of the G7 leaders at their Tokyo Summit clustered beneath their umbrellas as the rains containing the radioactive residue rained upon them point to the same underlying ecological reality. The intensifying trade in wildlife and hazardous waste, and the trade, transport, and travel-created transfer of invasive species and infectious disease are of equal concern (French 2000)

The interconnections are not only interregional but intermedia as well. The leading example, which the climate change community has only slowly and reluctantly recognized, is the need to embrace all major sources and sinks (including oceans and forests) in a common approach to climate change. Recent evidence of how the loss of coral reefs in the Caribbean may result in part from diseases carried by dust from desertifying Africa illustrate how both regions and media now come together in complex ways. The complex but tight interconnection among media and geographic regions strongly suggest that many problems are inherently global and holistic, rather than regional and media or impact specific.

¹ For example, the ozone hole in the Antarctic which did much to catalyze the current generation of environmental concern and institution-building has not worsened for the past three years.

Thirdly, this increasing stress on an integrated ecosystem is likely to have a growing global geographic impact, especially with the intensifying pace of economic globalization. As the Bruntland Commission recognized, increasing environmental stress from proliferating population growth and industrialization creates pollution and compounding natural resource depletion. These dynamics are now powerfully enhanced with the democratic-market revolution that is bringing so many emerging and transition economies, not only into improved environmental sensitivity and policies, but also into the rapid growth of the advanced industrial age. These growth trend intersect with a growing global populations projected to stabilize at 8-9 billion individuals by the year 2050. Already in developing countries, poor urban air and water quality can lead to GDP losses of up to 25%. The current pollution challenge to Hong Kong's economic future and the stress on Mainland China's water resources should it reach as similar level of development well illustrate the global trend.

2. The Inadequate Global Environmental Governance Response

In the face of this increasing, integrated, global ecological challenge, the international community offers an incomplete, unbalanced and inadequate international institutional response. To be sure, there have been impressive developments at the multilateral and global level over the past century and during the most recent decade in generating a vast array of legal agreements to govern many of the world's critical ecological resources. Similarly, there have been important innovations at the bilateral and regional level in creating the international institutional and organizational capacity. Yet the global community still lacks an international institutional system and organization with the capability to deal in a comprehensive, coherent and effective fashion with a global ecosystem under threat in a globalizing age. This absence of adequate global environmental institutional capacity is highlighted by a brief review of recent major developments in generating global legal instruments, developing regional international institutional capability, and relying on the global environmental and economic organizations that currently exist.

A. Multilateral Environmental Agreements

The international community has had well over a century of experience in crafting multilateral environmental agreements to meet the perceived priorities of the time. The experience shows that progress comes not through slow steady incremental movements but from periodic great leaps. The legacy of the last great leap forward – the 1992 Rio Conference – confirms the historical trend.

The world's intergovernmental environmental regime began in the 1870's and continued, with notable pauses and reversals during world war and depression, through the post World War Two years (Meyer 1997). Multilateral environmental agreements with direct

international economic implications, notably those with trade measures as implementing and enforcement devices, also date back to 1878 (Charnovitz 1996).² Yet the growth of such instruments has not been a continuous or inevitable process, as seen most recently by the great decade-plus long pause following the Stockholm conference of 1972.³ Building adequate institutions for effective global environmental governance has been less a lapidary process of continuous improvement than a series of periodic great leaps forward.

The most recent period, beginning with the Brundtland Commission report in the mid 1980's, through the Rio UNCED of 1992, points to a similar conclusion. To be sure, as Table A shows, major multilateral conferences and conventions related to sustainable development in the post-Rio decade suggest that leaders-level global summits and ministerial driven functional processes can create some important advances. Yet major lacunae remain. In the major domains of forests, the need for a Rio-like convention was recognized more than a decade ago, when the G7 leaders committed themselves at their 1990 Houston summit to the creation of a global forestry convention by 1992. Yet more than a decade later, none has appeared or is in prospect. In the domain of freshwater, where the hard law rules of NAFTA and the WTO, affirm the right to the commercial export of bulk water once started, there is no full scale convention with comparable legal force affirming the right of a country not to export bulk water commercially should it so chose.

Moreover, the existing fragmented and fragile edifice suffers from three central defects (Johnson 2001, Le Prestre 2002). The first is the need to implement these agreements to give them practical effect.⁴ This need was underscored by the former Managing Director of the International Monetary Fund (IMF), Michel Camdessus who, in his farewell address to the United Nations Conference on Trade and Development (UNCTAD) X, proposed a major international effort to ensure actual effective implementation of the action plans that the United Nations conferences and summits of the 1990's generated (Camdessus 2000). The second is the need for much greater capacity, including new financial transfers, to accomplish this task (French 2000: 157-158).⁵ The third is much more effective civil society participation, to mobilize the formidable resources of non-governmental organizations (NGOs) and the private sector in this process (French 2000: 164-176).

² There are now an estimated 175-200 multilateral environmental agreements, of which 20 have trade restricting provisions.

³ However three-fourths of the world's estimated 230 plus environmental treaties have been reached since Stockholm 1972 (French 2000: 144).

⁴ This requires going beyond go beyond the consensus on issues, identification of priorities, adoption of principles, assembly of coherent and extensive action plans, and articulation of strategies (including co-operation, technological and scientific transfers, capacity building, differentiated commitments, and the principle of equity between developed and developing countries) to

⁵ It was estimated at the time of Rio that a transfer of an additional US\$125 billion would be required to give its program effect.

B. Regional Institutions

If the agreements and institutions with global reach and relevance lack the comprehensive coverage and implementation capacity required to make many of them effective, the new generation of regional environmental organizations bred in a few northern locales have not yet been extended to, or replicated in, much of the rest of the world. Indeed, as the experience of the United Nations Regional Commissions demonstrates, and despite UNEP's effort to create regional offices, outside of Europe and now North America, there is little effective regional environmental institutional capacity at all.

In many respects the European Union remains the global leader in the development of effective regional environmental governance on a "hard law", even supranational, model, especially with the advances it has made in the 1990's (Fischer 2001). Yet the recent innovations most relevant for global environmental governance have come in North America, with the 1994 creation of the Commission for Environmental Co-operation (CEC) as part of the new NAFTA regime.⁶ Despite such venerable Canada-United States creations as the Boundary Waters Treaty and International Joint Commission (Spencer, Kirton and Nossal 1981), the CEC was a revolutionary creation in several respects (Rugman, Kirton and Soloway 1999, Kirton and Fernandez de Castro 1997). It was a regime that embraced as equals countries of the long developed north and still developing south. It recognized the existence of, and need to manage, the ecological interdependencies on a wide and disparate regional rather than merely transboundary scale. It understood the centrality of directly integrating them with the new regimes for trade and investment liberalization. And it created North America's first real regional organization to manage the process. It was one where, uniquely in the global community, the environmental body was stronger as an institution and organization than that which the trade-investment-finance community enjoyed.

Eight years after its creation, the performance of the CEC demonstrates both the promise and the limitations of the regional approach to environmental governance (Esty et al. 2000). Although a vigorous debate about the record still flourishes (Kirton and Maclaren 2002), it is becoming clear that despite difficult circumstances the CEC has, in its programs of stand-alone environmental co-operation, largely met the mandate it was given, if not the much larger expectations and potential that surrounded its creation. It and its NAFTA sister have been less successful in fulfilling the legal obligations, encoded in both the core NAFTA trade-investment treaty and the parallel NAAEC, to bring ecological considerations to bear on the trade and investment liberalization which NAFTA unleashed. To be sure, the strong legal provisions of the initial texts and the attitude and appointments of the new Mexican government offer some grounds for optimism about the effective

⁶ A complete assessment of the regional approach from a Canadian perspective would include and examination of the important work of the recently created Arctic Council, although it remains less central than NAFTA-NAAEC to the trade-environmental issue from the perspective of Canada as a whole.

implementation and even deepening of the NAFTA environmental and trade-environment regime within North America.⁷ Yet, there are far fewer reasons to predict that it will broaden to embrace more countries, through the addition of new partners, the use of the NAFTA models by individual partners in outside arrangements, or the adoption of the NAFTA model by outsiders on their own.⁸

Eight years after its creation, there is no near term prospect of adding other members to the NAFTA-NAAEC regime and its institutions, even should the granting of trade promotion authority to the US President eliminate the most immediate obstacle to moving the process forward. Despite the impressive extension of NAFTA-modeled and compatible environmental provisions in the Canada-Chile and US-Jordan bilateral free trade agreements, Mexico has done little in this regard in the many subsequent bilateral free trade agreements it has signed (most consequentially with the EU). Among the other more plurilateral trade-related communities including both northern and southern countries and the US, Canada and Mexico as members, the Asia Pacific Economic Co-operation forum (APEC) has shown virtually no sign of adopting any of the NAFTA-NAAEC inheritance despite its obvious relevance and proposals to this effect (Rugman and Soloway 1997). Similarly, there have thus far been few advances in the Free Trade Agreement of the Americas (FTAA) process, despite a wealth of analytic suggestions about how a move forward could feasibly be made (Segger et al. 1999). Among outsiders, major countries of the hemisphere have in Mercosur followed a different approach.

C. *Global Environmental Institutions*

If regionalism remains of restricted relevance, is there any prospect that reinforcing the existing UN-based system will produce the desired sustainable development outcomes? Here one must ask why the existing, largely UN-based institutions for environmental and economy-environment governance at the global level lack both the comprehensive organizational capacity and trade-related relevance of the North America ones? The easy answer is to see the global environmental organizations as merely a lagging governance system, destined to catch up to their long established, well developed global economic colleagues. Such a process would come with a growing realization of the functional ecological needs of the global ecosystem and with the fading of such familiar inhibitors as the greater number and diversity of countries involved, the lesser visibility of transborder environmental problems, burden sharing and other collective action problems and the like. Yet both the underlying diagnosis and the implied prescription - strengthening the UN-centered system in lapidary like fashion - may be fundamentally misplaced.

⁷ Most notably the appointment of former CEC executive Director Victor Lichtinger as Mexico's new Environmental Secretary.

⁸ Here the U.S.-Jordanian agreement with its environmental provisions can be seen as the end of an era rather than a harbinger of the future.

i. Environmental Governance

The United Nations system does offer several advantages: an institutional nest that lowers transactions costs, a near universal membership that offers legitimacy and the capacity for grand geographic, functional, and burden sharing bargains. However it also contains some fundamental flaws that explain the systems' decidedly poor performance over the past 55 years.

First, at the very normative core of the system stands is a complete absence of any recognition of the existence of the natural environment, let alone its relevance to other concerns or its value in its own right.⁹ Equally absent are generic principles, such as the precautionary principle, that have importance in the ecological domain. Moreover, the Charter simultaneously affirmed a wide range of values and principles whose realization (with the primary exception of human health), involve an increased stress on, or consumption of, unvalued ecological capital. Also consistent with the limited levels of scientific knowledge, industrialization and the pollution-resource depletion dynamic of the 1945 creation, no part of the UN institution itself or the functional agencies it inherited or created were assigned, let alone dedicated to fulfilling, ecological responsibilities.¹⁰

Moreover in its key decision-making rules, beginning with the United Nations Security Council and the aggressor enemy state clauses, the UN system permanently entrenched provisions that gave what were to become the least environmentally sensitive principal powers - notably the Soviet Union-Russia and China - a predominant role, while confining what were to become more environmentally sensitive major powers - such as Germany and Canada, Italy and Japan - to a secondary rank. Such choices made it more difficult for the system to take up, as many bodies such as the World Resources Institute have suggested, the issues of environmental security, broadly defined, in a swift, strong and sensitive way (Homer Dixon 1993).

With such an ideational and institutional foundation, environmental considerations were destined to remain a fragile and lagging add on and afterthought to the far more powerful established core as the UN system evolved.¹¹ The burst of activity at Stockholm in 1972 and such companion moves as the United Nations Convention on the Law of the Sea

⁹ This lacunae is particularly significant given the finding that proper principles and norms as well as strong scientific capacity are the critical causes of effectiveness for international environmental regimes (Haas, Keohane and Levy 1993). For a similar, more recent analysis, focused the need for updating existing institutions on forests and emphasizing the need for a vision and scientific monitoring capability and information see Victor and Ausubel (2000: 139-141).

¹⁰ Such a complete absence made it more difficult to act subsequently on suggestions, which flourished on the "Road to Rio 1992", such as converting the Trusteeship Council, that had lost its seminal purpose, into the central high level body in the UN system dedicated to environmental governance.

¹¹ For example it was only in the year 2000 that the United Nations managed to create a Forum on Forests to provide a single place for dialogue among the array of institutions with a partial interest in facets of the field.

(UNCLOS), with its innovative incorporation of the custodianship principle in Article 234, were easily stalled and silenced during the new cold war and the neo-liberal revolution of the first half of the 1980's, until the Bruntland Commission Report of the mid 1980's revived the process.

The major institutional accomplishment of the Stockholm season, the United Nations Environmental Program (UNEP), was created as a mere program rather than a full fledged functional agency of the UN and given only a modest budget of US\$60 million per year at present.¹² In 1998 it had a staff of only 486 and budget of US\$93 million compared to 9,262 and 28 billion for the World Bank, 2,196 and over 27 billion for the IMF, and 500 and 83 million for the still new WTO (French 2000: 158). UNEP receives only 5% of its budget from the UN and its regular assessments, leaving it dependant on voluntary contributions, largely from seven donor countries, for the remaining 95%.¹³ It is headquartered in distant Nairobi, with often scarce electricity, water and personal safety, and far removed from the centres of power in Geneva, New York or Washington, and from the tiny convention-specific Secretariats that emerged from Rio and were located in Bonn (Climate Change) and Montreal (Biodiversity) (Dodds 2000, Le Prestre 2001). With such fragmentation and fragility in both legal powers and organizational capacity, it is understandable that these and similar institutions have had difficulty in functioning as effective international environmental regimes (Bernauer 1995, Haas, Keohane and Levy 1993, Liftin 1997, Sprintz 1994).

Despite its very real accomplishments, the Rio revolution of 1992 was highly limited as well. Normatively, it did relatively little to redress the 1945 Charter imbalance, as the Rio Declaration on Environment and Development was far different than the genuine Earth Charter that many influential participants desired. Institutionally, its major legacy was a mid-level institutional add on - the United Nations Commission on Sustainable Development (UNCSD) - established as a functional body under the authority of the UN Economic and Social Council (ECOSOC). At UNCSD the representatives of the 53 states elected by the Council for up to three year terms meet once a year for two or three weeks (Dodds 2000). Equally limited in its authority and organizational stature is the Inter-Agency Committee on Sustainable Development (IACSD), established as a subsidiary body of the UN Administrative Committee on Coordination (ACC), chaired by an Undersecretary General and composed of senior level officials from nine members of the ACC.

ii. Environment-Economy Governance

¹² By way of comparison, the trilateral CEC has an annual budget of US\$9 million.

¹³ This "bake sale" approach to global environmental governance is seen elsewhere, as money must be raised to finance each negotiating session in most areas, and developed countries are asked to finance the travel and accommodation of delegations from the former Soviet Union, central and eastern Europe, and elsewhere.

In the field of environment-economy governance, a reliance on the existing UN-Bretton Woods centered system is even more problematic. This is especially evident when viewed against the moves toward equality and integration realized between the environmental community on the one hand, and the trade-investment-finance community on the other, in the 1994 regional North American regime.

In the finance field, the International Monetary Fund (IMF) remains bereft of any real environmental awareness (Gandhi 1995). This is true in its 1945 and subsequently amended Articles of Agreement but also in the institution itself. While it does lend in response to natural disasters such as floods and hurricanes, it does so on a reactive basis to a very limited array of classic environmental threats. Its ad hoc support programs during the global financial crisis of 1997-99, for such ecologically critical countries as Brazil, devoted no attention to environmental concerns amidst the vast array of quite detailed micro and structural conditions it imposed. And its new Poverty Reduction and Growth Facility (PRGF), with offers very cheap credit, is focused on health and primary education rather than on core environmental concerns.

In the field of foreign direct investment, the challenge is greater still. For here there is no central, well-accepted economic governance structure within which environmental values can be injected and towards which environmental concerns can be directed.¹⁴ Rather there is an amalgam of component regimes in UNCTAD, the Organization for Economic Co-operation and Development (OECD) and WTO codes where environmental considerations are effectively absent.

The failure of the OECD as a negotiating nest for a prospective Multilateral Agreement on Investment (MAI), within which environmental concerns were to be injected, raises the larger issue of the suitability of this institution as a basis on which to build stronger global environmental-economy governance. The OECD does offer several advantages, notably: a membership with considerable global diversity in geographic location and level of development, a consensus and analytic-scientifically oriented culture, a proven track record of environment-economy innovation, and an institutional structure that has from the 1961 start allowed for meaningful civil society participation. Yet the OECD, as its name suggests, remains at its core an economic institution, in which civil society representatives of the environmental community have no comparable place to that accorded their business and organized labour colleagues. Its tendency is to privilege the ideology of “economism”, as its seminal framework for assessing the environmental effects of trade shows.

¹⁴ The “missing economic regime” problem, which has produced an “equality of nothing” but an inability to actively integrate, is even more pronounced in regard to the missing global governance centres for competition policy, electronic-economy regulation, and cultural diversity.

3. Canada's Available Alternative Approaches

In the face of such obvious imbalances in the global institutions for environmental and environment-economy governance, what strategic approach should Canada pursue? The instinctive ideological reflex of accepting the inherited, broadly multilateral organizations and their regimes, while working for their slow and selective improvement is an inappropriate one. For as a principal global ecological and economic power (see below), Canada has a large repertoire of regime building approaches or foreign policy approaches it can pursue. In addition to the bilateral and regional institutional and multilateral agreement approaches discussed above, these include national closure, unilateralism, and market driven voluntary standardization¹⁵.

Strategies of national closure suffer from the fact that there are fewer opportunities for effective border defences in a globalizing age, notwithstanding national skills and investments in agricultural, hazardous waste and other inspections at the border. This is particularly true for a country with a vast array of open borders, located at the intersection of three major oceanic ecosystems, and containing a fragile Arctic environment. Moreover such nationalist strategies still face the challenge, in a federation where an estimated 70% of environmental responsibility lies within provincial jurisdiction and where federal-provincial co-operation is not always the norm, of securing consensus without the spur of international disciplines or processes. Canada's recent environmentally-related record under NAFTA's Chapter 11 investment dispute settlement provisions shows how intense such federal-provincial frictions can be, and how peculiar autarkically conceived and designed environmental policy in a protectionist nest can be (Kirton 2000). National closure for environmental purposes may become more possible and more appealing in the post September 11, 2001 period, with the much greater investments in generic border security and surveillance being put in place, and the "dual use" bioterrorism and "bio-invasion" character of several substances such as anthrax. However its should be employed as a first choice strategy very selectively, such as the use of the federal government's trade and commerce power and peace, order and good government power to prevent the commercial export of bulk water from Canada.¹⁶

Unilateralism has a larger, if still residual, relevance. While externally-directed unilateral responses might appear appropriate only for the world's strongest powers, they retain their relevance for a major power Canada in a globalizing age. Despite its avowed multilateral convictions, Canada has regularly practiced well-targeted, effective environment-economy

¹⁵ There remains scope for further bilateralism, especially through the conclusion of further free trade agreements with NAFTA-like environmental provisions embedded within. Promising partner are Japan and perhaps South Korea, along with several countries in the western hemisphere.

¹⁶ The need for such a national move highlights the imbalance in the regional and global trade regimes in favour of trade values over environmental ones, and the absence of any consequential global agreement or institution for freshwater that could offer an offsetting environmentally friendly set of principles, norms and rules.

unilateralism, as with the 1970 Arctic Waters Pollution Prevention Act, its actions before and during the spring of 1995 against overfishing on Canada's east coasts, and in its hints of trade restrictions to induce South Korea to reduce its fishing on Canada's east coast. A detailed examination of these cases indicates that they were driven primarily by ecological as opposed to territorial expansion or even trade protectionist motives. Partly as a result, such Canadian moves acquired widespread international legitimacy. Most importantly, they were effective, both in addressing the immediate environmental threat but above all in catalyzing the creation of long awaited multilateral provisions or conventions to protect major environmental domains. Both Article 234 of the United Nations Law of the Sea Treaty and the 1995 United Nations Convention on High Seas Overfishing and Straddling Stocks are eloquent testaments to the effectiveness of Canadian unilateralism as an approach to environmental leadership. For this reason alone, unilateralism should remain a residual, last-resort, but reliable part of Canada's environmental regime-building repertoire.

Voluntary private sector driven or multi-stakeholder standardization and similar soft law approaches, such as corporate codes of conduct, have many attractions. This is especially so in the face of the competing nationally and sub-federal environmental and other standards that create uncertainty within a country and that can pose barriers to Canadian market access abroad (Rugman, Kirton and Soloway 1999). Canada has a respectable record in the strategic use of voluntary standardization for international regime building, most clearly in the case of the ISO 9000 quality and ISO 14000 environmental standards. Yet such standards can be slow to create as they are based on consensus and difficult to enforce. They can inhibit a vibrant regulatory race to the top as well as the much feared if seldom seen regulatory race to the bottom. They can face costly competing standards regimes, as Canada's forestry industry can attest. Nor do process standards of the ISO variety clearly and quickly deliver demonstrated improvement in environmental performance. Above all, they are always vulnerable to defection, leading some industries with experience with them to look, after their initial appeal, to have them entrenched in regulatory action by governments with authority and the full force of law.

There are thus good reasons, particularly from a Canadian perspective, to include as a central focus of twenty first century environmental governance, efforts to create at the fully global level a much more comprehensive, coherent and capable system.¹⁷ Such a project could start with, but should not end with, greater communication, co-ordination and coalescence among the widely separated, disparate components of the existing galaxy. But such incrementalism, with the accompanying temptation to settle for second best solutions, will not be sufficient. The centrepiece of this architecture should thus be the creation of a

¹⁷ There is also an important place for expanded regionalism and transregional plurilateralism, through such processes and bodies as the Summits of the Americas/FTAA/OAS, APEC, a new transatlantic free trade agreement, NATO (with its initial Article 2, subsequent Committee on the Challenges of Modern Society (CCMS) and new interest in environmental security, the Organization for Security and Cooperation in Europe, the Commonwealth, and la francophonie,

single new World Environmental Organization, with a mandate and resources that match and interrelate with the pillars of the international economic system, notably the WTO, IMF, and World Bank.

Such an approach would start, now that the convention on Persistent Organic Pollutants (POPs) has been secured, by moving beyond a reliance on the issue specific conventionalism – the creation of agreements for a single class of pollutants or problems, in the tradition that Canada launched at Montreal with the ozone protocol.¹⁸ It would begin by completing a comprehensive system of coverage, by more aggressively creating the missing conventions for the major components of the core media, notably forestry, oceans, and freshwater. It would design these in ways that are integrally linked to, and supportive of, the existing Rio inheritance that begins with climate change and biodiversity. And it would invest the organizational responsibility for these conventions not in yet more small, segmented fragile and isolated secretariats, but in a single new WEO.¹⁹

Based on the experience at Rio and in the ten years following, institutional energies would turn away from efforts to create a stronger centre for global environmental governance within the existing UN institutions, whether through a transformed Trusteeship Council, an enhanced UNCSD or even an enhanced and expanded UNEP.²⁰ Rather it would concentrate on creating a new and strong WEO.

Such a body, modeled on and linked to the WTO and IMF in the first instance, would have a comprehensive mandate, with strong ministerial and perhaps occasional leaders-level involvement in its governance. These features would allow it to make the trade offs necessary to secure package deals among a range of related areas, and the visibility and moral authority to make a scientific and information-based approach to compliance sufficient, and thus minimize the global need for punitive, multilateral or unilateral sanctions. It would further have a governance structure, including functional representation grounded in ecological capability, to help prevent one or two recalcitrant countries from delaying or preventing progress.²¹ It would further have a central

¹⁸ Such an approach suffers from what might be called “frequent flyer environmentalism” with national officials constantly flying to an endless succession of international meetings, leaving no-one to deal with national matters and making it difficult for their minister to know which of the many meetings are worthy of their own time and presence.

¹⁹ The existing secretariats typically have no more than 20 staff and annual budgets of US\$2-11 million (French 2000: 149), making them much smaller than the North American region’s Commission for Environmental Co-operation.

²⁰ It could, however, usefully seek to give stronger expression to environmental values within the charters and operations of all other UN functional agencies, with an appropriate monitoring of the results. As a matter of negotiating necessity, however, and the UN nest of the Johannesburg conference, to envisage UNEP becoming the foundation for the new WEO (rather than another subsidiary component), just as the GATT was transformed into the WTO in 1994.

²¹ The defects of the existing approach of UN-based individualism is seen in the climate change negotiations and the failure of COPS-6, where the developing country position was delegated to the G77 who entrusted it

responsibility and the requisite resources for the annual and ongoing co-ordination of those issues and media specific institutions that remained. It should serve as the centre of environmental monitoring and information, investigation (similar to the NAAEC's Article 13 provision), and dispute settlement (using the NAAEC's Article 14-15 citizen submission process). Above all, it should have the resources for capacity building and remediation, by assuming responsibility for a much-enhanced Global Environmental Facility and a large but similarly government ecological enhancement fund of its own (to which individual local and transnational communities would have direct access). For without a single, powerful authority centre and the robust resources to enforce such co-ordination, the many proposed half measures are unlikely to have much effect.

Nor should the WEO be narrowly conceived as an amalgam of just a few of the traditional global commons institutions (Esty 1998). For it is in the newer generation of Rio conventions and secretariats, and the additions to come, that the central action will and should unfold.²² At the same time, the new body should be an essentially environmental one, rather than a sustainable development institution from the start. Yet as with the NAFTA-NAAEC regime at the regional level, it should have sufficient economic authority and resources to force an integration with the evolving and prospectively reformed trade and finance institutions and the economic capacity to deal with those bodies on an equal plane.²³

4. Canadian Vulnerabilities and Capabilities

Canada should and can do much to create such a new architecture and institution. Canada's environmental and economic vulnerabilities provide an incentive for such leadership. And Canada's ecological and economic capabilities generate an adequate demand and capacity for influence.

a. Vulnerabilities

Canada is particularly exposed and vulnerable to the full effect of these multifaceted, compounding problems. It long ago ceased to be a far off realm with geographic protection

in practice to Saudi Arabia and Nigeria, the two major oil exporters among the group. The major emerging economies such as Brazil and India remained unengaged.

²² There is value, as an interim step, in the existing move to have the secretariats or conferences of the parties of the major agreements conclude co-ordination agreements with those in cognate fields, and in amalgamating many similar agreements and bodies into media or problem specific nodes.

²³ An useful intellectual starting point is to review the functions entrusted to the CEC by the NAAEC, identify those not being performed or being performed inadequately at the global level, and assessing where a consensus might lie to invest such functions in a new global body. Simultaneously, a similar review of the environmental provision of the core NAFTA would inform Canada's national and coalition-building approach to the launch of a new Millennium Round of multilateral trade negotiations and current efforts at IMF and international financial architecture reform.

from its three oceans, leaving environmental assaults confined to transborder penetrations or extractions from the United States to the South. With the world's longest coastline, Canada has long been vulnerable to and the victim of oil tanker accidents that despoil its beaches, coastal ecosystems and their surrounding communities. As one of the world's largest preserves of freshwater and temperate forests, and as a key custodian of the world's Arctic ecosystem, Canada has an exceptional vulnerability to ecological threats from distant locations, and vested interest in the proper functioning of the global ecosystem as a whole. Its exceptional exposure is underscored by a steady succession of environmental problems with origins in distant realms, such as overfishing off Canada's Atlantic coasts, and the presence of POPs in the Arctic ecosystem.

A decade ago, these ecological vulnerabilities were paralleled and outweighed by economic ones, given the heavy resource weighting in Canada's export dependent economy (Kirton and Richardson 1992). The current economic situation remains much the same, even though it now has a different internal mix. For the declining share of natural resources and primary products in overall exports has been matched by a much greater export dependency of the Canadian economy as a whole. Such ecologically intense exports remain critical for many of Canada's regional economies and communities. Indeed, Canada has over 650 resource dependent communities nationally (Canada 2001). They face severe threats from their far off destinations, ranging from boycotts of some forestry exports harvested by allegedly unsustainable methods or the collapse in global commodity prices and demand as in the financial crisis of 1997-9. Moreover, in an era where a clean environment is a critical competitive advantage in the intensified race for growth clusters in the mobile world that globalization has bred, urban population are vulnerable to environmental protection failures as well.

With close to 90% of Canada's exports destined for the North American marketplace, and with neighbouring U.S. cities providing the most visible competitive industry location threat, it might appear that the regional NAFTA regime covers a high portion of Canada's economic interests. It provides much less comprehensive coverage for Canada's ecological interests, which are far more, and becoming ever more, global in scope. Even in the economic domain, the advent of globally integrated production systems and business alliances, and the need for a more coherent North American voice in shaping relevant multilateral regulatory regimes induces Canada to act strategically on a wider stage.²⁴ . Moreover, the frequency of high profile incidents of Canadian-owned firms causing environmental damage in their foreign operations provides a new incentive for investment-related environmental regime building, with multilateral agreement rather than unilateral Canadian extraterritoriality the generally preferred path.

²⁴ Indeed, some substantial portion of Canadian exports to the United States are re-exported to or destined for third countries.

b. Capabilities

On the global stage, Canada has world-leading ecological capabilities to match its acute environmental vulnerabilities. Indeed, it is as an ecological power that Canada really ranks as “Number One” in the world.²⁵ Canada’s capabilities flow from its high international ranking in overall ecological capital and in many of the major ecological resources.²⁶ Indeed, as Table A indicates, Canada is the only member of the G8 and world major power with a positive net ecological footprint per capita.

Ecological power is backed by economic capability, where Canada reliably ranks seventh or eighth in the world. Its GDP performance, compared at current trade-weighted exchange rates or in US dollars, has given it a secure top tier place during the past quarter century, and even during the global financial crisis of 1997-9. It is similarly strongly placed in official development assistance (ODA) which, after half a decade of reductions its has promised to expand as part of Prime Minister Chretien’s “personal agenda.” Canada’s new status since 1996 as a net outward foreign direct investor provides an additional resource. This position is reinforced by Canada’s innovative leapfrogging environmental technologies.

Canada can also mobilize formidable political and diplomatic capabilities. The first is its deeply embedded public support for global environmental protection as a foreign policy priority²⁷ For well over a decade, Canadians have been unified in overwhelming decaling “global environmental protection” to be their first priority in foreign policy, and one which consistently ranks well ahead of the trade liberalization they also support. The second is Canada’s demonstrated diplomatic success in securing the major new global environmental regimes of the 1990’s, with the 1992, convention on biodiversity, the 1995 convention on high seas overfishing and straddling stocks, and the 2000 biosafety protocol at the head of the list. Equally evident has been Canada’s leadership in the creation of a new generation of international economic institutions, notably the World Trade Organization itself from February 1990 through to the G7 in 1993 (Hart 1998), to the finance ministers G20 in 1999 (Kirton 2001).

²⁵ The UNDP HDI rankings that Prime Minister Chretien was fond of citing was more a measure of performance than of power, even though the latter cumulatively converts into the latter.

²⁶ For example, Canada possesses 25% of the world’s natural forest, “almost 20% of the world’s remaining wilderness (excluding Antarctica), 24% of its wetland ecosystems, 9% of its renewable freshwater, 10% of its forests, (and) 16% of its Arctic ecosystems.” (Canada 2001). It is also the world’s eighth largest emitter of greenhouse gases.

²⁷ Domestically, in late 2000, 87% of Canadians listed the environment as a concern and 93% felt their children’s health was affected by a poor environment.

5. Conclusion: Canada's 2002 Opportunity

The ability of Canada to catalyze the creation of a World Environment Organization as the anchor body of a new international ecological architecture for the twenty first century, is enhanced by the conjuncture of three key international institutional processes, and Canada's leadership position in them.. The first is Canada's continuing chairing of the Group of Twenty (G20) finance ministers, and hosting of its third ministerial meeting in Ottawa on November 17-19, 2001. The second is Canada's hosting of the G7/G8 leaders meeting, and with it the lead-up individual meetings of finance, foreign, trade, and environment ministers, in the year 2002. And the third is the occurrence of the "Rio plus ten" review conference in Johannesburg, prospectively at the leaders level, in September 2002. All three processes could form part of a single strategy, directed at the broader theme of coherence in global governance and designed to bring a new global environmental organization into existence.²⁸

To be sure, it is rather late in the process according to traditional cadences and calculations. Moreover, the terrorist attacks of September 11, 2001 have provided a further diversion of governmental and societal attention and resources and delay. It has also generated uncertainty by raising the prospect that the September 2002 Sustainable Development summit may be cancelled or delayed, as the Commonwealth and francophonie leaders meetings, and the IMF and World Bank semi-annual meetings have already been.

But at the same time, the latter events open the way toward much more ambitious forms of international co-operation than previously though possible, and can provide a particular impetus to the establishment of a WEO. They have hastened President Bush's rediscovery of multilateralism, a process that had begun before with the decision to commit American troops in Macedonia. They have opened space to consider environmental issues more broadly as part of the medium and long term response to address the root causes and their very real environmental dimensions. They have given Canada a more central role in international institutions as Paul Martin's hosting of the G20 and IMFC in Canada in November 2001 shows. And they may endow the G8 as a global governance system with an even more central role, as Prime Minister Chretien's immediate response foreshadowed

a. The G20

²⁸ A similar emphasis on plurilateral leadership through the G* and G20, with Canada as part of the core leadership coalition, is outlined in regard to forests by Victor and Ausubel (2000:141-142). See also Bryner (1997: 196).

The first opportunity is the G20 meeting in Ottawa on November 17-19, 2001. The utility of the G20 rests on its status as an institution with a membership from all global regions, one that combines the major developed and emerging countries in roughly equal balance, and that contains a large share of the GDP and population of the world (Johnson 2001, Kirton 2001). As a forum of finance ministers, central bank governors and institutions such as the IMF, it contains influential individuals responsible for national budgets and often trade policy as well as investment and finance. The G20 was created to assist in the immediate task of constructing a new crisis response and prevention mechanism and new international financial architecture in the wake of the global financial crisis of 1997-9

At its second ministerial meeting, held in Montreal October 24-25, 2000, its focus broadened considerably to embrace “Responses to the Challenges of Globalization.” Moreover, amidst a far reaching, socially sensitive “Montreal consensus” highlighted by Paul Martin and encoded in its communique, the G20 dealt extensively with trade as well as finance issues, and accepted the need to provide developing countries with greater access to the markets of developing countries. Moreover, it further pledged, publicly, to “Contribute to international efforts to increase the provision of other global public goods to address serious issues such as...the environment, which cut across national borders and require concerted global cooperation” (G20 2000).

Its November meeting in Ottawa, relocated from India as a result of September 11 and refocused on such issues as global economy recovery and financial abuse, could elaborate the principle of providing global public goods for the environment.²⁹ In particular, one could construct a credible case that such an organization is needed, alongside the WHO, to help provide smaller and developing countries with the resources necessary to protect themselves against the broader environmental rather than narrow health aspects of bioterrorism, and the broader processes of environmental terrorism that legitimately reside among the root causes of terrorism.³⁰ More generally, the G20 offers a promising forum to engender a consensus among influential ministers from key developed and emerging countries on the need for a new organization, and a willingness to provide the funding required to bring it to life.

b. The G7/G8: From Genoa to Kananaskis

The second opportunity is the G7/G8 Summit being held in Kananaskis, Alberta on June 24-26, 2002, and its lead up ministerial meetings for the environment, foreign ministers,

²⁹ Any G20-generated advances could have a broader resonance, given that the rescheduled and relocated IMFC and equivalent World Bank ministerial meetings are being held, for the first time ever, at the same time and in the same place.

³⁰ A minimal objective would be the pledge that new investments in and programs for anti-terrorism and security will not come at the expense of funding for the environment and development.

finance, and trade.³¹ Securing an agreement from the G7/G8 at Kananaskis to create a WEO is a realistic and would be a valuable achievement. The centrality of the G7/G8 summit and system lies in its proven performance in setting new directions toward a more socially sensitive approach to liberalization and globalization in general (Kirton, Daniels and Freytag 2001) and, since the late 1970's, toward integrating trade-environment and social values in particular (Kirton 2002). It has been equally effective in arriving at timely, well-tailored, ambitious agreements in the field of sustainable development, including in the economy-environment and trade-environment domains (Kirton and Richardson 1995). It lies also in its success in inducing member national governments to comply with their collective sustainable development commitments made at the G7/G8 summits (Kokotsis and Daniels 1999). It has done so with increasing and even high levels of performance in recent years (G8RG 1996-). And nowhere is its record of compliance higher than in the trade and in the environmental realms (Von Furstenberg and Daniels 1993, Kokotsis 1999). Moreover since 1991 the Summit-level G7/G8, its trade ministers Quadrilateral and subsequently its G7/G8 environment ministers' forum, have been active on the trade-environment issue (Kirton 2002).

Underlying this performance are several distinctive institutional features, notably: the G7/G8's ability as a non legally bound, but leaders-driven institution to focus freely on priority issues, set new directions and make new integrative linkages and tradeoffs; the relative equality it accords its subordinate ministerial forums for the environment and the economy; its capacity for rapid movement given the low transactions costs and high degree of common purpose among its compact common group of eight major market-oriented democracies; and the relative internal balance it contains among the environmentally conscious members of Germany, Japan, Canada, and the European Union and the others (Kirton 1999).

The G7/G8 has had a long history of catalyzing and directing the reform of existing international institutions and bringing new ones to life. It last did so, under Canadian leadership, as the centerpiece of its 1995 Halifax Summit. Here Canada, working with the United States, centered the Summit on the question of what institutions the international community requires to meet its needs in the twenty first century. Moreover Canada broadened the initial tendency to focus narrowly on international financial institutions, to embrace the full range of UN bodies in its review.

At the most recent Summits, in Cologne 1999, Okinawa 2000, and Genoa 2001, environment issues enjoyed rather less prominence than that had at Summits during the

³¹ It was the G8 Environment ministers who helped alerted the world to the dangers of the Taliban regime with their condemnation of the destruction of the great Bhuddas at their meeting in 2001. The G8 foreign ministers at their Rome July 2001 meeting dealt with environmental issues by adding the issue of water to their conflict prevention agenda.

previous decade, beginning with Toronto in 1988. Yet Cologne did importantly set a new direction by beginning to develop a new “Cologne consensus” on the need for socially sensitive and sustainable globalization (Kirton, Daniels and Freytag 2001). It and surrounding Summits have also had a robust international reform agenda, focused on designing and delivering a new international financial architecture to meet the needs of the global economy in the rapidly globalizing twenty first century (Kaiser, Kirton and Daniels 2000). Most recently, the Okinawa 2000 Summit, with its focus on development in an era of globalization, and its creation of several new innovative processes (notably Dot-Force and the renewable energy task force), did much to create a legitimacy and constituency for G8 led initiatives, and to pioneer the more open and inclusive forms of governance that a GEO would require. It also saw Canada and its colleagues offer increased ODA and improved market access, incentives which could be critical in inspiring broader multilateral support for the creation of a new GEO. And the G8 at Genoa, despite the distractions of a terrorist threat from the Bin-Laden network, produced as its centerpiece deliverable a new Global Health Fund with an additional multibillion dollar pool of funding and an innovative governance formula.

Looking ahead, there is reason to believe that Canada has been contemplating having environmental issue featured as a core agenda item at the Summit it will host in the Year 2002. Following its successful initiative at Tokyo 1993, it has been similarly envisaging trade as a major component, especially if a new comprehensive round of multilateral trade negotiations has not launched by that time. At Genoa it announced that poverty reduction in Africa would be the central theme of Kananaskis, and the Canadian government, in keeping with its road-to-Halifax tradition, has signaled its determination to maintain this focus. The foundation for a focus of sustainable development, and potential support for major advances from African and other developing countries, are thus there.

In keeping with the Naples-Halifax cadence of the previous cycle, the objective could be to have the G8 leaders agree, perhaps at an special, ad hoc, inter-sessional summit focused on the response to September 11, that global environmental governance (perhaps as part of a broader focus on coherence in global governance) would be a focus for their Kananaskis discussions. They could also pose the question of “what global governance system and component institutions does the international community need to meet the environmental and sustainable development needs of the twenty first century” and mandate the G7/G8 ministerial bodies and other international organizations to do the relevant preparatory work. Part of the contribution could be for all G8 leaders to make a clear commitment to make the Rio plus Ten Review a summit level event of Rio-like dimensions, by personally promising to attend for the necessary time and through other means.

c. Rio Plus Ten Review

It is critical for that review to have such Rio-like proportions if it is to generate a new system of global environmental governance, establish a strong WEO at its core, create a genuine Earth Charter as a normative foundation, and effectively link this new system to that for global economic governance in a way that Rio largely failed to do. That Summit could feature the establishment of such a new institution as its centrepiece deliverable. A focus in the preparatory process on the updating and implementation of the core Rio conventions for climate change and biodiversity could lead to a highlighting of their ecological interconnections, the need for new conventions in related areas, and the values of a single properly resourced institutional centre to lead an integrated approach.

The central attention Rio plus Ten will give to the climate change issue could lead to innovative ways to forge an improved environment-economy link. Here the focus could be, as the NAFTA regime recognized, not only on the traditional trade-environment issues, but on the investment-environment issues where the OECD-led MAI failed, and where developing countries see their prospects for development in a globalizing era centrally engaged. One promising proposal is to have a multilateral investment regime embedded within an updated Climate Change and similar conventions, through a bargain in which developing countries accept disciplines over primarily Northern sourced FDI, in exchange for the resource transfers and differential commitments required to meet the climate change targets required (von Moltke 2000).

Whatever the precise strategy, it is clear what the end goal should be. Almost a decade after Rio, it is clear that the formula of fostering fragmented and fragile environmental institutions has failed, particular as a new generation of twenty-first century ecological challenges looms. The World Summit on Sustainable Development provides a once in a decade opportunity to put in place a new approach, with a powerful World Environmental organization at its core.

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Table A

Major Global Summits and Conferences:

- The World Summit on Children (1990)
- The Conference on Environment and Development (Rio, 1992)
- The Conference on Human Rights (Vienna, 1994)
- Conference on Small island Developing States (Barbados 1994)
- The International Conference on Population and Development (Cairo, 1994)
- The World Summit for Social Development (Copenhagen, 1995)
- The World Conference on Women (Beijing, 1995)
- The Global Conference on Human Settlement (Istanbul, 1996)
- Food Summit (Vienna, 1996)
- UNGA Review Implementation of Agenda 21 (1997)
- UNGA Review of Cairo (1999)
- UNGA Review of Barbados Action Plan (1999)
- Millennium Summit (September 2000)

Major MEAs have been concluded in the last 15 years, including:

- The Vienna Convention for the Protection of the Ozone Layer (1985)
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- The Basel Convention on the Transboundary Movement of Hazardous Waste (1989)
- The Framework Convention on Climate Change (1992)
- The Convention on Biological Diversity (1992)
- The Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (1994)
- The Kyoto Protocol on Climate Change (1997)
- The Cartagena Protocol on Biosafety (2000)
-
- Source: Johnson (2001, Dodds (2000).

TABLE A**Global Ecological Power**

Net Ecological Footprint Per Capita, 1995

	Capacity	Footprint	Surplus (Deficit)
Canada	12.6	07.4	+5.2
Russia	04.3	04.7	-0.5
China	00.6	01.5	-0.8
France	04.0	05.4	-1.4
Britain	01.8	04.9	-3.1
Germany	01.9	04.8	-2.9
Japan	00.8	04.7	-3.9
United States	06.7	10.9	-4.2

Source: Mathis Wackernagel and Alejandro Callejas, "The Ecological Footprint of 52 Nations (1995 data)" Redefining Progress at www.rprogress.org and in Hilary French, *Vanishing Borders: Protecting the Planet in the Age of Globalization*, (New York, W.W. Norton, 2000), p. 11.

Notes:

1. Canada is the only one of the nine major powers with a surplus ecological capability.
2. The ordering is the almost perfect inverse of the overall economic capability of the major powers.
3. This measure combines resources and population as it is a per capita measure. It captures that fact that a large population can be a vulnerability as well as a capability.