

the art of the state

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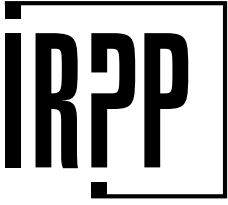
Thinking North
American
Environmental
Management

Thinking
North
America



Scott Vaughan

Comments by
Debora L. VanNijnatten



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The Art of the State II
Thinking North
America

Thomas J. Courchene,
Donald J. Savoie and
Daniel Schwanen, editors

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THIS YEAR MARKS THE 15TH ANNIVERSARY OF THE CANADA-US FREE TRADE Agreement (FTA) and the 10th anniversary of the North American Free Trade Agreement (NAFTA) coming into force. While these anniversaries would rather naturally have led to increased interest in ways to broaden and deepen our North American trading relationships, the tragic events of 9/11 have added homeland security as a complicating issue to the already full free trade agenda. With this in mind, in October 2003 the IRPP convened its second “Art of the State” conference around the theme “Thinking North America: Prospects and Pathways.” Outstanding experts from Canada, Mexico and the United States came together to explore new ideas, new instruments and new processes for enriching our North American experience in ways that at the same time preserve Canada’s freedom to manoeuvre. We attempted to remedy gaps in the public discourse and understanding of how three proud and sovereign nations could advance common causes and manage their increasing interdependence. In this context, it is a pleasure to acknowledge our partner in this endeavour, the Canadian Institute for Research on Regional Development at the Université de Moncton.

The concrete result of this conference is the series of papers of which this folio is an integral part. The contributions will be released individually, but together form a collection that will explore a wide range of North American issues, including:

- ◆ The trade and economic dimensions of the Canada-US relationship
- ◆ The pros and cons of an enhanced institutional structure, including the possibility of a treaty for a revitalized community of North Americans
- ◆ The deep determinants of integration; whether a North American “citizenship” can evolve from current relationships; and whether new rights should be extended to private parties to give direct effect to commitments by governments
- ◆ The management of environmental issues
- ◆ The role of states and provinces in any future trilateral relationship
- ◆ How efforts at making North American integration work better should be seen in light of other international agendas being pursued by the three nations, in particular that of the Free Trade Area of the Americas

On behalf of the IRPP, I want to express my sincerest thanks to the many contributors to these volumes and to extend my appreciation of their efforts to develop their ideas to new levels of depth, clarity and relevance to policy. This is due in no small part to the diligence of the three co-chairs of the second “Art of the State” conference and editors of this collection: IRPP Senior Scholar Thomas Courchene, Senior Fellow Donald Savoie and Senior Economist Daniel Schwanen. It is their hope and mine that this series will be useful to all those involved in the multifaceted North American relationships and that, mindful of potential pitfalls ahead, this work will also help train our eyes on the rewards that the three nations could reap from improving those relationships.

Hugh Segal

Montreal, March 15, 2004

Thinking
North American
Environmental
Management

North American
Environmental
Cooperation and NAFTA

A RICH TRADITION OF INTERNATIONAL COOPERATION EXISTS IN NORTH AMERICA. THIS tradition ranges from habitat conservation and the protection of migratory species to the management of transboundary water basins and accords to tackle acid rain and other long-range pollution problems. Some of the oldest international environmental treaties trace their origins to North America. For instance, the International Joint Commission (IJC) was created under the Boundary Waters Treaty of 1909 and was to prevent and resolve disputes around water use along the Canada-United States boundary. Under the Rainy Lake Convention (1938), the mandate of the IJC was broadened so as to set water outflow levels for Rainy and Namakan Lakes. Similarly, the International Boundary and Water Commission, created in 1944, establishes water-sharing quotas between Mexico and the United States for the Rio Grande.

The introduction of the North American Free Trade Agreement (NAFTA) and its parallel environmental agreement — the North American Agreement on Environmental Cooperation (NAAEC) — is seen as accelerating, deepening and codifying environmental cooperation in North America. Moreover, while the tradition of international environmental systems is largely comprised of bilateral accords involving United States-Canada and United States-Mexico, the NAAEC marks the first attempt to establish trilateral cooperation amongst Canada, Mexico and the United States. The vision of North American cooperation contained in the NAAEC is intended to work in tandem with economic integration propelled by NAFTA.

This particular form of environmental cooperation moving in tandem with an economic integration agenda differs from most international environmental treaties. To date, there are over 200 multilateral environmental accords and more than 800 regional and bilateral agreements intended to tackle trans-boundary or global environmental problems. The pattern of these treaties generally entails identifying a specific environmental or conservation target at the outset. Examples include protecting a specific migratory species, such as whales, or conserving their habitats and breeding grounds, or reducing and/or eliminating ozone-depleting substances or more recently (under the Kyoto Protocol) greenhouse gases. By contrast, the kind of environmental cooperation set out in the NAAEC was seen as a necessary measure because of environmental pressures associated with trade liberalization. Although the vision differs from most other environmental treaties, it is not without precedent. The environmental regime of the European Union arose, as has a labyrinth of social, cultural, health and other policies, in step with the four economic freedoms that remain the basis of the common European market. Clearly, the extent of cooperation in North America differs from that of Europe and underlines what Thomas Courchene has described as the generally shallow institutional integration that characterizes NAFTA generally.

This paper examines the extent to which the trade and market integration agendas arising from NAFTA have proven to be a sufficiently durable foundation upon which to build a North American vision of environmental management. The paper is organized as follows: the first section describes the main defensive feature of NAFTA's environmental regime, comprised of provisions aimed at stopping any rollback or chilling of regulatory enforcement. This rollback was anticipated to arise as a direct result of NAFTA. Different punitive measures are included both in NAFTA and its parallel environmental agreement, the NAAEC, with the stated intention of halting any dilution of regulatory enforcement.

Penalties to enforce environmental regulations are hardly new: they have been a centrepiece of environmental regulations in virtually all industrialized countries since the early 1970s, and comprise penalties, fines and sanctions. However, the inclusion of fines in the NAAEC marks a dramatic departure from almost all forms of environmental governance contained in multilateral environmental agreements. Provisions set out in NAFTA and the NAAEC, intended to

halt any erosion in domestic regulatory enforcement, are badly drafted and ill-conceived, run counter to cooperative traditions contained in virtually all international environmental regimes (which never rely on explicit punishment), and have their “sticks” or punitive measures pointing in the wrong direction. While the NAFTA debates anticipated a dilution in environmental regulations because of increased competitiveness, pressures associated with free trade and globalization, the primary environmental pressures that trade exerts on the environment, are transmitted not through regulatory effects but more directly through scale and associated structural effects.

The second section of the paper summarizes what is known about the scale effects of trade liberalization on the environment. It notes that in addition to scale impacts, the most significant impacts of NAFTA on the environment are associated with income growth, income contraction and income divergence within and between the NAFTA partners. The third section examines some specific institutional features of the North American Commission for Environmental Cooperation (NACEC). In many ways, the NACEC was conceived to help overcome the democratic deficit that civil society often associates with free trade. The paper observes that the accomplishments of the NACEC secretariat have been impressive but isolated to specific areas like the harmonization of toxic release data, or the sound management of chemicals. However, a very wide gap exists between the cooperative agenda of the NACEC and its annual budget. Finally, the last part of the paper examines some other ways in which North American environmental management continues to unfold, using the electricity sector as an example.

Although evidence of continent-wide cooperation is underway in electricity-related policy areas, notably the emergence of continent-wide energy efficiency standards and labels for appliances, the core issue of the energy-environment interface — notably climate change and the prospects of the Kyoto Protocol — reveals a fundamental splintering or divergence of the NAFTA partners. The future of the Kyoto Protocol and probable divergence of the United States from Canadian and Mexican involvement in formal and legally binding climate policies are certain to overshadow almost all other North American environmental management programs. The split over the Kyoto Protocol exposes, more than the underfunded NACEC, how far we remain from creating a robust North American environmental management regime.

T H E N A F T A T r a d e -
E n v i r o n m e n t D e b a t e
R e v i s i t e d

I N DISCUSSING NORTH AMERICAN ENVIRONMENTAL COOPERATION FROM A SPECIFIC NAFTA context, we begin by rehearsing the main trade-environment arguments that overshadowed the highly acrimonious NAFTA debates of 1991-93. In many ways, key antiglobalization stances which have become a ritualized feature of protests against the World Trade Organization (WTO), the World Bank, the International Monetary Fund and the Group of Seven (now G8) find their beginnings in the NAFTA debate of a decade ago. Antiglobalization claims include charges that trade policy is opaque, impervious to civil society input, hindered by a democratic deficit and beholden to corporate interests, and that free trade lacks legitimacy and public accountability.

In addition to these generic charges, two rather specific claims focused on assumed negative impacts that trade would bring to bear on environmental regulations.

- ◆ NAFTA would create pollution havens. Since NAFTA will expose countries and companies to the full force of international market competition, some companies would change their production location to jurisdictions where regulations either did not exist or did not matter because of weak enforcement. Almost everyone assumed that Mexico would be the pollution haven of choice, a feature of Ross Perot's more general "giant sucking sound" predictions.
- ◆ NAFTA would begin a "race to the bottom" in domestic environmental regulations, with the finishing line being environmental standards set at the lowest common denominator. When faced with employment losses associated with companies relocating to dirtier pastures, countries would dilute their environmental regulations and/or enforcement to put the brakes on such competition-related losses.

A related claim — that NAFTA could force a mandated "race to the top" in environmental standards, igniting deep misgivings not only within Mexico but also among all developing countries — explains the north-south divide concerning trade and the environment that continues to this day.¹

In Search of Pollution Havens and Races to the Bottom

Looking at the pollution-haven and race-to-the-bottom claims a decade later, we find little empirical evidence showing any systematic occurrence of either. Certainly, there have been exceptions. In one of the clearest documented cases in which a pollution haven did spring up, it was not in Mexico, as everyone assumed, but rather in Canada. From 1993 until 2000, a 400 percent increase in hazardous waste trade from the US to Canada took place. Since the total volume of waste generated in US facilities declined during this period, the most plausible explanation for the surge in US exports was that Canada had become a pollution haven. Ontario and Quebec — the main destinations of American waste — had slashed real spending on environmental enforcement dramatically during this period, thereby curtailing on-site inspections and fines (Jacott, Reed and Winfield 2002). Although the creation of a pollution haven in Canada failed to elicit any formal response in NAFTA or the NAAEC for the provisions intended to check such problems (see below), media exposure in Canada in the spring of 2001 eventually led to the adoption of a North American policy response.

During the past decade, other cases of pollution havens in North America have been reported. However, there is no evidence that any widespread pattern of pollution havens have occurred, and certainly not because of NAFTA. Companies move their operations for a variety of reasons, including wages, labour productivity, proximity to markets, the location of industry clusters, domestic tax levels and tax structures, political stability, as well as infrastructure conditions, reliability and costs of access and use. By contrast, the cost of complying with environmental regulations generally accounts for no more than 1.5-2 percent of total capital and operating costs on average. There are exceptions, notably in pollution-intensive or resource-based sectors like agro-chemicals, where that figure may be higher (Reinert and Roland-Holst 2002, 2001). In general, however, environmental compliance costs are seldom sufficiently high in themselves to affect, or become the main factor, in company decisions to relocate.

Did Environmental Provisions of NAFTA Halt Pollution Havens and Regulatory Descent?

Despite the very weak theoretic and empirical links between environmental regulatory costs and company locational decisions, the pollution-haven hypothesis took centre stage during the NAFTA trade-environment debate, especially amongst US-based environmental and labour groups opposed to the free trade

accord. In turn, efforts to check the emergence of pollution havens were some of the strongest (and most misplaced) expressions of a North American environmental management strategy, in both NAFTA and NAAEC.

In negotiating how to deal with this issue during the 1991 and 1992 NAFTA negotiations, Canada proposed a measure whereby the lowering of domestic environmental standards by a party in order to encourage investment in a dirty sector (that is, to redirect investment from a clean to a dirty regulatory haven) would constitute an actionable violation under trade rules (see Charnovitz 1993). While that proposal was never adopted, it did shed light on how seriously the parties approached this issue. The compromise provisions set out in article 1114.2 of NAFTA broke new ground in international trade law by stating that:

The Parties recognize that it is inappropriate to encourage investment by relaxing domestic health, safety, or environmental measures. Accordingly a Party should not waive or otherwise derogate from or offer to waive or otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion, or retention in its territory of an investment of an investor.

It has been noted that article 1114 differs from Canada's far tougher proposal, because recourse to an alleged violation involves consultation without clear enforcement provisions (Housman 1994).

Bill Clinton took office in 1993, having campaigned that NAFTA risked undermining environmental or labour interests. Under his administration, a new team of US negotiators demanded that parallel environmental and labour agreements be negotiated. During those negotiations, the United States further demanded that NAFTA countries move beyond Canada's original proposal, and mandate the use of trade sanctions as the stick to enforce article 1114. Canada countered that fines, rather than sanctions, were a preferable but still not palatable option. However, by 1993, it had become all too clear that the NAFTA negotiations in Washington had assumed far greater urgency among environmental groups. As expectations rose that NAFTA would become, in the words of the Clinton administration, the "greenest trade agreement ever," environmental groups in Washington dramatically split between those who favoured some environmental safeguards and those who simply rejected all forms of free trade, safeguards or not. The inclusion of trade sanctions appeared to be *the* deal-breaker to win the support of some swing environmental groups. Canadian NAFTA

negotiator Gerald Wright has recalled that the US motivation for including trade sanctions was as much to counter Ross Perot's "giant sucking sound" claim as it was about mending deep divisions within the Democratic Party: "U.S. trade representative Mickey Kantor badly wanted Canadian acceptance of trade sanctions to reinforce Mexican compliance and meet his commitment to labor unions and the Democratic Party's left wing to get an airtight deal" (2003, A15).

So entrenched was the political commitment to deflect labour and environmental opposition to NAFTA by including sanctions in the side agreements that when Canada balked at US insistence of trade sanction and fines, NAFTA appeared to be dead. (When Canada rejected trade sanctions, Mr. Kantor informed them that NAFTA had collapsed.) While a deal was struck, the fact that sanctions and fines were thought to be necessary to halt the highly remote chance of pollution havens from taking root underscores the extent to which politics overshadowed any policy logic around the final environmental deal that emerged from the tatters of the highly acrimonious trade negotiations.

Shaken and Stirred: Section 5 Sanctions and the Environmental Side Accord

The compromise language contained in the NAAEC provides for a dispute-settlement provision to redress a pattern showing the "failure [of a NAFTA Party] to effectively enforce its environmental laws." Since there is no international legal or management standard that defines how to measure the effective enforcement of environmental regulations, article 45 of the NAAEC set out to do so. The result is incoherent, opaque and based on an awkward double-negative definition:

a Party has not failed to "effectively enforce its environmental laws"...where the action or inaction in question by agencies or officials of that Party:

- a) reflects a reasonable exercise of their discretion in respect of investigatory, prosecutorial, regulatory or compliance matters; or
- b) results for bona fide decisions to allocate resources to enforcement in respect to other environmental matters determined to have higher priorities.

As sloppy as this definition is, it pales by comparison with the failure of the NAAEC to define clearly what a pattern of regulatory non-enforcement looks like. The persistent pattern is defined as a "sustained or recurring course of action or inaction beginning after the date of entry into force of this Agreement" (article 45). While the definition suggests that a deviation in regulatory practices from previously established practices would trigger a section 5 action, there is no baseline or

formula upon which to compare that deviation. Moreover, since article 45 also enables the parties to shift regulatory priorities, any deviation from a pre-established pattern would need to take account of changing priorities because of new environmental pressures, shifts in public preferences, or nonenvironmental treasury constraints affecting all regulations. Since such a determination is infeasible, section 5 remains fundamentally flawed, the product of pandering to an incoherent political agenda as opposed to aligning legal remedies to actual needs.

The NAAEC sets out dispute-settlement procedures that, if so used, would trigger the highest fines set out in any international environmental agreement, or any trade accord for that matter.² In WTO and all other trade jurisprudence, damages may be assigned in response to the commercial value of trade affected by an illegal or actionable measure. In most cases, trade dispute panels instruct the party that has lost the case to lift or amend the offending measure so that it conforms to the rights and obligations set out in the WTO agreement. In those cases where the party refuses to change the offending measure, that party can pay the equivalent of foregone trade, although this recourse is broadly seen as a temporary measure. In the US-EU Beef Hormones case, Europe opted to pay the US approximately US\$240 million, the equivalent of foregone revenues that otherwise would have occurred from the sale of US beef in Europe.

In contrast to remedies on trade dispute procedures, the NAAEC system is based on outright penalties. For the first year of the NAAEC, the assessment could go as high as US\$20 million. For subsequent years (that is, from 1995 onwards), no single assessment under section 5 can exceed .007 percent of the total trade of the value of goods and services between the parties. If this Bond-type .007 assessment is not paid by the offending party, then the NAAEC can suspend trade preferences accorded in NAFTA to the equivalent value of the fine.

It is impossible to say whether article 1114 of NAFTA and section 5 of the NAAEC have had any impact on dissuading governments from glossing over enforcement failures in order to attract foreign investment or because they have buckled under the competition pressures of globalization. However, three points are worth making.

First, neither the NAFTA article 1114 provisions nor the NAAEC section 5 dispute provisions have been used to date. Given their basic flaws in definition, it is hard to imagine a circumstance in which they would. More importantly, while the US\$20 million fine probably looked impressive in the context of the US

domestic political debate, its existence goes against a core tradition of all international environmental agreements. These agreements, without exception, emphasize dispute avoidance and the adoption of management options to address *noncompliance*, as opposed to setting punitive or retaliatory measures. There is a rich debate underway about whether international environmental agreements would be improved by adopting dispute-settlement procedures similar to the WTO's. However, environmental and trade policies differ on many levels. Unlike commercial trade policy, in which a violation can result in the suspension of trading rights or retaliation, a failure to implement the provisions of an international environmental standard increases environmental risk to all parties to the agreement. Therefore, noncompliance within international environmental regimes has been described by David Victor and others as a "problem to be solved, and not an action to be punished."³

In addition, the .007 formula appears to be whimsical and goes against the pattern of most fines and penalties, which escalate over time. In the case of NAAEC, the imposition of the .007 formula today for Canadian exports to the US would trigger a fine significantly less than US\$20 million.

Second, due to the basic problems of definition, spillover effects from section 5 have weakened the integrity and potential reach of the citizens' submission process set out in article 14 of the NAAEC. It is important to note that no formal link exists between article 14 and section 5. However, in practice, given the lack of clarity in defining what a pattern of effective enforcement looks like, one could well imagine how a series of article 14 factual records might be used to demonstrate such a pattern, thereby triggering section 5 provisions. That such a connection could be made despite the explicit designs of the drafters of the NAAEC clearly has occurred to each of the parties of the North American Commission for Environmental Cooperation. With the sole exception of the 2002 meeting, every single annual council meeting of the NACEC since the creation of the commission has been consumed by crises involving the scope of factual records prepared under article 14. These crises touch upon the independence of the secretariat in preparing factual records, as well as the kind of information that can be examined in the factual records themselves.

This attention by senior government officials to the article 14 process has had two unfortunate repercussions. It has constrained the potential of the citizens' process to address fully the widely perceived democratic deficit of trade

agreements generally. Several scholars have noted that the article 14 (and 15) process of the NAAEC is the most innovative legal and management feature of that agreement (see Markell 2003). The citizens' submission process represents a new experiment in bottom-up governance, and provides a valuable avenue for citizens to initiate fact-finding efforts by the secretariat around an alleged failure by a party to effectively enforce its domestic regulations. Moreover, it represents a new experiment in environmental governance, one that is being examined by the European Union as it undertakes sustainability assessments of trade. The chilling effect that section 5 has had on this process remains perhaps the most regrettable part of the "potential versus actual" gap that characterizes the NACEC in general.

The third reason why section 5 is unworkable is that environmental regulations and their enforcement are not static. Regulations change for many reasons: because monitoring suggests that some problems, such as SO_x in urban air quality, may have improved, or that newer problems, such as alien invasive species, demand more attention. Regulations also change because of budgetary and ideological reasons. During the spending cuts of 1993 to 1997, real spending by Canada on the environment was reduced by roughly 40 percent. Granted, some functions and environmental authority was shifted out to the provinces, most of which had even less money and expertise than Ottawa to ensure comprehensive monitoring and enforcement.

In the US, since 2001, several keystone federal environmental laws have been weakened. Notably, Clear Skies has been introduced, an initiative that decelerates the timetables of emissions reductions for NO_x, SO_x and mercury established under the amended US *Clean Air Act*. Other examples of US rollbacks include a relaxation of standards for confined animal feedlot operations (CAFO), and changes to the 1976 *National Forest Management Act* to allow for increased logging.

In both the American and Canadian cases, it is unlikely that NAFTA played any part in affecting these regulatory rollbacks. The case of Mexico is different, and more complex. One of the reasons we can say with certainty that NAFTA has not affected US regulations one way or the other is that its impact on the US economy has been negligible. By contrast, NAFTA remains, according to the WTO secretariat, "of paramount importance" to Mexico's trade relations and economic growth prospects (WTO 2002).

Since 1993, Mexico's manufacturing sector has expanded by 4 percent per annum. During the same period, real spending on pollution monitoring and on-site inspections declined by 45 percent⁴ and air pollution increased 10 percent per year (Gallagher 2004).

In each instance, neither NAFTA nor NAAEC fine and sanction measures were initiated. A simple explanation may well be that trade officials in all three North American countries retain a profound dislike for the punitive and heavy-handed nature of the environmental safeguards.⁵

B e y o n d t h e
R e g u l a t o r y L e v e l s :
S o m e E n v i r o n m e n t a l
E f f e c t s o f T r a d e

WHILE NAFTA AND THE NAAEC REMAIN FOCUSED ON SOME ASSUMED REGULATORY impacts of free trade, those agreements are mute in responding to the principal mechanism by which trade affects environmental quality, by way of scale effects. This is not to suggest that there have been no regulatory effects. NAFTA chapter 11 cases involving the environment have galvanized attention and criticism from civil society. Arguments against chapter 11 investor-state provisions are not rehearsed here. (To date they have resulted in the rollback of one domestic provision that violated national treatment requirements — Canada's import ban on MMTs — as well as changes in other regulatory decisions, such as the siting of a waste facility.⁶ Together, chapter 11 cases have resulted thus far in \$23 million in compensatory payments. Far more difficult to estimate are the costs that chapter 11 jurisprudence may have had in terms of a chilling of proposed regulations, for fear of an investor-state challenge.)

In approaching scale and other impacts of trade liberalization, it is worth noting that environmental reviews of trade liberalization have been underway for a decade. Despite advances in methodologies, delineating the impacts of NAFTA from the WTO and other trade accords and economic reforms generally remains complex. In the North American context, disentangling the impacts of the 1995 peso crisis in Mexico from factors that affected economic performance in Mexico in the mid-1990s is especially difficult. Despite these problems, a decade of work

confirms that trade liberalization can exert important pressures on the environment, with the main points of transmission involving scale, compositional, technological and other effects. While environmental reviews by their nature look for negative impacts of trade on the environment, positive benefits can also arise. For example, there is evidence that NAFTA has helped accelerate capital turnover in certain sectors, like cement and steel, thus leading to higher levels of environmental performance in Mexico relative to the United States or Canada. Trade has also helped accelerate the diffusion of environmental management systems like the ISO 14,000 series.

The most difficult question that reviews continue to struggle with is how to balance the net environmental impacts of trade liberalization. One insight comes not from reviews per se, but instead from environmental accounting and valuation, which works to quantify and internalize environmental costs and benefits into national income accounts. Methods used in valuation exercises include calculating explicit costs, such as resource extraction costs, as well as calculating depletion from the loss of forestry resources, pollution damages and other factors. Methods also rely on some standard proxies of environmental damage values, such as US\$10 per metric ton of carbon emitted to calculate the marginal global damage of climate change. Other factors, such as soil degradation, the loss of tropical forests, and the loss of fishery stocks, are considerable, but extremely difficult to quantify except through site-specific field studies to impute environmental values, based on people's willingness to pay for their conservation (see Hamilton and Clemens 1997; Repetto et al. 1989).

In 2002, the government of Mexico, one of the world's leaders in environmental valuation and green accounting, estimated that the total value of environmental damages exceeded US\$36 billion per annum since 1990.⁷ If these environmental damages were included in gross domestic product (GDP) estimates, then Mexico would run a deficit equivalent to US\$9 billion per year (Gallagher 2004). Clearly, NAFTA has not been responsible for most of these damages. However, given the relative importance of NAFTA to Mexico's economy, the question is whether NAFTA has made environmental damages better or worse.

While NAFTA has not systematically collided with or undermined domestic environmental regulations, trade growth has contributed to some scale effects. For instance, Mexico's overall level of exports has tripled since NAFTA, while growth in resource-vulnerable areas like water-intensive fruit and vegetable exports has

expanded by 90 percent since 1993. In addition, imports of maize from the US to Mexico have increased by 240 percent since NAFTA, leading to both environmental risks in Mexico (associated with the possible contamination of traditional maize races by US bio-engineered corn) and increased environmental pressures (associated with increased nitrogen pollution) in the Mississippi River Delta.

Of the myths of the NAFTA debate, among the most compelling remains the claim that trade liberalization is actively beneficial to the environment. In the 1990s, two highly respected economists, Grossman and Krueger, argued that NAFTA would lead to improvements in environmental quality (1991, 1995). That is, as NAFTA fuels economic growth, countries acquire the capacity to introduce and enforce environmental regulations. Furthermore, increased GDP per capita raises the public demand for higher levels of environmental protection. This hypothesis is inspired by the work of Simon Kuznets, who, in 1971, received the Nobel Prize in economics for his work on the relationship between levels and inequality of incomes, which tend to follow an inverted U-shaped curve. The Environmental Kuznets Curve (EKC) hypothesis posited by Grossman and Krueger proposes that, as income rises with trade growth, indicators of environmental quality initially worsen, but then at some point — measured by per capita GDP — improve.

The income turning point depends on the environmental indicator tracked. Grossman and Krueger note that for sulfur dioxide and nitrogen dioxide, the turning point is in the vicinity of US\$5,000. Despite differences between indicators, the stylized lesson of the EKC has been summed up bluntly thus: “in the end the best — and probably the only — way to attain a decent environment in most countries is to become rich” (Beckerman 1992).

Perhaps no other theory has sparked more debate in the economic literature on globalization and the environment than the EKC hypothesis did in the mid-to-late 1990s. For instance, in 1997, the journal *Environment and Development Economics* devoted an entire volume to the Environmental Kuznets Curve hypothesis (see Stern 1998; Panayotou 1997; Maler 1997). Responding to criticism following the publication of the first journal article, Grossman and Krueger revised their observations in 1995 to demonstrate that 1) the turning point for some environmental indicators could be higher than \$5,000 per capita GDP, and 2) that turning point was not universally applicable to all environmental indicators (Grossman and Krueger 1995).

Even with these revisions, empirical work now suggests the following: the EKC only holds for a narrow range of pollution indices, as opposed to more general environmental quality indicators such as soil quality or biological diversity; the income-pollution turning point only occurs at the subregional level, as opposed to any countrywide trends; and, perhaps most importantly, environmental improvements occur when bolstered by environmental regulations.

Some Environmental Effects of Income Growth and Contraction

Despite the qualifications, the resonance of the EKC hypothesis nevertheless persists in support of the notion that environmental improvements occur more or less automatically as a function of growth. There are fundamental problems with the EKC hypothesis. First, the observation in itself is clearly untrue for some kinds of environmental indicators. For example, the per capita income turning point for greenhouse gas emissions remains elusive, given the continued rise in emissions of high income countries like the United States, Canada and European member countries. For example, one of the greatest sources of air pollution stress in North America is sport-utility vehicles (SUVs). Demand growth for expensive, gas-guzzling SUVs has offset *all* gains from fuel efficiency made in the US in the past 15 to 20 years.

However, a more serious environmental problem dodged by the EKC hypothesis involves income *contraction* associated with trade liberalization. The EKC (not unreasonably) assumes that trade liberalization will increase per capita GDP. However, Mexico's economic record from NAFTA shows that income inequality between regions and groups has risen, as the Organisation for Economic Co-operation and Development (OECD) secretariat puts it, "unambiguously." Polaski finds that NAFTA has led to far more job losses in the agricultural sector than job creation in the manufacturing sector (2003). Real wages in Mexico today are lower than when NAFTA took effect, since labour productivity growth in the export-manufacturing sector has not translated into increased real wages. Income inequality in Mexico has increased since NAFTA: while the share of national income held by the top 10 percent of households increased in the 1993-2002 period, that held by the other 90 percent either decreased or remained unchanged. The worst affected are small-scale farmers, rural communities and indigenous peoples.

The pattern of income divergence and poverty growth in Mexico confirms observations made by a growing number of trade economists, including Alan

Winters, who concludes that trade liberalization *disproportionately* affects the poor in all countries, but particularly in developing countries. He further and persuasively argues that industrialized countries have little to offer by way of policy prescriptions for how developing countries can overcome the poverty impacts brought about by trade liberalization (Winters 2003; see also Baldacci, de Mello and Inchaute 2002).

The epicentre of poverty is found in the southern regions of Mexico, where more than 50 percent of *ejido* farm workers are considered to live in extreme poverty. The highest concentrations of poverty are found in the states of Oaxaca and Chiapas, both of which have significantly higher poverty rates relative to the northern and central plateau regions.⁸

The Vicious Circle of Poverty and Environmental Degradation in Southern Mexico

Extreme poverty concentrated in southern Mexico coincides exactly with those geographic areas that have the richest endowments of biological diversity anywhere on the planet. Mexico is one of the most important areas of biological diversity in the world, home to 10 percent of all known species, of which 30 to 50 percent are endemic. Mexico has the highest concentration of reptile species, and the second highest of mammalian species, in the world. It also has a rich diversity of trees, including nearly 200 different coniferous and deciduous tree species.⁹ The Lacandon rain forest, in southern Chiapas, alone houses some 4,000 plant species, 300 bird species, 80 species of mammals, 46 bat species, 23 amphibian species and 54 reptile species. While 1,300 insect species have been classified to date, biologists estimate that this figure may be 3 percent of the total insect species endowment (NACEC 2001).

Poverty and disappearing income prospects for *ejidos* are the leading causes of environmental stress throughout the southern and southeastern states. The main environmental pressure in the region, and the main cause of biodiversity loss, is deforestation. One driver of forest loss in the southern regions is the increase in cropland and grazing areas used in extensive farming. Another driver is fuel-wood use. Over 12 million metric tons of forest are felled each year for fuel wood nationwide, representing almost 60 percent of total annual round-wood harvest (Carpentier and Patterson 2003). Deforestation destroys the habitats of free-ranging vertebrates and other species, disrupts the connectivity of habitats crucial to flora and fauna, and erodes the environmental variability of habitats generally. Although rates of deforestation appear to have declined somewhat, Mexico nevertheless still ranks fifth in the world in annual

deforestation losses. According to the Food and Agriculture Organization (FAO), since 1993 Mexico has lost on average over 660,000 hectares of forest each year, giving it among the highest rates of deforestation in the hemisphere.

Among the drivers of environmental degradation in southern Mexico is NAFTA. Although the channels of transmission are complex and indirect, NAFTA has accelerated structural changes in Mexico's farm and manufacturing sectors in ways that appear to have increased environmental pressures, largely involving structural changes that increase both vertical and horizontal integration of export-oriented sectors, such as the horticulture or grains sector. Some evidence from Mexico suggests that export-intensive sectors with strong links to foreign markets and capital have a greater propensity toward production specialization, the increased use of homogenous capital inputs like fertilizers, pesticides and genetically modified seeds, and a greater tendency to rely on intensive irrigation, primarily from groundwater sources, compared to smaller farms serving the domestic market.¹⁰

The most important test of NAFTA's longer-term environmental credentials will be decided by whether a vicious circle of poverty and environmental degradation can be broken. Although there is no scarcity of pressing environmental problems that call for attention, the extinction of biological diversity leaves no chance for policy procrastination: species extinction is final.

The real test of the effectiveness of the environmental regime set out in NAFTA and the NAAEC is therefore whether it is able to affect the poverty-environment nexus. The short answer is "no." There is no environmental equivalent of the trade-adjustment provisions, including in the US, to absorb job losses directly attributed to NAFTA. While the NAAEC lays out an impressive shopping list of policy areas, it is too diffuse and underfunded to make a meaningful dent in this poverty-environment cycle.

T h e N o r t h A m e r i c a n
C o m m i s s i o n f o r
E n v i r o n m e n t a l
C o o p e r a t i o n t o
t h e R e s c u e ?

A REASONABLE PROXY OF THE VISION OF COOPERATIVE ENVIRONMENTAL MANAGEMENT priorities intended to work in tandem with North American economic

integration is set out in the mandate of the NAAEC. Article 10 of the NAAEC outlines a dizzyingly long list of cooperative policy areas, some with ridiculously broad mandates like pursuing “environmental matters as they relate to economic development” or promoting “public awareness regarding the environment.” Some lay out somewhat more focused mandates, such as supporting the:

- ◆ comparability of techniques and methodologies for data gathering and analysis, data management and electronic data communications;
- ◆ pollution-prevention techniques and strategies;
- ◆ transboundary and border environmental issues, such as the long-range transport of air and marine pollutants; and
- ◆ ecologically sensitive national accounts and eco-labelling.

Before discussing how this very broad mandate is translated by the council of the NACEC into an annual work plan, it is useful to compare the budget with the vision.

The annual budget of the NACEC remains fixed at the same level of nearly a decade ago, US\$9 million per year, with contributions evenly divided among the parties. Clearly, this budget constrains the ability of the NACEC to initiate a comprehensive environmental management scheme similar to that undertaken by the Environment Directorate of the European Commission.¹¹ Although the comparison is unfair — the history of the European Union is longer than the NACEC’s, arising out of the Second World War, bolstered by decades of administrative, judicial and executive authority cohesion among the members — it is useful in one specific context. The basis of the European Union remains its four economic freedoms, which are similar, albeit more far-reaching, than the liberalization commitments of NAFTA.¹²

Trade liberalization has become the most important, and certainly the most visible, public policy related to economic integration and globalization. Free trade agreements such as NAFTA could *in principle* provide a more durable base upon which to build cooperative environmental policies. The observation of Sachs and Warner that trade liberalization has become the *sine qua non* that affects a broader suite of liberalization reforms affecting border measures and measures applied behind the border covering institutional harmonization, legal codes, tax systems, ownership patterns and other regulatory arrangements would equally apply in theory to the environmental arena (1995).

However, in practice, a wide gap exists between the expansive vision of cooperative environmental management set out in the NAAEC and the static budget of the secretariat. Unlike those of other international organizations, the NACEC budget remains locked within its original commitment, making the budget gap wider each year due to currency exchange rate fluctuations and equivalent purchasing power. At the same time, while almost no programs are retired, new environmental pressures mean that new priority areas build upon existing ones.

The budget problem is exacerbated by hesitation of the parties to augment the core budget with external financing. Both the United Nations Environment Programme (UNEP) and the Organization of American States (OAS) regularly supplement their core annual budgets with trust funds provided by one or more parties in support of specific projects. For instance, the core US\$1.5 million budget of the OAS Sustainable Development Division is supplemented by approximately US\$12 million per year in external funding from the Global Environmental Facility (GEF), the World Bank, the Inter-American Bank and individual contributions of governments. Although the NACEC has tapped some GEF funding, this remains a thorny issue for the parties.

While the budget of the NACEC is remarkably modest, results from the program have been impressive.¹³ The program consists of four parts:

- ◆ environmental law and policy
- ◆ pollutants and health
- ◆ biological diversity conservation
- ◆ environment, economy and trade

Each of these program areas has made an important contribution to cooperative environmental management. For example, under the pollutants and health program, the NACEC has become a world model in establishing methods to harmonize environmental data and indicators related to toxic pollutants. The first step of this program involved reporting comparable data measurements under the pollutants release and transfer registry (PRTR) between mandated US and Canadian programs. Since 1997, the NACEC has published its annual report, *Taking Stock*, which aggregates trends in the two countries in total toxic releases, as well as toxic releases by sector (for example, electric power generation). In 2001, Mexico announced its commitment to harmonize its national toxic release data with the methodology set out in *Taking Stock*. The inclusion of Mexico marks an important step forward in building comparable environmental

data indicators within North America, a reporting system that is more comprehensive than the toxic release reporting systems of the EU.

Other examples of building comparable environmental data include the decision of the council in 2002 to establish a common reporting for criteria air pollution emissions, including carbon dioxide emission reporting, among the three North American countries. This marks an important step not only in building comparable emissions measurements among the three countries, but also in including within those common CO₂ measurements.

Another contribution of the NACEC is in the area of shared coastal marine conservation, the identification of priority biodiversity areas and species of common concern in North America. This work has been useful in coordinating biological diversity protection, while supporting regional and national efforts.

Trade and the environment would appear to be most germane to this paper's discussion. The NACEC has made an important contribution to improving the methodologies and data necessary to undertake robust environmental reviews. Since the secretariat completed its methodological framework in 1999, some 35 separate reviews have examined sectors like transportation, alien invasive species, the effects of the US *Farm Act* (2002) on environmental quality and the effects of electricity restructuring on the environment. One of the most innovative features of the work of the NACEC, compared for instance to the OECD, World Bank, UNEP and others, is the strong link that reviews have operated with public participation. Since 2000, the NACEC has issued two calls for papers, inviting members of the public to submit proposals for reviews, which are then peer reviewed by an advisory board and, if qualified, supported through small grants.

Although progress has been impressive, it is less clear how findings from assessments affect policy. In the environmental arena, assessments have led on occasion to coordinated responses. For instance, when the media learned that Canadian imports of hazardous waste increased by 400 percent (see above), media reports led to a quick response from the federal minister of the environment, as well as his Quebec and Ontario counterparts, to examine the problems. Eventually, the NACEC set up a trilateral working group to track the trade of waste products. Similarly, the annual publication of *Taking Stock* has prompted policy discussion and responses, especially in jurisdictions like Ontario and Ohio, which consistently top the list of the largest emitters of toxic pollutants.

While policy responses to environmental assessments have been sporadic at best, the response from the trade side has been nonexistent. Assuming for a moment that specific NAFTA disciplines were found to be the cause of environmental degradation, it is unlikely that NAFTA would ever be reopened for amendment in order to safeguard the environment. For example, although an interpretative note has been prepared since 2000 to help ensure that chapter 11 investor-state actions did not challenge legitimate domestic environmental regulations, it is unlikely that such a note will ever find its way into the NAFTA text. This has very little to do with environmental sensitivities, and more to do with concern from all three parties that a reopened NAFTA could unravel the entire agreement.

Although the NAFTA text appears immune from formal amendments, it is hardly a static agreement. Roughly 33 NAFTA committees and sub-working groups exist and form part of the work of the Free Trade Commission of NAFTA. These committees meet periodically, depending on the area of work, while their three trade ministers meet annually. Approximately 11 working groups and committees are involved in areas of direct environmental interest. For example, a NAFTA working group has set out criteria for the harmonization of pesticide labelling. Others are mandated to examine automotive emission standards, labelling and forestry issues. The exact status of NAFTA committee work is uncertain, since agendas and working papers are often inaccessible to the public. Ironically, while the WTO remains the subject of complaint about its lack of transparency, the WTO is far more transparent than NAFTA by a wide margin.

NAFTA also lags behind the WTO in formalizing relations with environmental agencies. The WTO and UNEP have formally adopted a memo of understanding specifying cooperative work, while a number of secretariats of multilateral environmental agreements have observer status in the WTO Committee on Trade and the Environment. By contrast, despite the unambiguous language of article 10(6) of the NACEC, which requires the council to cooperate with the Free Trade Commission, a decade later, only one procedural meeting between the two groups has occurred. Even then, extremely tepid recommendations calling for information-sharing between the NACEC and FTC have not been adopted. Despite efforts from several nongovernmental organizations to seek the involvement of the NACEC council in environment-related trade disputes involving NAFTA chapter 11, each request has been deferred, despite the clear authority in article 10(6) mandating cooperation in this area.

Finally, while three council meetings have pledged to hold a joint trade-environment ministerial meeting, to date no such meeting has ever been held.

E n v i r o n m e n t a l C o o p e r a t i o n O u t s i d e t h e N A C E C

AS NOTED AT THE OUTSET, ENVIRONMENTAL COOPERATION IN NORTH AMERICA HAS long preceded NAFTA, and is hardly confined to NAFTA or the NAAEC. Examples include cooperation on the long-range transport of air pollution; US-Mexico bilateral cooperation along their border region; trilateral cooperation to protect migratory species, and biological diversity. In addition, NAFTA itself prompted the creation of the North American Development Bank, charged with financing environmental and infrastructure projects in the US-Mexico border region.

However, one of the acid tests of environmental cooperation at the North American level will be measured when the three countries address energy and environment policies. In 2001, Presidents Bush and Fox and Prime Minister Chrétien jointly committed their governments to the following:

We will work to deepen a sense of community, promote our mutual economic interest, and ensure that the NAFTA's benefits extend to all regions and social sectors. Our government[s] will develop ideas on how we can work together to develop and expand hemispheric and global trade and promote broader international cooperation.

We consulted on the development of a North American approach to the important issue of energy markets. Towards this end, our Energy Ministers have created a North American Energy Working Group. This...will be a valuable means of fostering communication and coordinating efforts in support of efficient North American energy markets that help our governments meet the energy needs of our peoples. We stressed the importance of energy conservation, development of alternative energy sources, and our common commitment to addressing environmental impacts of energy use. (Bush, Fox and Chrétien 2001)

Since 2001, work by the North American Energy Working Group has been uneven, partly because the 9/11 events have redirected efforts toward energy facility security. Nonetheless, a tangible example of a North American energy-related policy from the energy working group involves energy efficiency, including performance standards affecting the billions of dollars spent in electrical

appliances, computers, Palm pilots and office equipment. In 2001, Canada and the US announced an agreement whereby the US Energy Star product label would be marketed in Canada. In December 2002, the North American Energy Working Group endorsed the possible harmonization of energy-efficiency standards and labels, with the Energy Star label cited as the reference point of that harmonization. Since little else has emerged from the working group, the energy-efficiency example suggests that North American cooperation for the most part involves Canada and Mexico adopting US standards.

Although this may indeed be the case for small items like energy-efficiency standards and labels, climate change policies find Canada and Mexico moving away from the US. Prime Minister Chrétien made a virtue out of Canada signing Kyoto, just as President Bush made a virtue of the US not signing the agreement in the early days of his administration. Opposition from the US to Kyoto has probably done more to galvanize support for this complex and flawed agreement than anything else.¹⁴ That is, had the US left Kyoto alone, as it has done with the Basel Convention since 1989, then the politics of Kyoto might well be dramatically different.

However, it remains unclear how the Kyoto Protocol will coincide with the clear pattern of Canada integrating its energy markets and prospects with the US. In the electricity sector alone, there has been an increase in total electricity generation and transborder electricity trade between Canada and the US. The latter is forecast to expand greenhouse gas emissions in Canada by 8 percent. That is, electricity trade is forecast to exceed Canada's Kyoto commitment by 2 percent (NACEC 2002).

In March 2001, the Bush administration unveiled its energy policy vision in the National Energy Plan. The cornerstone of the plan involves expanding supply, including estimates that call for a new electricity-generating facility to be constructed in the US each week for the next decade. New sources include providing new funding and tax incentives to build three new nuclear-power-generating facilities (the first since 1976) and opening protected sites in Alaska to drilling. By contrast, demand-side issues like energy efficiency and conservation — described by Vice President Cheney as a personal virtue but hardly the basis of a national policy — have been ignored or rolled back with the current US administration.

While Canada has made a commitment to Kyoto, it has not articulated a national energy plan since 1986. One is therefore left to guess whether sporadic announcements to support ethanol are a main feature, or merely a footnote, to

Canada's climate regime. Although no plan has been forthcoming, the National Energy Board and National Resources Canada appear to favour US-style supply-side approaches as well as US regulatory approaches.¹⁵

In the most important and complex environmental issue that has strong economic, competitive and legal repercussions, there is a notable absence of a coherent North American climate policy. This absence, and the likely collision between a supply-side energy vision and the reality of a carbon-constrained environment set out in the Kyoto Protocol, underscores just how distant North America is from a cohesive environmental management regime or vision.

Notes

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- 1 Several nongovernmental organizations argued that NAFTA environmental provisions could be used to condition the market access of goods, based on the production process models (PPM) by which those goods were made. Under this scenario, electricity generated in Canada or Mexico could not enter the US unless electric-power-generating facilities there complied substantially with US Environmental Protection Agency and state-level air regulations. Conventional wisdom from GATT jurisprudence suggested that this kind of conditioning of market access based on production process criteria was clearly illegal. However, discussions in the WTO Committee on Technical Barriers to Trade from 1995 to 2000 struggled with the PPM issue in relation to underlying concepts of “like” products. Although the basic assumptions of the product remain in place, WTO appellate decisions involving the *Shrimp Turtle* and *Asbestos* cases have opened the possibility that, under certain conditions, environmental regulations can condition market access.
- 2 The NAAEC is not a formal treaty ratified by Parliament. Instead, it is enacted by an Executive Order of the President of the US and an Order-in-Council of the Canadian federal Cabinet.
- 3 To date, no formal dispute-settlement procedures have ever taken place in any of the roughly 200 existing international environmental agreements. In cases where non-compliance in those agreements has occurred, management practices have focused on getting countries back into compliance, as opposed to punishing those countries with fines and penalties. See, for example, Victor, Raustiala and Skolnikoff (1998).
- 4 Analysis by the World Bank suggests that polluters seldom worry about on-site inspection. Based on a market survey, they concluded that 50 percent of respondents who work in Mexico’s most polluting sectors — food processing, chemicals, minerals and metals — said that they were usually not compliant with environmental regulations, and an additional 10 percent were “never” in compliance. By contrast, 10 percent reported to have operations beyond compliance.
- 5 One former representative of the office Mexican foreign affairs has said that the environmental provisions of NAFTA and its side accord were a “national humiliation” (personal communication). Although they did not react as keenly, trade representatives from the other countries showed little enthusiasm for these provisions.
- 6 MMT is methylcyclopentadienyl manganese tricarbonyl — a compound that, when burned in automobile engines, results in manganese air pollution.
- 7 In the Mexican study, environmental damages relied largely on pollution indicators, notably air pollution indicators like carbon dioxide, sulfur dioxide, nitrogen oxides, ground-level ozone or airborne dioxins, focusing on indicators like increased mortality and morbidity impacts associated with air pollution; increased cancer risk from long-term, low-dose exposure to toxic substances; increased gastrointestinal illnesses from polluted drinking water; or damages to human health or more direct clean-up costs from hazardous wastes.
- 8 For example, 21 percent of the population in Baja California is classified as poor, compared to over 60 percent for the states of Chiapas and Oaxaca.
- 9 This paper examines terrestrial ecosystems. However, Mexico is also home to a rich diversity of marine and coastal life, including coral reefs, mangroves, migratory mammals and fish species.

- 10 For a discussion of Mexico's changing farm sector and its environmental implications, see Vaughan (2003).
- 11 The mandate of the Environment Directorate of the European Commission is both broader and more tightly conceived around regulatory harmonization than the NACEC. Its core mission is comprised of the following four goals:
To promote Sustainable Development, preserving the rights of future generations to a viable environment; to work towards a high level of environmental and health protection and improvement of the quality of life; to promote environmental efficiency; and to encourage the equitable use, as well as the sound and effective management, of common environmental resources (Treaty of Rome).
- 12 The four economic freedoms of the European Union entail the free movement of goods, free movement of services, free movement of persons and free movement of capital.
- 13 There is now a fairly extensive and growing body of literature on the NACEC. See, for example, Johnson and Beaulieu (1996); Kirton and Maclaren (2001); Hufbauer et al. (1997); Gilbreath (2003).
- 14 In September 2002, at a meeting in Calgary, Chrétien noted: "I regret the decision of the United States not to ratify Kyoto. But the fact that the United States is not ratifying Kyoto does not mean that the United States is doing nothing. It does not mean that we should do nothing."
- 15 For example, in its annual report of 2000, the National Energy Board (NEB) discussed at length the implications for Canadian electric power generators of US regulations involving electricity restructuring and the creation of very large regional transmission organizations (RTOS) under the authority of the US Federal Energy Regulatory Commission (FERC). The NEB commented thus: "Canadian entities are not subject to FERC regulations, but due to the integrated nature of the North American transmission system, it appears that Canadian

involvement in RTO formation could be potentially beneficial to all market participants, provided proper approaches for joint overseeing of cross-border RTOs are adopted."

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Trilateralism versus
Regionalism in
North American
Environmental
Management:
Comments

SCOTT VAUGHAN SETS OUT TO EXAMINE THE WIDELY HELD ASSUMPTION THAT THE introduction of the North American Free Trade Association (NAFTA) and its parallel environmental agreement — the North American Agreement on Environmental Cooperation (NAAEC) — has served to accelerate, deepen and codify trilateral environmental cooperation in North America. The paper has two more specific aims: first, to analyze the effectiveness of certain provisions in NAFTA and NAAEC in countering possible regulatory and environmental quality effects associated with deepening economic integration; and second, to assess whether NAFTA and particularly the NAAEC are likely to put in place the foundation for a coherent pan — North American environmental management regime.

With respect to the first aim, most observers would agree with Vaughan's assessment that, in terms of trade effects on environmental regulations in the three NAFTA countries, the very worst fears of environmentalists and some policy-makers have not been realized. Pollution havens have not emerged across the continent, and there has been no discernible race to the bottom vis-à-vis environmental standards. Perhaps the most significant trade impact is the much discussed "regulatory chill" effect (especially with respect to chapter 11) which is, of course, difficult to quantify. Vaughan has a different conclusion with respect to the effects of trade on environmental quality, however. He argues that trade growth has had scale effects and significant environmental impacts as a result of increased poverty and income disparities within countries, particularly Mexico. The problem, however, is that the safeguard mechanisms included in the NAFTA and NAAEC were designed, Vaughan convincingly argues, to deal with a nonexistent (at the very least minimal) regulatory threat rather than the more threatening pressures associated with income and scale effects on environmental quality. He concludes that these mechanisms are "badly drafted and ill-conceived," "run counter

to cooperative traditions contained in virtually all international environmental regimes” and “have their ‘sticks’ or punitive measures pointing in the wrong direction.”

With regard to the second aim of the paper, Vaughan focuses on whether the NAAEC and its implementing institution, the North American Commission on Environmental Cooperation (NACEC), are building the foundations for a trilateral North American policy regime. He argues that the vision of the NAAEC is too vague, the NACEC budget is too small, its program activities are too distanced from the trade activities under NAFTA, and (I would add) the secretariat is too politically constrained to realize this goal. Aside from some important successes in terms of achieving comparability in data measurement and reporting, the trilateral environmental institutions and processes created alongside NAFTA have had little impact on either the trade regime or domestic policies. Indeed, in the final section of the paper, Vaughan argues that the issue that he believes is the most important test of environmental cooperation on the continent — energy policy cooperation in the context of the climate change challenge — “has strong economic, competitive and legal repercussions,” given the “likely collision between a supply-side energy vision and the reality of a carbon-constrained environment set out in the Kyoto Protocol.” He notes that this issue “underscores just how distant North America is from a cohesive environmental management regime or vision.” Domestic political imperatives and policy choices, then, trump the cause of cooperation as the major determinant of environmental quality and environmental cooperation in North America.

However, while Vaughan and many other analysts of North American environmental management look to national policy choices as determinants of the willingness to engage in transboundary cooperation, we need to focus, as Robert Wolfe suggests, on the locus of primary interactions — in this field, the subnational and regional levels. In much of the literature on North American integration, analysts search for evidence of trilateralism, which implies interactions among national governments aimed at mediating among domestically determined political dynamics and the imperatives of transboundary cooperation. Yet very few environmental problems are pan — North American in nature; instead, the vast majority are regional in scope. Vaughan himself implies in his analysis that the environmental quality concerns associated with scale and income effects are tied to a particular complex of trade impacts, political choices and economic necessities that are regionalized rather than nationalized (the case of southern Mexico, for example). Even climate change policy is a regionalized political phenomenon in terms of both its potential environmental

impacts and its most significant regulatory implications. In fact, climate policy in Canada and the United States, contrary to Vaughan's characterization, is decentralized, most especially in Canada. Provinces and states retain key responsibilities (in Canada, the situation borders on the extreme) in terms of actually achieving emission reductions, whether these are set by national government or by states/provinces themselves.

In fact, if one looks beyond official national Canadian and American policy — that is, ratification of Kyoto (and the adoption of a cap on total national emissions) versus not ratifying — we can see three developments that may indicate a collision of *regional* energy and climate policies in North America, rather than a collision of *national-level* climate change and energy policies.

First, contrary to popular wisdom, “governments in the US have taken far more significant action to reduce greenhouse gas (GHG) emissions than have governments in Canada” (Bramley 2002, 1). US government spending on climate-change-related programs had reached \$4.5 billion by 2002, far more than that of any other country; and spending did, in fact, increase under the Bush administration (United States Mission to the European Union 2002). The Americans have a wide array of programs to combat GHG emission increases, and these have left a considerable policy legacy. One very important legacy is tangible support and (thus far) regulatory room for state-level innovation in this area.

Second, climate change policy differences across Canadian provinces as a group and across American states as a group are greater than the policy differences between the Canadian and American national governments. As a result, it would be very difficult to summarize any common characteristics among states as a group and among provinces as a group — a methodological necessity if one wishes to make the argument that Canadian and American climate policies are truly distinct from one another. In fact, a few US states are leagues ahead of other states and Canadian provinces in terms of testing and implementing a wide array of instruments to reduce GHG emissions, partly as a result of federal financial incentives for innovation.¹

Third, and this is key, some American states and Canadian provinces are engaged in transboundary cooperative efforts to reduce GHG emissions. The Conference of New England Governors and Eastern Canadian Premiers (NEG/ECP), which includes the five easternmost provinces and six New England states, concluded an agreement in 2001 to reduce regional GHG emissions, regardless of national policies. There are some moves afoot to extend this transboundary GHG-reduction regime to include additional states, such as New York, New Jersey and Maryland. While the

governor of New York State mused openly about the establishment of a northeastern emissions-trading regime in 2003, the NEG/ECP has initiated discussions about a regional cap-and-trade emissions program. Climate change cooperation is also getting off the ground in the Gulf of Maine Council and the British Columbia-Washington Environmental Cooperation Council, and climate change has been a priority in the work of the International Joint Commission in the Great Lakes region for some time.

Moreover, it would seem that the cross-border regions that are furthest along in terms of environmental cooperation generally are also regions with a history of close economic and energy ties. This is not surprising, as environmental problems and environmental cooperation are inextricably linked to economic activities. Fredriksson and Millimet argue in their work on interjurisdictional regulatory competition that subnational units are positively influenced by their more stringent contiguous and regional neighbours; that, for example, US states are “pulled” toward higher standards by improvements in neighbours with already higher standards (2002). But, not all regions of the US engage in such strategic behaviour. There is much stronger evidence of this in the northeastern and western regions. The argument there is that the degree of regulatory interaction depends on geographical distance and the degree of openness to trade between trade partners.

So rather than an environmental management regime that is pan — North American, perhaps we are witnessing the development of multiple environmental management regimes rooted in what might be called the “constituent regions” of North America; that is, where economic, energy and environmental ties are strong, but defined in particular ways by that (cross-border) region. One might expect similar developments in the US-Mexico border area.

With respect to the prospects for North American environmental institutions and policies, the NACEC’s orientation as a trilateral institution may in fact be hindering its ability to effectively address what is primarily a set of (alternatively overlapping and distinct) regional problems. As Vaughan implies in the case of coastal marine conservation, the work of the NACEC has been useful where it builds upon and aids regional and national efforts. Using another example, it might be argued that the NACEC’s ability to address long-range pollutant transfer was a success because it built on the efforts of officials that had been successful in addressing problems on a regional basis. A more explicitly regional focus on the part of the NACEC might even serve to dilute the political tensions associated with its trilateral mandate enmeshed, as it is, in sovereignty concerns.

Note

- 1 In Canada, which has ratified the Kyoto Protocol, at last count only four of ten provinces had climate change action plans in place (and these differed wildly in vision and strategies). As well, no province has adopted a jurisdictional target for emissions reduction, GHG emissions reporting is only occurring in four of ten provinces, there are currently no provincial programs mandating reductions in GHG emissions by large industrial emitters, and there are no meaningful provincial programs to encourage renewable energy. This is the case despite the fact that provinces in Canada hold the most important policy levers to bring about GHG emission reductions.

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Scott Vaughan is a visiting scholar with the Carnegie Endowment's Trade, Equity, and Development Project and works on issues related to the World Trade Organization (WTO) and NAFTA. He previously served as head of trade and economics at the North American Commission for Environmental Cooperation; counsellor with the WTO; coordinator of environment, trade and finance; senior policy analyst to the executive director at the United Nations Environment Programme (UNEP); and policy advisor and legislative assistant to the Canadian minister of the environment.

Summary

There is a rich tradition of cooperation on environment matters in North America that goes back at least to the Boundary Waters Treaty of 1909. Areas of cooperation range from habitat conservation to a migratory bird convention to water basins and management of the international waterways. The North American Free Trade Agreement (NAFTA) and its parallel environmental agreement, the North American Agreement on Environmental Cooperation (NAAEC), are seen as accelerating, deepening and codifying environment cooperation in North America.

This paper by Scott Vaughan examines the extent to which trade and market integration agendas arising from NAFTA have proven to be a sufficiently durable foundation upon which to build a North American vision of environment management.

The author describes the principal defensive feature of NAFTA's environmental regime, comprised of provisions aimed at stopping any rollback or chilling of regulatory enforcement. He goes on to summarize what is known about the scale effects of trade liberalization. The most significant impact of NAFTA on the environment is associated with income growth, contraction and divergence within and between the NAFTA partners.

There was ample concern raised during the acrimonious debates surrounding environment cooperation in 1991 and 1993 that NAFTA would create pollution havens and there would be a "race to the bottom" in domestic environment regulations, the finishing line being the lowest common denominator. But looking at those claims a decade later, there is little empirical evidence showing any systematic occurrence of either. In fact, one of the clearest documented cases was from 1993 to 2000 when there was a 400 percent increase in hazardous waste trade going from the US to Canada.

The author says there were rollbacks in the last 10 years, including several keystone federal environment laws that have been weakened such as the Clear Skies initiative. In both the US and Canadian cases, it is unlikely that NAFTA played any part in affecting these regulatory rollbacks, the author concludes. But Mexico is different because NAFTA has had a profound effect on that country's trade and economic growth. So, while Mexico's manufacturing sector has expanded by 4 percent per annum, its real spending on pollution monitoring and on site inspections has declined by 45 percent.

Analysts conducting environmental reviews continue to struggle with how to balance the net environmental impacts of trade liberalization. The Mexico example is attracting attention because while Mexican trade has clearly increased and its economy is stronger, income inequality has grown. More jobs are lost in the agricultural sector than are created in the manufacturing sector. And while the top 10 percent of household incomes has increased, the other 90 percent either has not grown or has lost share. Those hit hardest are farmers, people in rural areas and indigenous people. Put another way, NAFTA is one of the drivers of environmental degradation in Southern Mexico. It has not positively affected the poverty-environment nexus.

In the concluding section of the paper Vaughan examines specific institutional features of the North American Commission for Environment Cooperation (NACEC). In many ways, he says, the NACEC was conceived to help overcome the democratic deficit that civil society often associates with free trade. He also briefly examines other ways in which North American environmental management continues to unfold, using the electricity sector as an example.

Looking ahead, there is a gap between vision and reality. The budget for NACEC has remained static for many years. And with no programs being retired, there is little room to deal with new environmental pressures.

While there is considerable cooperation in continent-wide energy standards and labels, the split between the US on one side and Canada and Mexico on the other over implementation of the Kyoto Protocol is likely to overshadow almost all of North American environment management programs.

The opposition by the US to the Kyoto Protocol has probably done more than anything else to galvanize support for the complex and flawed agreement. But while Canada has supported Kyoto, it has not articulated a national energy policy plan since 1986. And there is no coherent North American climate policy.

In her comments on the paper, Debora VanNijnatten points out that Vaughan, along with many other analysts, often looks to national governments to address environmental problems. In fact, she says, many North American environmental issues are regional in scope and much useful cooperation takes place at that level. Even in climate change policy, states and provinces retain key responsibilities. This takes some of the sting out of Vaughan's evaluation of prospects for trilateral cooperation, although VanNijnatten suggests that the NACEC could be more successful if it addressed problems on a more regional basis.

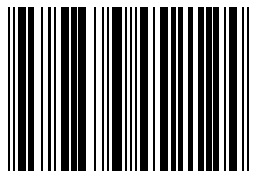
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