



**NORTH AMERICAN SYMPOSIUM ON  
UNDERSTANDING THE LINKAGES BETWEEN  
TRADE AND ENVIRONMENT  
11-12 OCTOBER 2000**

The North American Symposium on Understanding the Linkages between Trade and Environment met from 11-12 October 2000 at the World Bank in Washington, DC. The Symposium was organized by the North American Commission for Environmental Cooperation (NACEC), an organization established under the North American Free Trade Agreement (NAFTA) in 1994 to examine the linkages between trade and the environment. The meeting was attended by approximately 300 participants representing the governments of Canada, Mexico and the United States – the three NAFTA States – as well as representatives of non-governmental organizations, business and industry, intergovernmental organizations, academia and the media. The meeting's purpose was to examine the relationship between free trade and the environment based on recent studies and research using a methodology developed by the NACEC. This methodology was released in a 1999 publication entitled the *Final Analytic Framework for Assessing the Environmental Effects of the North American Free Trade Agreement*.

Participants met in plenary sessions that addressed a variety of issues relating to trade-environment linkages in the North American context, including: trade liberalization and natural resources; NAFTA and pollution impacts; relationships between trade liberalization and environmental policies and regulations; NAFTA's transportation and manufacturing impact on the environment; the services and public sector and the environment; and next steps in terms of policy responses to environment-trade links. In each plenary session, findings from specially-prepared research papers were presented followed by commentary from designated discussants, questions and open discussion. This meeting is expected to serve as a catalyst for further work and progress on integrating trade and environment issues.

**REPORT OF THE SYMPOSIUM**

The two-day Symposium commenced on Wednesday, 11 October, with participants gathering to hear welcoming remarks and a keynote speech by Lester Brown, Chairman of the Board, Worldwatch Institute. Presentations of papers and discussions then took place in sessions on trade liberalization and natural resources, NAFTA and pollution impacts, and relationships between trade liberalization and environmental policies and regulations. In addition, an information session on government reviews of trade was convened in the evening.

On Thursday, 12 October, sessions considered NAFTA's transportation and manufacturing impact on the environment, and the services and public sector and the environment. During the final session, presentations were made and discussions held on next steps in relation to policy responses to environment-trade links. The meeting concluded with remarks by Raul Arriaga, Coordinator of the Transition Team of President-elect Vicente Fox of Mexico, and by Pierre Marc Johnson, Symposium Chair and former Premier of Quebec.

**OPENING SESSION**

On Wednesday morning, 11 October, Janine Ferretti, Executive Director, North American Commission for Environmental Cooperation, welcomed participants. She noted that in recent years the debate around trade and environment has remained intense and that public interest in understanding the impacts of trade on the environment has increased. She stated that much of the debate has focused on polarized views between groups asserting that trade liberalization harms the environment and those who believe that trade agreements will improve environmental quality. Noting that answering questions on the linkages between trade and environment are matters best addressed using scientific evidence, she drew attention to NACEC's *Final Analytic Framework for Assessing the Environmental Effects of the North American Free Trade Agreement*, released in 1999, as a useful tool in this regard, while stating that it is part of an ongoing process. She said this Symposium represented an important next step, adding that, like the framework, the findings from this meeting would not represent the last word on how to assess the impacts of free trade. She said this meeting would be valuable in enlarging and broadening understanding of these issues and should help refine the methodology and identify areas requiring further investigation.

Ferretti stressed the need to move "from the abstract to the concrete" and said progress would come from translating visionary ideas into reality. She noted the NACEC's focus on factual information and data and its cooperative work and dialogue with government agencies, non-governmental organizations, local communities and the private sector. She thanked those who had worked hard to bring about the Symposium.

Pierre Marc Johnson, Symposium Chair, said this meeting would consider the environmental impacts of free trade, whether NAFTA has been positive or negative in terms of environmental effects and whether the tools for assessment are adequate. He said it is now feasible to start assessing the evidence from six years of NAFTA, and that this would be relevant to policy makers. He said this meeting was

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designed for those interested in understanding the complex dynamics of interrelations and would not be of use for those with an unshakeable “mantra” that free trade either always hurts or always helps the environment. He noted that NACEC’s Analytic Framework is not the last word on how to assess the impact of trade on the environment, but that it has moved such work to a practical level.

Johnson provided an overview of reports prepared for the Symposium, noting that evidence from some of these reports challenges the traditional view that more trade always increases pressure on natural resources. As an example, he said that, while evidence suggests that increased trade affects Mexican forests, it also suggests that it might not have affected fisheries. On air pollution impacts, he noted mixed evidence that suggests there has been a sectoral shift in concentration of industrial pollution. He drew attention to issues raised under Chapter 11 of NAFTA (investment), and said these reports suggest that current provisions are creating a dynamic of serious uncertainty about environmental regulation. He concluded by noting that a lesson in the “post-Seattle” world is the need to achieve transparency and involve civil society.

William Nitze, Assistant Administrator, US Environmental Protection Agency, reflected on NACEC efforts to assess links between trade liberalization and the environment, noting that the area is controversial and the relationship between trade liberalization and environmental quality complex. Reflecting on results so far, he said the process of analyzing the environmental effects of NAFTA has been critical to the development and implementation of the US Executive Order on Assessing Environmental Effects of Trade. He highlighted the inherent tension between recognizing the holistic nature of the links between trade and environment and finding effective and realistic ways of reviewing the effects of trade agreements, given limited resources and time.

Lester Brown, Chairman of the Board of the Worldwatch Institute, provided the context for the discussions, reflecting on the relationship between the global economy and the Earth’s ecosystems. He challenged the notion of environmental assessment of projects, suggesting that projects should be designed by environmentalists based on ecology and science and then undergo economic assessment. He noted that while the global economy is growing, ecosystems are not and the results are beginning to manifest themselves. He provided two examples: falling water tables and consequent agricultural water scarcity, with international trade effects in the form of new streams of imports of agricultural products; and climate change, resulting in changing patterns of precipitation and subsequent threats to agricultural production.

Brown highlighted the situation in China, where rapid economic development has led to higher levels of consumption, and stressed that consumption levels are physically incapable of rising to the levels existing in Western industrial economies. He called for a new, sustainable global economy, citing the spread of wind power and consumer demand for green power as encouraging early examples of restructuring. He said taxes should target environmentally-destructive activities rather than income, and stressed that time for implementing necessary fundamental changes is limited.

### **SESSION I: TRADE LIBERALIZATION AND NATURAL RESOURCES**

David Schorr, Director, Sustainable Commerce Program, World Wildlife Fund (WWF-US), chaired this session. Schorr suggested that thinking on the question of the relationship between trade and environment has been evolving. He said the first stage of the debate a number of years ago focused on the controversial question of whether NAFTA

was “good or bad” for the environment. Noting the dangers of isolating one factor – such as trade – from others, he noted that, even though this polarized question/debate still dominates mainstream media, experts’ discussions have begun to move on to a second stage of considerations that at the very least are taking a broader perspective. He said a broader methodological approach considers NAFTA as one of a basket of issues that influences the environment, and the trade apparatus should not be burdened with the task of solving all of the world’s environmental problems. He said the process should lead to consideration of trade and environment issues within a wider aim, which he said was not to trade “but to have a healthy planet.”

**PRESENTATIONS: NAFTA Environmental Impacts on North American Fisheries:** Michael Ferrantino, Industry Economist, US International Trade Commission, presented the findings of a study on NAFTA environmental impacts on North American fisheries. This study analyzes data relevant to fishery catches in North America, seeking to establish the extent to which NAFTA liberalization is significant for fish products, including its effects on trade patterns and sustainability of fisheries practices. While noting the clear causal links between trade agreements and environmental outcomes conceptually, he noted the practical difficulty in establishing a causal chain, as well as inadequacies of available data. He suggested there is no compelling reason to believe that NAFTA has influenced either positively or negatively the sustainability of North American fisheries. He noted that most tariffs in this area were already extremely low prior to NAFTA, and suggested that other more relevant factors were likely to influence these fisheries. He drew attention to data problems that make it very difficult to identify a trade-environment relationship in relation to specific species in particular regions or areas.

**Assessing the Environmental Effects of NAFTA on the Forestry Sector in Mexico:** Mary Kelly, Executive Director, Texas Center for Policy Studies, and Maria Teresa Guerrero, Comisión de Solidaridad y Defensa de los Derechos Humanos, presented a study examining how NAFTA has influenced the forestry and forest product industries in the northern Mexico state of Chihuahua, and how these changes have influenced the forests, environment and indigenous peoples of the Sierra Tarahumara.

Kelly noted that substantially increased imports of pulp and paper products from the US since NAFTA have created pressure on Chihuahua producers to keep prices and costs low to remain competitive, which could put pressure on local industry to oppose environmental regulations that increase its costs. She expressed concern at recent interpretations of NAFTA’s Chapter 11 investment provisions (note: these provisions allow individual investors to initiate international arbitration proceedings against a NAFTA country if the investor considers that the NAFTA country has acted in a discriminatory or protectionist manner. There have been a number of cases brought by investors/companies involving actions by NAFTA countries to prevent trade where those countries have cited environmental/public health reasons. Rulings to date have favored the investor/company. This has led to concerns that governments will feel constrained from acting on environmental/public health concerns where trade under NAFTA is involved, given the risk of legal proceedings that might lead to large compensation payments being awarded). She highlighted the Metalclad case, suggesting that such interpretations could seriously threaten countries’ ability to adequately regulate forestry operations. She also supported an increased focus on sustainable forestry management, noting that even official statistics, which do not account for high levels of illegal cutting, point to significant production increases since NAFTA.

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Guerrero drew attention to the socio-political conflicts afflicting those living in this region, often relating to forestry issues. She noted that many citizen's complaints about illegal cutting and other sustainable practices have been filed, and that the authorities have not yet addressed these in a satisfactory manner. She called on NACEC to support environmental studies assessing impacts in the area to help move toward sustainable practices.

**Assessing NAFTA Effects on Water:** Christine Elwell, Adjunct Professor of Law, Sierra Club of Canada, and Reg Gilbert, Senior Coordinator of Great Lakes United Inc., spoke on NAFTA's effects on water. Elwell highlighted the threat of bulk water exports in the Great Lakes area, including the risks of using outdated data on water levels for approving plans and projects, the decline in water levels based on information from climate modeling, and declining rates of annual renewal of the water, stressing that this should have policy implications. She introduced case studies of NAFTA impacts on the Great Lakes Basin related to: bulk water exports and use; privatization of water services, resulting in a water crisis in Walkerton, Ontario; and water quality as it relates to the NAFTA-induced growth in intensive livestock operations in southern Ontario. She stressed that commercial considerations alone are too narrow to produce sustainable water management.

Gilbert highlighted a recommendation for elements for a new Common Standard to Protect the Great Lakes, to be applied to all water withdrawal and listed as a paramount environmental agreement under NAFTA Article 104 (relation to environmental and conservation agreements).

**DISCUSSANT:** José Antonio Morán, Programa sobre comercio y medio ambiente, Centro Mexicano de Derecho Ambiental, provided comments on trade liberalization and natural resources in the context of the papers presented. Pointing to the fact that trade-related environmental problems are often structural and magnified by governance failure, he stressed the role of government intervention and the importance of environmental data. On the use of NACEC's Analytic Framework, he said future studies could draw on the combined strengths of the three papers just presented, integrating a case-specific technical dimension, public participation and the broader perspective they help create.

**QUESTIONS AND OPEN DISCUSSION:** The ensuing discussion and questions-and-answers addressed a range of issues, including the purpose of the studies, which Mary Kelly said was not to analyze the aggregate impacts of NAFTA, but to assess how it affects the "real world" in terms of what it means for a particular community. One participant questioned the feasibility and utility of separating out the effects of increasing intensity of trade due to economic growth from those specifically related to NAFTA. Michael Ferrantino highlighted that it was an analytical challenge to distinguish between economic growth due to increased trade and economic growth due to other factors, and noted that only 1-2% of economic growth was due to NAFTA. One participant commented on the need to distinguish between direct and indirect effects of NAFTA, such as tariff and non-tariff barriers as opposed to general effects such as globalization, and cautioned against drawing too broad conclusions based on the material presented at this meeting.

On environmental legislation in Mexico, a participant commented on the importance of raising awareness and focusing on enforcement. In response, Maria Teresa Guerrero stressed the need for compliance with environmental legislation, highlighting the increase in the number of complaints by citizens regarding cases of non-compliance, particularly

in relation to illegal cutting and other unsustainable forestry practices, where she said the government had failed to adequately enforce relevant legislation.

Reflecting on the discussion, Symposium Chair Pierre Marc Johnson noted that participants had raised questions about the varying levels of academic rigor in the papers presented, and concluded that questions of how to factor out pressures from other origins than NAFTA remain a concern. He said the purpose of the Framework is not to promote a particular political program but to act as a useful instrument for those seeking to evaluate the impacts of NAFTA. He called for a focus on policy impacts.

### SESSION II: NAFTA AND POLLUTION IMPACTS

John Dixon, Program Team Leader, Environment Department, World Bank, chaired this session. On NAFTA's impacts, he noted that growth in trade and production would clearly have environmental impacts that need to be considered. He also drew attention to the impact of trade on the use of technology, noting that many newer technologies are less energy intensive and could be less polluting.

**PRESENTATIONS: NAFTA and Industrial Pollution - Some General Equilibrium Results:** Kenneth Reinert, Associate Professor, School of Public Policy, George Mason University, discussed a study examining the industrial pollution impacts of trade liberalization under NAFTA. Outlining the modeling approach employed, he noted that the study used an applied general equilibrium (AGE) model of the North American economy and data from the World Bank's Industrial Pollution Projection System (IPPS), which covers air pollutants, bio-accumulating metals, industrial toxins and water pollutants, and that it examined all three NAFTA countries and 17 industrial sectors. Caveats to the study that may influence the validity of its findings include the fact that the IPPS data have only "ordinal validity" outside of the US, and that elasticities may be too low.

Looking at the findings, he stated that NAFTA's most significant environmental impacts in relation to industrial pollution are found in the base metals sector, especially in the US and Canada, while Mexico's petroleum sector is also a major source, particularly in relation to air pollution. The transportation sector is also an important source of industrial pollution.

**Generation and Management of Transboundary Hazardous Waste Shipments:** The authors of a paper examining the impacts of NAFTA and trade liberalization on the generation, management and shipments of industrial hazardous wastes in Canada, Mexico and the US also presented their findings. The presenters considered the increase in international shipments of hazardous wastes within the three NAFTA countries, focusing on increases in waste generation along country borders. Cyrus Reed, Project Director, Texas Center for Policy Studies, explained that the study's methodology aimed to establish changes that have taken place and NAFTA's impact. While noting that many changes have occurred outside the NAFTA framework, he said NAFTA rules have been identified as forming a potential obstacle to, or having a "chilling effect" on, countries' willingness to adopt higher standards to protect human health and the environment.

Marisa Jacott, Asistente Proyecto "Emisiones: Espacio Virtual," Programa LaNeta, noted significant gaps in reliable data on waste generation in Mexico. In reference to the NAFTA Chapter 11 dispute process, she highlighted the Metalclad case, suggesting that the trade aspect is still being considered more important than the environment, and pointed to a "double standard" in this regard that could reinforce the view that NAFTA could constrain the adoption of higher standards related to human health and the environment.

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Mark Winfield, Director of Research, Canadian Institute for Environmental Law and Policy, noted significant increases in hazardous waste generation in Ontario and Quebec, particularly in the steel and chemical industries. He also noted dramatic increases in US exports to Ontario and Quebec for land disposal. He suggested that the concentration of the waste industry in this border area is designed to take advantage of a less stringent regulatory environment. He stated that Chapter 11 should be renegotiated and improved.

He noted gaps in Canadian data on hazardous waste, and stressed the need for effective and compatible tracking of transboundary waste movements from "cradle to grave," which is particularly problematic when the cradle is in one country and the grave is in another.

**DISCUSSANTS:** Kevin Gallagher, Research Associate, Global Development and Environment Institute, Cabot Center, Tufts University, commented on the different methodologies used in the studies and their implications. He distinguished between theory-driven and data-driven methodologies, highlighting the modeling in the paper presented by Kenneth Reinert as theory-driven. He said its strengths were rigor, analysis of secondary effects and predictive ability, while weaknesses included lack of transparency, inability to pinpoint causation, and strong assumptions. He suggested that data-driven approaches are more appropriate.

Will Martin, Lead Economist, Development Economics Research Group, World Bank, noted that the subject of research would be influenced by the research framework. He identified a number of important policy questions to incorporate into the framework relating to, *inter alia*: costs created by environmental policy failures; impacts of abatement policies; comparison of the costs of dealing with environmental market failures through trade and environmental policies; environmental externalities; and policy instruments.

**QUESTIONS AND OPEN DISCUSSION:** In the ensuing discussion, several participants challenged the assumptions behind the data presented in the studies, and one speaker recommended testing the principles and theories before drawing recommendations and conclusions. The panelists acknowledged that the data and the details are always important and that the process should be transparent. One participant suggested that benefits should be identified as well as costs and called for a focus on source reduction, not only on transboundary movement. Another intervention noted that numerous references had been made to Chapter 11 cases, but that there had been little discussion on its real implications. In response, panelists noted that there appeared to be a strong sense that agencies might feel constrained by Chapter 11 cases and that this was having a policy impact.

Session Chair Dixon stated that the papers successfully outlined the implications of composition, scale and technology effects of trade on the environment in the NAFTA experiment.

### **SESSION III: RELATIONSHIPS BETWEEN TRADE LIBERALIZATION AND ENVIRONMENTAL POLICIES AND REGULATIONS**

**PRESENTATIONS:** Session Chair Charles Caccia, Chair of the House of Commons Standing Committee on Environment and Sustainable Development, Canada, introduced the presenters.

**Analysis of the Links between NAFTA and Environmental Law:** Howard Mann, Associate, International Institute for Sustainable Development, spoke on the impact of trade law on environmental decisions and measures taken by governments, noting that trade law now has a "constitutional" status through substantive rules and a mandatory adjudicative process, as well as the fact that it is binding. His study correlates five generic stages of environmental management against seven

major trade law disciplines. He said technical and human capacity to meet trade and environmental requirements consistently are a concern in relation to new environmental measures, but risks to the environment in relation to investment obligations in Chapter 11 are far greater, as disciplines are broader and have been given wide meaning by the first arbitral panels that considered them. He drew attention to the fact the dispute resolution is initiated by private corporations without regard to other national perspectives, and said that if the trend in Chapter 11 interpretations continues, this would pose a major threat to environmental law making.

**Is There a Race to the Bottom in Environmental Policies?** Daniel Millimet, Department of Economics, Southern Methodist University, presented his examination of the extent to which environmental standards have been relaxed since the advent of NAFTA. He evaluated whether policy makers at the state level incorporated information on environmental standards in neighboring US states by looking for a correlation with neighbor states in terms of indicators for sulfur dioxide emissions, compliance costs, and toxic releases. He then considered whether this interaction differed between US states bordering with Mexico and Canada and US interior states. He found some evidence that US states along the Canadian and Mexican border responded differentially to environmental changes in neighboring US states in terms of sulfur dioxide emissions and compliance costs, but not toxic releases. In terms of compliance costs, he concluded that border states were less responsive to compliance cost changes in neighboring states than interior states were. He found no changes in behavior between the pre- and post-NAFTA period. This suggests that there is no evidence that NAFTA brought about a "race to the bottom" by causing lower standards of environmental protection.

**Relocation of El Paso's Garment Stonewashing Industry and its Implications for Trade and the Environment:** Andrea Abel, NAFTA Program Specialist, National Wildlife Federation, outlined a study that examined the relocation of the garment stonewashing textiles industry from the United States to Mexico, and its environmental impacts in these locations. She noted that the relocation of much of the industry from El Paso, Texas, to Mexico reflected a gradual shift in location of the apparel industry since the 1970s due to labor costs and other cost-related factors. In the case of the stonewashing industry, however, the study hypothesized that rule changes under NAFTA had an impact. Given that stonewashing is a water-intensive industry, she found that the environmental impacts moved with the industry and raised issues of wastewater pre-treatment and water supplies for the new facilities in Mexico. She concluded that for trade agreements to be successful, they must be accompanied by technical assistance, capacity building and financial resources necessary for addressing environmental implications.

**DISCUSSANTS:** Following these presentations, two discussants outlined key issues raised in the studies. Kal Raustiala, Acting Professor, School of Law and Institute of the Environment, University of California at Los Angeles (UCLA), said these studies suggest, albeit in different ways, that NAFTA's environmental impact has been relatively modest or even negligible. He said the paper on El Paso's garment stonewashing industry implies that NAFTA rules facilitated a shift in the industry's location and fostered technology transfer through a shift to more efficient, less water-intensive technology. On the presentation by Howard Mann analyzing the links between NAFTA and environmental law, he noted that it drew heavily on WTO experience and case law and suggested that the idea that NAFTA would track the WTO could turn out to be inaccurate.

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Professor David Barkin, Universidad Autonoma Metropolitana/Unidad Xochimilco, drew attention to issues of expert "sensitivity." He said the paper on El Paso's garment stonewashing industry drew attention to social and cultural impacts of the shift of this industry to Mexico. He said this meeting, and the trade and environment communities in general, need to address the effects of trade liberalization on communities.

Session Chair Caccia noted that in three years it will be a decade since NAFTA was launched and supported the need to examine the wider operation of the Agreement. He said that while some supported improving NAFTA – such as Chapter 11 – within its existing framework, he felt a total reworking should be considered. He asked whether trade should continue to be the primary driving force in North American economics, with environmental, labor and other considerations in a secondary position. He said the next step should be to proceed from having a North American agreement on trade to one on sustainable development.

**QUESTIONS AND OPEN DISCUSSION:** In response to a request for an update on the request lodged by the International Institute for Sustainable Development (IISD) in relation to the Methanex Corporation dispute with the US Government under NAFTA Chapter 11, Howard Mann explained that IISD initiated a process to present an *amicus* (friends of the court) brief before the arbitration tribunal hearing the case. He said IISD had until 16 October 2000 to make written submissions, that other parties involved would then have an opportunity to respond, and that the tribunal would rule after late November on whether IISD's involvement in the case would go forward.

In response to a general question on Chapter 11 cases, Mann said determinations in each case were on the "far end" of what he previously considered to be the range of options available, and that the pattern was so far unbroken. He said the precedent being set had raised clear concerns with the ability of agencies with environmental functions to operate effectively, given the potential threat of lawsuits by business or industry that would appear to have a strong likelihood of success.

Noting Kal Raustiala's comment that the presenters' papers suggest that NAFTA has had a negligible environmental impact, one intervention cited serious social and labor implications, pointing to the large number of jobs lost in El Paso due to the shift of the apparel industry elsewhere.

### **INFORMATION SESSION ON GOVERNMENT REVIEWS OF TRADE**

On Wednesday evening, 11 October, participants convened for an information session on NAFTA Parties' reviews of trade issues. Paul Faeth, Director, Economics Program, World Resources Institute, and chair of this session, stressed the role of reviews in helping to identify policies that minimize the negative effects and enhance positive effects of trade. He said the review process needs to start early enough, should be iterative and the results should be made public.

**PRESENTATIONS: Canada's Proposed Environmental Assessment Framework for Trade Negotiations:** Richard Ballhorn, Director General, Canadian Department of Foreign Affairs and International Trade, spoke on Canada's Proposed Environmental Assessment Framework for Trade Negotiations, which he said strives to: integrate environmental concerns by providing information on the effects of trade agreements; address stakeholders' concerns; promote sustainable development; contribute to overall policy coherence; and identify potential conflicts with environmental legislation early on. He highlighted challenges related to methodology, data limitations and lack of clarity of purpose, and said the development process is ongoing.

**Implementation of Executive Order on Assessing Environmental Effects of Trade - Government of the United States:** Jennifer Haverkamp, Assistant US Trade Representative, Office of the US Trade Representative, spoke on the US Executive Order and implementing guidelines currently being finalized, noting that the time has come to institutionalize the procedure rather than work on a case-by-case basis. She said the Executive Order categorizes agreements into those with or without mandatory environmental review, or into a third category of agreements neither explicitly included nor excluded but reviewed based on expected environmental significance. She highlighted the implementing guidelines being developed, which include guidance on inter-agency cooperation on the review process, key aspects of the actual review, including timing and issues of geographic scope and criteria and a scoping process. She said the guidelines would include both quantitative and qualitative components and be left flexible to incorporate new developments in the field. She highlighted transparency as a difficult issue to be addressed due to the highly sensitive nature of trade negotiations.

**Mexico's Environment and Trade Perspective:** José Luis Samaniego, Coordinador de Asuntos Internacionales, Secretaria de Medio Ambiente, Recursos Naturales y Pesca, outlined Mexico's perspective. He suggested that the main pressures on the environment do not come from trade treaties but from population pressures and the non-sustainability of resources, as well as economic growth. He outlined the results of a study assessing the impact of all sectors of the economy on the environment, and said that, while the effect of trade in North America and its impacts are one element of such an evaluation, Mexico is taking a wider perspective, as many factors have to be taken into account.

**QUESTIONS AND OPEN DISCUSSION:** In response to a comment from the floor that trade is a factor influencing economic growth and hence environmental impacts, Samaniego reiterated the effect of population pressures and noted that trade is only one factor among many.

Commenting on the presentations and discussions, Session Chair Paul Faeth said fundamental problems resulting in pollution and other environmental problems ultimately result in serious policy and market failures. While it is correct that it is difficult to establish the direct link to NAFTA, he said a connection nevertheless exists. He stressed that assessments need to focus on how NAFTA influences sustainability.

### **SESSION IV: NAFTA'S TRANSPORTATION AND MANUFACTURING IMPACT ON THE ENVIRONMENT**

On Thursday morning, 12 October, Session Chair Gustavo Alanís, Presidente, Centro Mexicano de Derecho Ambiental A.C., noted progress in terms of increased recognition of linkages between trade and environment and efforts to make the two compatible. He then introduced the presenters and discussants for the session.

**NAFTA Transportation Corridors: Approaches to Assessing Environmental Impacts and Alternatives:** Sheila Holbrook-White, Executive Director, Texas Citizen Fund, said her study sought to focus on basic community impacts of trade under NAFTA in border areas between NAFTA member states. She introduced the emerging concept of NAFTA trade corridors, and said that they comprise those transportation systems that carry the majority of trade-related traffic resulting from NAFTA and that are exposed to significantly increased volumes of trade-related traffic. She highlighted the importance of the design of the physical infrastructure of these corridors as critical to their ability to support such increased trade between NAFTA countries. She introduced a template in the format of a "report card," based on the NACEC

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Analytic Framework, presenting indicators of environmental impacts at the community level, including air quality, water quality and habitat. She then used this template to examine the environmental impacts of changes in NAFTA-related transport patterns along transboundary border regions, using Nuevo Laredo, Tamaulipas (Mexico) and Laredo, Texas (US) and from Detroit, Michigan (US) and Windsor, Ontario (Canada) as case studies. She noted inconsistencies and gaps in data on environmental quality and said some of the data are difficult to access. On lessons learned, she said gauging and measuring impacts at the community level is difficult. She recommended that NACEC initiate a process for the standardization of data and create an inventory of existing inter-modal resources. She noted that more than problem-solving is required to realize sustainable transport and called for a new approach based on stewardship and collective action.

**Mexico's Manufacturing Exports and Environment under NAFTA:** Claudia Schatan, Economic Commission for Latin America and the Caribbean, presented her paper, which investigates whether Mexican industry has become more or less polluting since NAFTA entered into effect and whether exports from the most polluting industries have increased. She noted diversification of Mexican exports since the 1970s, highlighting the role of "maquila" industry exports and related environmental problems and the lack of a genuine shift toward high value-added industry. She concluded that all estimated pollution expansion since NAFTA resulted from a "scale effect" of overall increase in output rather than a "composition effect" due to a shift to highly polluting sectors. She said while there had been a slight shift to less polluting sectors, highly polluting exports remain strong in US markets and foreign direct investment is most significant in maquila sectors. In conclusion, she said Mexico has not become a pollution haven, but also has not moved far toward more highly developed industrial sectors that would lead to, *inter alia*, lower levels of pollution and improved standards of living.

**DISCUSSANTS:** In commenting on the paper by Sheila Holbrook-White, Robert Currey, Center for Environmental Resource Management, University of Texas at El Paso, noted the challenge of proving environmental effects, and pointed to cars and population increases as drivers in the case of ground-level ozone and diesel trucks in the case of particulate matter. He noted the role of Laredo as a throughput port and supported community air quality monitoring, citing an example of cross-border monitoring between the states of Texas and New Mexico, and Mexico. On the process for selecting NAFTA trade corridors, he said they have already been established and are likely to be reinforced, and stressed that environmental considerations need to be incorporated into relevant decisions. He concluded by emphasizing the need for adequate science and data to start addressing the real environmental problems at the NAFTA States' borders.

Deron Lovaas, Representative, Challenge to Sprawl Campaign, Sierra Club, drew attention to the fact that \$200 million is spent each day in the US on repairing roads and building new ones, and that one-fifth of the country's land area is estimated to be impacted by roads. Noting that road transport policies have focused on predicting demand and providing for it, he suggested this era needs to come to an end and said the country's transport portfolio should be diversified and made more multi-modal. He highlighted the freight advantages of rail, and said highway design needs to focus on mitigating their environmental impacts. He also emphasized the need to involve citizens and communities, as well as non-governmental organizations, in the transport planning and investment process, including transport planning affected by or relating to NAFTA trade.

**QUESTIONS AND OPEN DISCUSSION:** In the ensuing questions and open discussion session, one speaker emphasized that transportation is an important and appropriate issue for NACEC activity. He stated that the traditional pro-highway lobby is well organized at a national level, whereas those advocating alternative options are not. In response to a question on transportation corridors, Sheila Holbrook-White noted that NAFTA transportation corridor proposals are generally road centered, but inter-modal approaches are being followed in some cases. She also underscored the need for political will to address environmental concerns raised by NAFTA transportation issues. One speaker noted that presenters had considered in detail the problem of assessing environmental impacts, but suggested that more focus should now be given to identifying solutions.

### **SESSION V: THE SERVICES AND PUBLIC SECTOR AND THE ENVIRONMENT**

Session Chair Steve Charnovitz, Attorney, Wilmer, Cutler & Pickering, said environmental services is an important issue that has perhaps not received sufficient attention, given that it constitutes one-third of international environmental trade. He then introduced the presenters for this session.

**PRESENTATIONS: Services Trade Liberalization: Assessing the Environmental Effects:** Dale Andrew, Principal Administrator, Organization for Economic Cooperation and Development, discussed services trade liberalization. He discussed work conducted in relation to the General Agreement on Trade in Services (GATS), a multilateral framework to liberalize trade. He noted that negotiators in Geneva are in the process of discussing GATS 2000, aimed at addressing trade liberalization issues, although in terms of progress, he noted that the situation is very politicized post-Seattle. He suggested that NAFTA's approach is different to that under GATS, as it takes a negative list or "top-down" approach, although there are currently no commitments to successive rounds of liberalization under NAFTA's approach, unlike GATS. He referred to NAFTA as a "GATS-plus" agreement. He then outlined the OECD's work to develop its original 1994 methodologies to address environmental effects of services trade liberalization and discussed literature and approaches considered in the OECD's work. He stressed the need to build scenarios on possible degrees of liberalization under GATS 2000 and to work sector-by-sector, given the varied environmental effects of different sectors. He also supported screening of sectors according to the significance of environmental effects, as well as the value of assessing regulatory effects.

**Will Free Trade in Electricity between Canada and the US Improve Environmental Quality?** Takis Plagiannakos, Senior Environmental Advisor, Ontario Power Generation, examined whether free trade between Canada and the US in the electricity sector would improve air quality, looking particularly at Ontario and Northeast/Midwest US. He noted that the electricity production mix differs in these countries, with Canada generating mostly hydropower (or, in the case of Ontario, nuclear power), while the US relies more on coal-fired electricity generation. He suggested that the impact of free trade in electricity between Ontario and the US appears unlikely to affect air quality in Ontario, assuming that both countries continue with plans to tighten NO<sub>x</sub> (nitrogen oxides) emission standards. He recommended that: environmental regulations should take into consideration the specific differences and potential impacts of air emissions between the two countries; a level playing field needs to be ensured as markets open to competition; and harmonization is required for new environmental regulations, such as for mercury emissions and long-term targets for SO<sub>2</sub> and NO<sub>x</sub> emission reductions.

## SUSTAINABLE DEVELOPMENTS

**Relationship between Wastewater Treatment and NAFTA:** Vera Kornylak, Arizona Center for Law and Public Interest, outlined a project that sought to examine the indirect effect of NAFTA on the number and type of violations of the Clean Water Act at three wastewater treatment facilities along the Arizona-Mexico border. While suggesting that a more complete analysis is necessary, she said the study indicates that the public's access to environmental compliance information needs to be improved and two of the three plants require major upgrades. She recommended the development of a comprehensive strategy at a national level to address border-related environmental problems, the establishment of an EPA office in Arizona, the consistent enforcement of relevant state, federal and international laws, and improved public access to government-related environmental compliance information.

**DISCUSSANTS:** Jake Caldwell, Program Coordinator for Trade and the Environment, National Wildlife Federation, commented on the growing importance of trade in services, and on the difficulty of obtaining good data, citing the broad definition of services as one reason for this problem. On the paper by Dale Andrew, he said it provided a solid overview, but he had hoped to see more on the targets of services trade liberalization. He questioned whether the vehicle of trade agreements is correct in relation to domestic regulatory targets.

Philip Raphals, Director Adjoint, Centre Hélios, spoke to the paper by Plagiannakos. He stressed that it is not sufficient to consider only air pollution issues as a by-product of electricity generation and that policy conclusions could not be drawn on such a limited basis. He stressed the large environmental footprint of hydropower and nuclear power, and the implications of generating electricity for export from these sources. He concluded that the emphasis on air pollution, usual in US discourse, was not adequate in the international context.

**QUESTIONS AND OPEN DISCUSSION:** In the ensuing discussion, Takis Plagiannakos, in response to the comment by Raphals, distinguished between long-term and short-term policy planning, and said his paper focused on the near-term, noting the need for explicit and tight controls on air pollution with the deregulation of the electricity market. One participant drew attention to the role of the Border Environment Cooperation Commission (BECC) and the fact that it was not mentioned in the paper by Vera Kornylak, and to the benefits of using existing entities rather than creating new ones in relation to border issues. Kornylak said the role of the BECC was that of a mediator, not a regulator, and said her intention was not to propose new entities but new roles for the existing entities.

In response to a question from the floor, Dale Andrew said there are advantages to the top-down approach, but the idea needs time to mature. He noted transparency issues and suggested that impacts of the approach on environmental regulation should be studied.

### **CLOSING SESSION: NEXT STEPS: POLICY RESPONSES TO ENVIRONMENT-TRADE LINKS**

On Thursday afternoon, 12 October, Session Chair Durwood Zaelke, President, Center for International Environmental Law (CIEL), asked the panelists to consider how to integrate the information gathered during this Symposium into policy responses and ongoing trade negotiations, such as under the Free Trade Agreement of the Americas (FTAA). He noted conflicts post-Seattle, and stated that there was yet to be a full environmental impact assessment of trade agreements, without which there could not be meaningful public participation. He stressed sustainability as the goal and the responsibility of trade institutions.

Jeffrey Schott, Senior Fellow, Institute for International Economics, first noted that closer economic cooperation in North America during the past ten years would have taken place with or without NAFTA, but drew attention to the rise in environmental cooperation resulting from NAFTA and the North American Agreement on Environmental Cooperation (NAEEC). Reflecting on the presentations during this Symposium, he said the questions related to how to address more effectively environmental problems due to increasing intensity in trade relations, and how to use trade policy to assist in this response.

On the papers prepared for the meeting, Schott said he had found the narrowly focused ones most useful. He said the studies demonstrated problems with the legal and economic analysis of the environmental impacts of NAFTA. He cautioned that the conclusions of the papers should be rigorously appraised, especially those pertaining to Chapter 11. He said evidence of a "chilling effect" appeared to be anecdotal, and called for more transparency with regard to developments related to Chapter 11.

He supported reforms of NACEC, noting its limited budget, and said NACEC should focus on, *inter alia*: organizing activities within a narrower scope; making information more accessible to policy makers; reforming investigation procedures; removing disincentives to bringing forward cases; providing more data; and making NACEC a depository and clearinghouse for hard regional environmental data with annual conferences to assess the state of the environment.

He stated that border funding is inadequate and the scope of activities for the North American Development Bank and the Border Environment Cooperation Commission should be broader. Reflecting on the FTAA, he highlighted concerns in Latin America about trade sanctions related to environmental and labor issues. He said the FTAA and hemispheric cooperation on sustainable development should proceed in parallel, as the FTAA could only be one factor contributing to broader efforts to achieve sustainable development.

Konrad von Moltke, Senior Fellow, International Institute for Sustainable Development, highlighted his work on NAFTA Chapter 11, stating that problems could arise when balancing private interests and public good, and noting the accumulation of evidence of Chapter 11's real implications. He cautioned against moving from academic studies to policy advice too quickly. He said macroeconomic analysis had not provided useful insight on the trade and environment nexus, and stressed that environmental policy needs to address concrete impacts in a concrete way. He stressed the cumulative nature of trade liberalization and NAFTA as part of globalization, and said NAFTA could provide some useful lessons for the wider international system.

He said an interpretative statement of NAFTA Chapter 11 would provide a significant step forward, and stressed Chapter 11 as one unique aspect of NAFTA, which therefore should be addressed in the NAFTA context. He highlighted the challenges of institutional capacity in the trade and environment context, and cautioned against regulatory overload. On the FTAA, he said precedents would be set in MERCOSUR, as it had an environmental protocol prepared and ready for adoption.

He encouraged NACEC to create incentives for academia to study NAFTA-environment issues more, and underscored the need for NACEC to draw on such a body of work. On policy responses, he supported referring to what is known to work well already. He recommended working with environmental rather than trade institutions on issues such as monitoring structures, transparency and assessments, noting that if environmental institutions function well, then pressures on the trade institutions would be avoided.

## SUSTAINABLE DEVELOPMENTS

Regina Barba, Chair of the Joint Public Advisory Committee, highlighted the importance of the role NACEC plays. She suggested that the discussions at this meeting demonstrate that there is not one simple answer to the public policy debates, and that the picture of environmental impacts differs in each case. She suggested that the issue of increases in consumption needs to be more closely addressed. She underscored the importance of transparency at all levels and the value of genuine dialogue, stressed that work should not be conducted behind closed doors, and supported wider participation in these issues. She thanked organizers for their work in preparing for this Symposium, and noted in particular the work of Scott Vaughan, who had not been able to attend.

**QUESTIONS AND OPEN DISCUSSION:** Responding to a question about Latin American concerns relating to US protectionism, Chair Zaelke noted the importance of being able to identify what is industrial protection and what is environmentally-based action. Konrad von Moltke said much of the debate should take place outside of the US. He suggested that in many ways, in the long-term the MERCOSUR agreement is more important to the Americas than NAFTA, and pointed out that MERCOSUR has already gone through an entire process on the environment and has developed a protocol on this. He said markets do not function without certain disciplines and argued that these should include environmental disciplines.

On a question relating to why Jeffrey Schott had taken issue with some speakers' comments on Chapter 11, Schott said some of the statements made during the Symposium did not, in his view, provide a scholarly assessment of the situation and were not necessarily a balanced assessment of the facts.

**CONCLUDING REMARKS:** Raul Arriaga, Coordinator of the Transition Team of President-elect Vicente Fox in Mexico, highlighted the Team's commitment to environmental concerns and noted Vicente Fox's call for a focus on forestry and water issues. He stressed support for greater public participation, transparency and accountability, as well as for strengthening cooperation within NAFTA. He suggested that NACEC has not always been used to its full potential but that it plays a valuable role, and expressed support for sessions such as this Symposium. He called for ongoing progress on these issues and the achievement of many more successes in the future.

Symposium Chair Pierre Marc Johnson noted Raul Arriaga's comments, stating his appreciation for such a strong endorsement of NACEC. He thanked all participants and staff for their contribution to the meeting. Taking note of protests in Seattle and Prague, he said that if liberalization were going to continue without great turbulence, then it would need to integrate the concerns and sense of alienation among many groups and individuals both in the developed and developing world. He suggested that, if trade regimes were of the same nature as constitutional law, then there were a couple of chapters missing relating to issues such as the environment, labor and equity. He suggested that the work being carried out at this meeting and by NACEC in general related to creating one of the additional chapters.

NACEC Executive Director Janine Ferretti said she hoped participants would incorporate ideas and information presented and discussed here in their work and help advance these issues. She thanked Pierre

Marc Johnson for his significant contribution and said she believed this meeting marked a point of arrival that was also a point of departure for further progress. The meeting concluded at 5:00 p.m.

### THINGS TO LOOK FOR

**WTO GENERAL COUNCIL:** The WTO's General Council will meet from 18-19 October, 7-8 December and 18-19 December 2000 (Special Session on Implementation). For more information contact: Nuch Nazeer, WTO; tel: +41-22- 739-5007; Internet: [http://www.wto.org/english/thewto\\_e/gcounc\\_e/gcounc\\_e.htm](http://www.wto.org/english/thewto_e/gcounc_e/gcounc_e.htm)

**WTO COMMITTEE ON TRADE AND ENVIRONMENT:** The WTO's Committee on Trade and Environment is scheduled to meet from 24-25 October 2000 in Geneva, Switzerland. The meeting will consider issues relating to market access, as well as the linkages between the multilateral environment and trade agendas. For more information contact: Sabrina Shaw, WTO; tel: +41-22-739-5482; e-mail: [Sabrina.shaw@wto.org](mailto:Sabrina.shaw@wto.org); Internet: [http://www.wto.org/english/tratop\\_e/envir\\_e/envir\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/envir_e.htm)

**FORGING ALLIANCES TO PREVENT INDUSTRIAL POLLUTION: NEW APPROACHES AND TOOLS FOR ENVIRONMENTAL MANAGEMENT:** This NACEC meeting will be held from 6-7 November 2000 in Tijuana, Baja California, Mexico. For more information contact: Janice Astbury or Erica Phipps, NACEC; tel: +1-514-350-4353 and +1-514-350-4323; e-mail: [jastbury@ccemtl.org](mailto:jastbury@ccemtl.org), [ephipps@ccemtl.org](mailto:ephipps@ccemtl.org); Internet: <http://www.cec.org/calendar/index.cfm?varlan=english>

**INTERGOVERNMENTAL MEETING ON FACILITATING CONSERVATION OF BIODIVERSITY AS IT RELATES TO TRADE IN WILDLIFE SPECIES:** This NACEC Working Group and intergovernmental officials meeting to review progress and consider next steps is tentatively scheduled to take place on 1 December 2000 in Montreal, Quebec, Canada. For more information contact: Scott Vaughan, NACEC, tel: +1-514-350-4302; e-mail: [svaughan@ccemtl.org](mailto:svaughan@ccemtl.org); Internet: <http://www.cec.org/calendar/index.cfm?varlan=english>

**SUBMISSIONS HISTORY – LESSONS LEARNED: A JOINT PUBLIC ADVISORY COMMITTEE WORKSHOP ON NAAEC ARTICLES 14 & 15:** This NACEC meeting will take place on 7 December 2000 in Montreal, Quebec, Canada. For more information contact: Manon Pepin, NACEC, tel: +1-514-350-4305; e-mail: [mpepin@ccemtl.organization](mailto:mpepin@ccemtl.organization); Internet: <http://www.cec.org/calendar/index.cfm?varlan=english>

**MEETING OF THE INTERGOVERNMENTAL ADVISORY GROUP ON CRITICAL AND EMERGING TRENDS IN NORTH AMERICA:** This NACEC meeting will take place from 7-8 December 2000 in Montreal, Quebec, Canada. For more information contact: Chantal Line Carpentier, NACEC, tel: +1-514-350-4336; e-mail: [carpentier@ccemtl.organization](mailto:carpentier@ccemtl.organization); Internet: <http://www.cec.org/calendar/index.cfm?varlan=english>